ACI EUROPE
AIRPORTS COUNCIL INTERNATIONAL

Sponsored by

ØVERAASEN
SNOWREMOVAL SYSTEMS

AIRSIDE SAFETY SURVEY

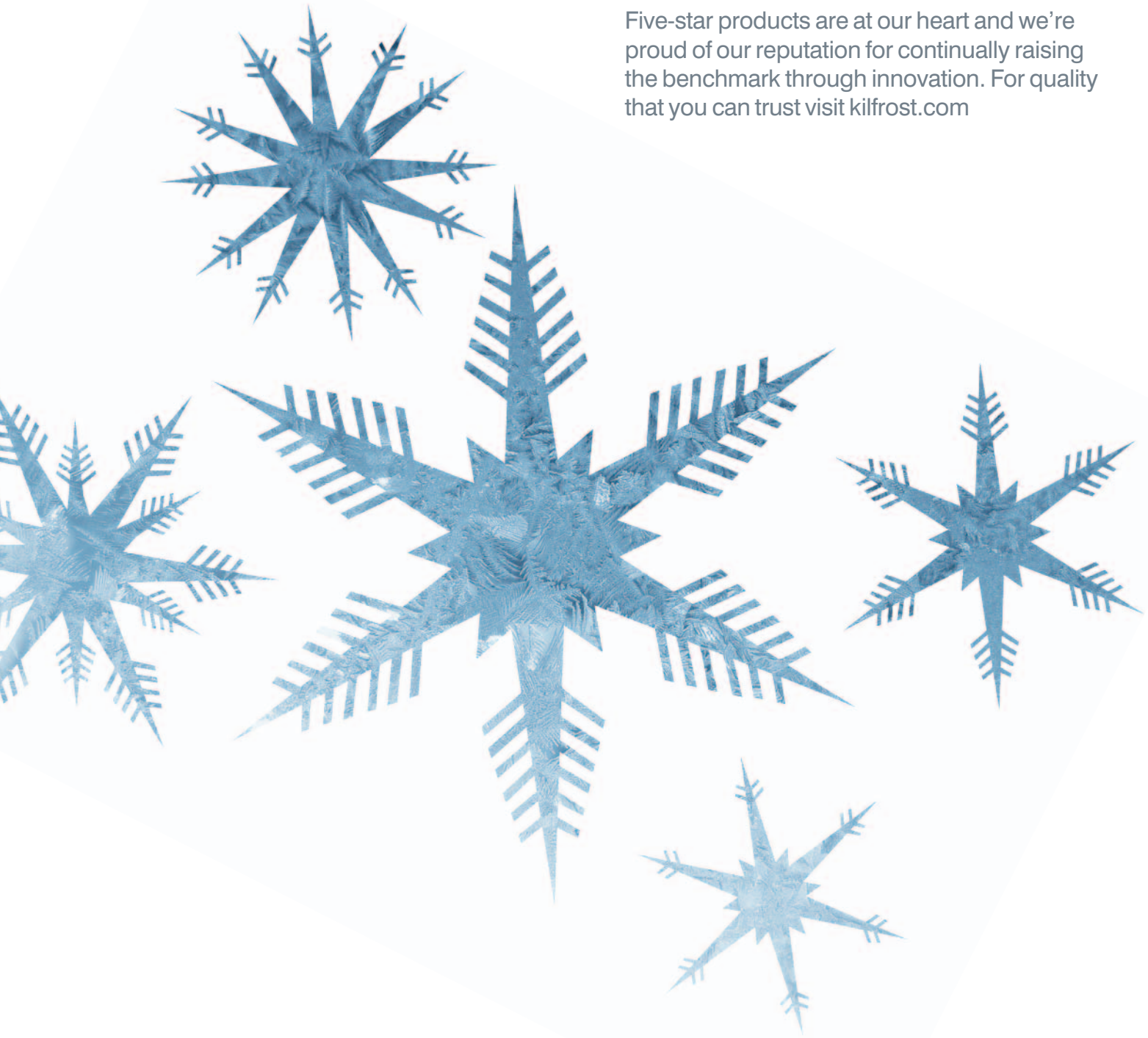
2012

A DEFINITIVE SURVEY OF TECHNIQUES, EQUIPMENT INVENTORIES AND OPINION REGARDING ALL ASPECTS OF AIRFIELD OPERATIONS BY EUROPE'S AIRPORTS



We don't just set the standard, we raise it.

Five-star products are at our heart and we're proud of our reputation for continually raising the benchmark through innovation. For quality that you can trust visit kilfrost.com



Global leaders in de/anti-icing

Kilfrost Limited 4th Floor Time Central 32 Gallowgate, Newcastle upon Tyne NE1 4SN UK **T** +44 (0)1434 323 184

Kilfrost, Inc. 6250 Coral Ridge Drive, Suite 130, Coral Springs, Florida 33076 USA **T** +1 954-282-5050

www.kilfrost.com

Kilfrost (Beijing) Trading Co., Ltd
2709, China World Office 1, No. 1 Jian Guo Men Wai Avenue, Beijing,100004, China. **T** +86 10 6535 4020

www.kilfrost.cn

Kilfrost

ice clear vision

Airports Council International
European Region
6 Square de Meeûs
B-1000 Brussels
Belgium

Director General
Olivier Jankovec
Tel: +32 (0)2 552 09 71
Fax: +32 (0)2 513 26 42
e-mail: olivier.jankovec@aci-europe.org

Manager: Safety, Capacity, ATM and SESAR
Philipp Ahrens
Tel: +32 (0)2 552 09 81
Fax: +32 (0)2 502 56 37
E-mail: philipp.ahrens@aci-europe.org

Senior Manager Membership and Commercial Services
Danielle Michel
Tel: +32 (0)2 552 09 78
Fax: +32 (0)2 502 56 37
e-mail: danielle.michel@aci-europe.org

Magazine staff:

Publisher
Daniel Coleman

Managing Editor
Ross Falconer

Editor
Ryan Ghee

Head Designer
Richard Jende

Graphic Designer
Victoria Wilkinson

Photography
Grant Pritchard

Sales Director
Jenny Rayner

Managing Director
Paul J. Hogan

PPS Publications Ltd
3a Gatwick Metro Centre
Balcombe Road
Horley
Surrey
RH6 9GA
United Kingdom

Tel: +44 1293 783851
Fax: +44 1293 782959
email: post@pps-publications.com

Disclaimer

This publication has been compiled by PPS Publications Ltd. The survey responses are those of the participating airports. The contents and opinions expressed herein are not necessarily those of ACI EUROPE nor the Publisher. ACI EUROPE and PPS Publications accept no responsibility or liability whether direct or indirect, as to the currency, accuracy or quality of the information, nor for any consequence of its use.

Cover image courtesy of Øveraasen.

© PPS Publications Ltd 2012



INTRODUCTION
THE AIRSIDE SAFETY SURVEY 2012

Our annual Airside Safety Survey provides a comprehensive and invaluable guide to the respective airside operations of ACI EUROPE member airports. With contributions ranging from major international hubs such as Frankfurt and Madrid-Barajas, to regional airports such as Friedrichshafen and Kent International, this survey covers such practices as winter services, FOD prevention, wildlife control, runway incursion prevention and friction testing.

In order to retain the highest level of accuracy, the responses have been left largely unedited wherever possible and each individual response highlights the varying conditions and challenges that airports across Europe face in order to ensure airside safety.

Average annual snowfall provides one such example. Milan Malpensa, for instance, experiences 4-5 days of snow per year, while Katowice Airport has as many as 70 days of snow annually. A similar contrast can be drawn between Marseille-Provence and Oslo airports, with the former experiencing just one day of snow every two years, and the latter having an average of 60-70 days of annual snowfall.

UPDATING METHODS

The Airside Safety Survey also explores key and emerging trends, highlights which air-





ports are planning to purchase new equipment, and identifies any planned changes to existing airside methods.

Having opened a new fourth runway in October, the Frankfurt Airport submission states: "This year we ordered and received a new Clearing Convoy consisting of 14 vehicles to service our new runway." Meanwhile, London Gatwick received three Rosenbauer Panther fire appliances in 2011, with an additional three to be delivered in 2013.

While the majority of respondents have no immediate plans to make changes to their existing methods, a handful of airports do have such plans. At Amsterdam Airport Schiphol, "we started a more selective spraying method more based on runway usage. Plus we are adjusting the spraying vehicles so they use less KAC and this has already led to a reduction of 200,000 litres of KAC." The airport also has plans to purchase a new runway sprayer "with more accurate dosing and less usage of chemicals with better results".

Ostrava Airport is planning to acquire new jetsweepers, snow cutters, pushback tractors and handling equipment over the next 12-24 months, while Limoges Airport is currently "in the middle of the study into the law framework on water".

WILDLIFE CONTROL

Bird and wildlife control techniques also provide insight into the differing airside tactics adopted by European airports. Keflavik Airport "uses recorded distress calls (home made), pyrotechnics (crackers), shotguns and dogs", while "lasers are being considered".

At Göteborg Landvetter Airport, "recorded distress calls (mobile and fixed), laser (test), shotguns, warning shots via gas cannon" are all used, as is an "inflatable scarecrow called 'The Hulk'". The airport also utilises pyrotechnic equipment to combat wildlife on the airfield.

Paris-Orly Airport, meanwhile, uses a range of weapons, including trap guns with 12th calibre and No. 4 to 8 cartridges, 400m range 'CAPA' pistols and 9mm revolvers with crackling/explosive cartridges, in addition to fixed or on-board bird deterrent systems and portable lasers for night use.

FRICTION TESTING

The reliability of friction indexes is another area explored in the Airside Safety Survey and while most airports appear satisfied, in some cases, questions are raised. For example, the London Stansted Airport response outlines: "Although the concept of an internationally agreed friction index is a positive step forward, it is clear that there are significant differences between the dynamics of aircraft braking performance when compared to the use of any CFME equipment. For this reason it is understandable that such an index has not been ratified through ICAO and meeting the approval of IATA and other international bodies."



Proviron

Safe Runways and
a Clean Environment



Let's beat the elements together!

Cryotech E-36	Liquid Potassium Acetate
Cryotech NAAC	Solid Sodium Acetate
Provifrost KF ECO	Liquid Potassium Formate
Cryotech CMA	Solid Calcium Magnesium Acetate
Cryotech CMA40	Solid Blend of 40% CMA and 60% rock salt

G. Gilliotstraat 60
2620 Hemiksem, Belgium
Tel: +32 (03) 870.88.20
Fax: +32 (03) 877.23.33
e-mail: sales.deicer@proviron.com

www.proviron.com

boschung
AIRPORT DIVISION

The Winter Experts!



Marcel Boschung Ltd. | Boschung Airport Division
Route des Muëses 2 | CH-1753 Matran | Switzerland | Tel. ++41 26 4978585 | Fax ++41 26 4978590 | info@boschung.com
www.boschung.com

MARK YOUR DIARIES 2012

THE ACI EVENT THAT BRINGS EUROPE AND ASIA TOGETHER TO SHARE STRATEGIES FOR SUCCESS

2012 AIRPORT EXCHANGE
26-28 NOVEMBER 2012, THE NETHERLANDS
Amsterdam Rai Convention Centre

ACI EUROPE AIRPORTS COUNCIL INTERNATIONAL
ACI ASIA-PACIFIC AIRPORTS COUNCIL INTERNATIONAL

HOSTED BY: Schiphol Group

HOME TO THE ACI AIRPORT OPERATIONS CONFERENCE

LATEST NEWS AT WWW.ACI-EUROPE-EVENTS.COM





THE AIRSIDE SAFETY SURVEY 2012

ABERDEEN

BAA Aberdeen

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Aberdeen Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): 1,949m x 46m. No shoulders available. Apron area 3,500sqm

2.2 Landing aids for each RWY (e.g. CAT II): CAT 1 ILS.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Based upon the BAA Managing Responsibly framework of Health and Safety, and Environmental with a process of 'plan, do, check, review'.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:

a) Training: Training through AODP1 and Driver Training, Apron Safety Training as well as all induction courses.

b) Inspection by airline, airport, and airplane handling agency personnel: It is the responsibility of all airside personnel to manage/report any FOD, due to the size of our operation Airfield Operations identify FOD quickly through their inspection regime.

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Sweeping undertaken as identified during FOD checks, FOD bins available on every stand, FOD Boss used.

d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Training given to all operators during their Induction Process, Driver Training and also Directors notices.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): N/A.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Airside Vehicle Permit system, Driver Permit System, ATC Ground.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Provision of Runway Guard Bars, Relocation of Heli Thresholds, moving of signage used for uncontrolled crossing.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): No safety devices employed at ABZ.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Runway ahead at strategic holding points.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Airside Driver Training with testing undertaken by a member of our own team (Airside driver trainer), Incursion Awareness leaflets produced by local ATC and distributed through the Flight Safety Committee, this was categorised at Best Practice throughout the NATS community.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Runway Incursion Working Group established and promotes a no blame culture.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Grass length kept at between 6-8 inches, herbicides used to discourage weed growth and insecticides used to kill the hatching larve that grows into the insects that attract bird activity.

6.1 Do your staff attend recognised bird control training courses? Yes through FERA our bird management auditor.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? 24/7 Bird Patrol.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Recorded distress calls, pyrotechnics, shotguns, laser.

6.4 Do you carry out a bird strike risk assessment? Yes – annually through FERA Audit, they also undertake quarterly mid-term visits.

6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes – 'real time' log.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Regular rabbit culling programme in place with contractor.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 3 x Carmichael Cobra 1 6x6, 2 x Carmichael Cobra 2 6x6, 2 x MAN 10.224 4x4, 2 x Mitsubishi Shogun 4x4.

7.2 Future developments – are there plans to purchase or dispose of any equipment? Not at this time.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 October till 31 March.

8.2 Average annual days of snow: 30 days.

8.3 Average snow depth: 4cm.

8.4 Maximum snow in 24 hours: 12cm – 20cm.

8.5 Annual number of days of de-icing activities: 60.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 10.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Runway Sweepers – Schorling P17A x 5, Schorling P21 x 2. Apron Sweepers – Holmes Brushes x 2, Mikro Brush/Plough x 1, Kubota 1m Plough/De-icer x 2. De-icers – BVE 24m x 1, BVE 15m x 1. Gritter – Epoke x 2.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Runways, taxiways, passenger areas, roadways, apron areas.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: 5 Runway Sweepers available at all times. Taxiways – 2 Runway Sweepers available at all times, additional sweepers when Runways cleared. Passenger areas – Kubotas x 2. Access Roads – Holmes Brushes. Apron – Mikro and Holmes Brushes and Runway Sweepers when Runway/Taxiway cleared.

11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 45 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Konsin used for very low temperatures – up to 24 hours hold over time. Safegrip also used – 4-hour hold over time.

12.2 Comment on storage capabilities of the chemicals that you use: 4 x 50,000 ltr tanks plus small tanks on Apron areas.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: N/A.

12.4 Have you experienced any corrosion problems with de-icers? Old de-icing vehicle had signs of corrosion at the rear.

12.5 Have you employed any special means to economise on chemical use? GPS in all de-icing vehicles that ensure nothing is sprayed onto grass areas or re-applied to treated areas.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Ice alert.

13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: One of many forecasting tools.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: N/A.

14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Done on parking stands.

14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Mk6 Mu-meter.

15.2 Have you any comments on the reliability of friction indexes? N/A.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? N/A.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: One new sweeper bought for 2011/2012 winter.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: Awaiting one Zetros vehicle.






AMSTERDAM

Schiphol
Amsterdam Airport

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Amsterdam Airport Schiphol

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Runway 04: TORA – 2,014m x 60m, width – 45m, LDA – 2,014m. Runway 22: TORA – 2,014m x 60m, width – 45m, LDA – 2,014m, ILS – CAT I/B/1, PAPI – Y. Runway 06: TORA – 3,500m x 60m, width – 45m, LDA – 3,250m, ILS – CAT III/E/4, PAPI – Y. Runway 24: TORA – 3,500m x 60m, width – 45m, LDA – 3,500m, PAPI – Y. Runway 09: TORA – 3,453m x 60m, width – 45m, LDA – 3,453m. Runway 27: TORA – 3,453m x 60m, width – 45m, LDA – 3,453m, ILS – CAT III/E/4, PAPI – Y. Runway 18C: TORA – 3,300m x 60m, width – 45m, LDA – 3,300m, ILS – CAT III/E/4, PAPI – Y. Runway 36C: TORA – 3,300m x 60m, width – 45m, LDA – 2,850m, ILS – CAT III/E/4, PAPI – Y. Runway 18L: TORA – 3,400m x 60m, width – 45m, LDA – 2,850m. Runway 36R: TORA – 3,400m x 60m, width – 45m, LDA – 2,850m, ILS – CAT III/E/4, PAPI – Y. Runway 18R: Width – 60m, LDA – 3,530m, ILS – CAT III/E/4, PAPI – Y. Runway 36L: TORA – 3,800m x 75m, width – 60m. Taxiways: Total length: 49 km, from which 43 km suited for CAT III operations. Aprons/ramps: Total number: 228, from which 100 are equipped with boarding bridges and 21 are solely for freight handling. The other ramps are in use for remote passenger handling, aircraft buffering and parking.
2.2 Landing aids for each RWY
(e.g. CAT II): See above.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, we continuously improve the safety at the airport in our processes. Of course this means sometimes to reappraise some parts (procedures) of the safety management system.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme
to control FOD in terms of:
a) Training: Regulations about FOD are described in our Handbook Safety and Security. Every employee is tested upon his/her knowledge of this handbook before he is allowed to work on airside. Authority personnel are trained in recognising FOD and removal of dangerous objects (dead birds!) and dirt on taxi- and runways.
b) Inspection by airline, airport, and airplane handling agency personnel: Airport Authority Officers see to it that employees on roads and ramps stick to the regulations about FOD. Before docking of an airplane the ramp is inspected by the handler. Before ATC is going to use a runway, it is inspected for dangerous objects by the Birdcontroller on duty.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Ramps, taxiways and runways are frequently swapped. After maintenance extra swapping takes place. Schiphol has a special rubbish dump for damaged and discarded ULDs, which can form danger for FOD. Pack up activities of freight must be done within the perimeter of the freight service to prevent packing material to fly around and thus form a FOD danger. These perimeters are surrounded by fences, which among other reasons are placed to "catch" this flying material.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): We are planning to combine effort in the prevention of FOD by creating more awareness among multiple agencies. This combined effort will be coordinated within the Safety Platform Schiphol (VpS).
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Since 2003 monthly inspections for debris take place. These inspections lead to trend reports. When necessary, action is taken, for instance the campaign "Clean Schiphol". Low fences are placed in the vicinity of taxiways and runways, again to catch debris which is flying around in the wind. Obviously these fences are regularly cleaned. We are still looking and following the developments around FOD-radar. At the same time we are active in the process of purchasing a new software system to have inspections more up-to-date and more direct.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? By sight, radio communication and radar/MLAT (every vehicle in the manoeuvring area has an ADS-B transponder).
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Yes. At Schiphol we have a zero tolerance for runway incursions of Cat. A. Next to that, we are trying to decrease the overall number of incursions by investigation to find out the root cause. After investigation there could be recommendations to take infrastructural measures (fillets, lighting, markings, etc) or changes in procedures. On a more structural basis, AMS is going to install Runway Guard Lights where extra conspicuity is needed and implement special switchable signs for the co-ordination of tow-traffic.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): All runways are protected by RIASS (Runway Incursion Alert System Schiphol). RIASS is ASMGCS level 2 and will sound an alert in the control tower to warn ATC that a RI might occur (RIMCAS, but specially developed by LVNL. Based on MLAT and enhanced with ADS-B signals where available).
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Any measure that could prevent a pilot or vehicle driver to make a runway incursion should be used. No matter if it is high or low tech.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Training for all vehicle drivers who operate in the manoeuvring area, extra training for those who have to cross runways. Recurrent training after a period of 1-3 years for those who drive in the manoeuvring area. Apron controllers are certified. At the moment we are putting effort in having ATCO's completing a shift in the manoeuvring area with our Bird Controllers for better understanding each other's profession.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? All organisations at Schiphol Airport have their own responsibilities for reporting incursions and investigation. There is not a specific reporting tool. Every runway incursion gets discussed in the Runway Safety Team. Most investigations are jointly done. Investigations are to learn and not to punish. At Schiphol we strive to become a High Reliability Organization and becoming more aware of the potential dangers surrounding us combined with a Just Culture.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Long grass policy, with grass species developed by scientific research; Long grass policy is, in general over the year, unattractive for all bird species (and especially gulls and lapwing).
6.1 Do your staff attend recognised bird control training courses? Yes, for example hunting courses and "quality training days".
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously (24/7).
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Green laser equipment, distress calls, pyrotechnics, Falconer, shotguns.
6.4 Do you carry out a bird strike risk assessment? At the moment we are doing a risk assessment about the presence of geese; Risk assessments are performed in cooperation with our home carrier AF-KLM; We are audited every year by several organisations; Recently we have made a very detailed bow-tie to point out what barriers are in place and who is responsible for what.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Hare wild, we have 10 regular hunting days to control the population.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 7 x E-one Titan HPR 8 x 8. Year of manufacture 2002-2004. 2 x E-one Titan HPR 8x 8 with Boom. Year of manufacture 2002-2004. 2 x Mercedes Atego. Year of manufacture 2007/2008.
7.2 Future developments – are there plans to purchase or dispose of any equipment? There are no plans to dispose of any equipment.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Amsterdam Airport possesses a Fire Training Simulator, which is available to other airports for training purposes.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From October until May for de-icing aircraft and from November until April for de-icing RWY.
8.2 Average annual days of snow:
7 days per snow season.
8.3 Average snow depth: Less than 1cm.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Per shift maximum 100.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Truck + plough + blowsweeper – 18; Truck + blowsweeper – 12; Truck + plough – 5; Snowblowers – 3; Sprinkle-devices Salt – 9; Sprinkle-devices KAC – 5; Runway de-icing vehicles – 3; Frontloader – 1; Wheeled shovel-loader – 14; and Trucks snow-transportation – 20.





11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Runway-Taxiways-Aprons.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: We spray chemicals to prevent icing and snow building. For the RWY we use the sprinkle-devices of 33m width and for TWY and Aprons 16m width.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? On average it takes 30 minutes to clear the RWY that is including the exits.
12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: KHCO2, NAAC
12.2 Comment on storage capabilities of the chemicals that you use: We store up to 480,000 litres of KHCO2.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: We use solid de-icers NAAC granules with glazed frost.
12.4 Have you experienced any corrosion problems with de-icers? Yes, but it is hard to measure the influence of de-icers and prevent corrosion. All vehicles are coated to minimise the effect of the de-icing materials.
12.5 Have you employed any special means to economise on chemical use? The usage of weather-stations and sensors for precise temperature readings to decrease the amount of used chemicals.
12.6 Do you have any other comments on experience with chemicals? No, but the environmental issues will become even sharper in the near future.
12.7 Do you use other chemicals or sand on operational areas? At this moment we only use KHCO2 and we are using more sand as well.
13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: Every RWY has its own weather-station with sensors. With these sensors it is possible to measure the surface temperature, ground temperature at -30cms, dew point and the amount of liquids still available. This helps to determine the use of spraying or not.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Due to the information gained from the weather-station sensors it is far more accurate to determine the necessity and amount of surface de-icing chemicals. This enables us to reduce the costs for winter operation.
14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We use dedicated de-icing positions primarily. This is so we can manage the spills and glycol on the parking area.
14.3 Is glycol recovered? If so, please state methods: It is separated, and transported to a third party.
15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? We have 2 VW Sharan's with Airport Surface Friction Tester from Sweden.
15.2 Have you any comments on the reliability of friction indexes? No comment.
16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport's methods? Yes, we started a more selective spraying method more based on RWY usage. Plus we are adjusting the spraying vehicles so they use less KAC and this has already led to a reduction of 200,000 ltrs of KAC.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes, a new RWY-sprayer with more accurate dosing and less usage of chemicals with better results.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

ANTWERP

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Antwerp International Airport
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Dimension Rwy 11/29(m) 1510x45 TORA 11(m) 1510 TORA 29(m) 1510 TODA 11(m) 1510 TODA 29(m) 1510 ASDA 11(m) 1510 ASDA 29(m) 1510 LDA 11(m) 1366 LDA 29(m) 1510 Total concrete 154,310sqm.
2.2 Landing aids for each RWY (e.g. CAT II): Cat 1 ILS and papi 29 VOR/DME and papi appr. On 11 (see AIP Belgium).
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? For info about safety management contact safety manager Adj. Airport commander Sophie Velders, tel nr 003232856504, e-mail: sophie.velders@mow.vlaanderen.be
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport's programme to control FOD in terms of:
a) Training: training "Safety on the ramp" and prevention campaigns.
b) Inspection by airline, airport, and airplane handling agency personnel: There is constant FOD control by inspection and people working on EBAW.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Sweeping and magnetic bar use. FOD containers available.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Poster campaigns.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Regular control of the bins and specification of the found FOD.
5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Monitoring done by ATC.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? When visibility is low, we start LVP procedures.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): N/A.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Guard lights on the Taxiways.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Every person working airside must follow special training with safety lessons.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes.
6. BIRD AND WILDLIFE CONTROL
6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Trying to avoid food (seeds) attraction by mowing and close attractive breeding places in hangars.
6.1 Do your staff attend recognised bird control training courses? Yes, training courses by the Belgian Air Force.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? There is very regular control.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Gun fire, birdscare cartridges, alarm scream noise from several species.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.
7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: FAUN 6x6 12,000 litre water 1,200 litre foam product (year 1977). PANTER 6x6 12,000 litre water 1,500 litre foam and 500kg extinguish powder (year 2008). SIDES 6x6 9,000 litre water 1,100 litre foam product 250kg extinguish powder. Mercedes 4x4 fire and rescue equipment.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes.
PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? 1 November to 31 March.
8.2 Average annual days of snow: 46 in 2010-2011.
8.3 Average snow depth: 3cm.
8.4 Maximum snow in 24 hours: 15cm.
8.5 Annual number of days of de-icing activities: 55.
9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 6 persons per shift, no sub-contracted winter service.
10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Snow plough MB Track, 3 towed snow blowers Shorling Mercedes deicing vehicle 4,000 litre potassium acetate.
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways,






taxiway, aprons etc) stating identity of each facility: First Runway 11/29 then Taxiways and apron 1 and 2.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Start sweeping on the Rwy axis with 2 snowblowers in close formation. The first on the axis the second 3 metre out of the axis in the back of the first, then working the snow out to the edges taking care not to cover the Rwy light system. When ready there will be a stabilisation of the Rwy with kaliumacetate solution to get a good and stable friction. Special procedures by extreme weather conditions are described in manual "Winter operations".
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? Between 30 minutes and 1 hour.

12. EXPERIENCE WITH CHEMICALS

12.2 Comment on storage capabilities of the chemicals that you use: Stainless steel tanks 30,000 litres kaliumacetate storage.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: In case we need a strong reaction (black ice) we spread solid natriumacetate and moisten the product with kaliumacetate.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? Very close control of the physical action of the chemicals by mu measurements. Sometime previous use. Close follow up of the meteo conditions.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: 2 sensors on the Rwy.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: The ice warning system is a second warning indication for us. In the first place personal control of the pavements is necessary.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Done by a private company.
14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SAAB friction tester.
15.2 Have you any comments on the reliability of friction indexes? Reliability is good.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: New liquid kaliumacetate spreader and a new friction tester.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

ATHENS

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Athens International Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): There are two runways the design of which complies with ICAO Aerodrome Reference Code 4E with a width of 45m, plus shoulders of 7.5m on each side. The runways are designated as follows: Runway 03R/21L with physical length 4,000m; Runway 03L/21R with physical length of 3,800m. The runways are parallel and the distance between their centrelines is 1,575m. According to the physical characteristics as published in the AIP Greece the declared distances are: Runway 03R TORA (m): 4,000m. Runway 21L TORA (m): 4,000m. Runway 03L TORA (m): 3,800m. Runway 21R TORA (m): 3,800m. Ramp area: 45,975sqm + non-effective areas: 11,853sqm = total apron area: 57,828sqm.
2.2 Landing aids for each RWY (e.g. CAT II): The RWYs landing aids are able to serve CAT II approaches. Approach lighting: Precision approach CAT II. Lighting system, 900M, all RWYs. PAPI, left side / 3o MEHT 18 M, all RWYs. Runway Lighting: (CAT II): RWY C/L lights: 15m spacing (White/Red- White/Red). RWY edge lights: 60m spacing (White, LIH).RWY end: (Red).THR lights: (Green). TDZ lights: (White).

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Changes have been made following the amendment of ICAO Doc. 9859.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Airport provided training to ground handling personnel. Also in Airside Driving Permit (ADP) training.
b) Inspection by airline, airport, and airplane handling agency personnel: Ramp monitoring performed by Athens International Airport (AIA) Company's staff: Ground Handling Services Dpt personnel, Airside Monitoring & Inspection Specialists (AMIS) and Airside Sweepers. There is an external contractor which can provide ad-hoc FOD control upon AIA's request. Aircraft parking position pre-use/post-use check by AMIS and Ground Handlers' ramp staff.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Daily apron sweeping, FOD – boss blanket, magnet bar, FOD bins and special containers for toxic and hazardous waste.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Through the Airside Safety Committee, brochures, apron banners, incident reporting/investigation, "FOD Collection Days" at the airside, relevant meetings for FODs, Airside Safety Campaign, and Aviation Safety Newsletter. Moreover special care is pointed out regarding the appropriate chocking of aircraft preventing from incidents at the apron as well as proper handling and placement of chocks and cones causing a FOD source (relevant meetings, correspondence etc.)
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? GND and TWR ATC control.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Ground Radar, magnetic loops, stop bars.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Enhanced TWY centreline warning and additional RWY holding positions plus RWY guard lights at one particular RWY entry.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? There is an Airside Driving Permit procedure directed by Athens International Airport with theoretical and practical examinations.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? A Local Runway Safety team has been established dealing with those issues.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: All habitats inside the airport fence are treated in a way to minimise wildlife attraction. Food, water, and roosting/resting/nesting places are minimised either applying the proper designs at the initial master plan of the airport (e.g. buildings without roosting places, drainage system with fast discharge, landscaping with effective ground cover and fruitless shrubs and trees, collection of residual and organic waste in closed bins, etc.) or with the application of various long-term measures if new attractants are detected (e.g. drainage of seasonal water pools). All the airport areas are monitored daily. The natural habitats outside the airport are subject to periodic monitoring recording of the wildlife they sustain together with other components of the ecosystems like flora and vegetation. University institutions and the Hellenic Ornithological Society are cooperating with the airport for this task.
6.1 Do your staff attend recognised bird control training courses? The members of the Wildlife Control Team (all with university degree in life sciences) have been trained by the German Bird Strike Committee and the Food and Environment Research Agency (Bird strike Avoidance Team) of U.K. Continuous training includes participation at ACI training courses (e.g. March 2010), regular visits to major International Airports abroad for on the job training and participation in the meetings of the International Bird Strike Committee in order to enhance their knowledge on problem solving. These members organise and provide training on annual basis to other airport personnel that support wildlife management.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? At least one dedicated person, member of the Wildlife Control Team, monitors and records the wildlife activities on the airfields from the first to the last light, in frequent intervals according to the wild strike risks posed and applies measures whenever necessary. Additional personnel from the Airfield Services Department trained for applying wildlife measures is supporting the Wildlife Control Team 24 hours, when necessary.





6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/ manufacturer): Equipment includes: Sound devices installed at 13 airport vehicles. They are self made based on car CD players and they broadcast recorded distress or alarm calls recorded in cooperation with university specialists, and also digital loud sounds. 2 portable sound devices broadcasting distress calls purchase from SCARECROW BIO-ACOUSTIC SYSTEMS LIMITED (U.K.). 4 shotguns firing both blank and live ammunition.1 laser pistol AVIAN DISSUADER purchased from SEA TECH (U.S.A.).
6.4 Do you carry out a bird strike risk assessment? Wildlife Strike Risk Assessment and Management procedures have been incorporated in the Aviation Safety Management Plan of the airport. Periodical wildlife strike risk assessments are performed monthly and the results are presented at the monthly meetings of the Airside Safety Committee. Full scale wildlife strike risk assessment is performed annually and the results are communicated to the Hellenic Civil Aviation Authority.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? The personnel dedicated to the monitoring of wildlife activities at the airport keeps an electronic Wildlife Control Log with all the details regarding wildlife activities, measures applied and the effectiveness of the measures, airport habitat conditions and weather data in the database specially designed for the purposes of monitoring and managing fauna, flora and vegetation at and around the airport.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? There are manageable problems with insects, and small and medium mammals like rodents and foxes. Insecticides are applied at least once per year to reduce the populations of insects during the most critical period of their life cycle, rodenticide bait stations are used for rodents (further to the reduction of the populations of the insects), while trapping and relocation is used for foxes.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: AIR CRASH TENDER – ROSENBAUER PANTHER 8x8. CHASSIS: Type: MAN 38.1000 VFAEG/8x8. Engine: MAN V12 diesel engine, Euro 2. Output: 735 kW (1,000 HP) at 2,300 min-1. Capacity: Water tank capacity, material: 12,500 l, GFP; Foam tank capacity, material: 2 x 750 l, GFP. HP powder unit: 1,000 kg. Year of manufacture: 2000.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Not in the near future.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes / Yes.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? Period: 15 December to 15 March annually.
8.2 Average annual days of snow: Not Available (Snowing average every 2 years).
8.3 Average snow depth: Not Available.
8.4 Maximum snow in 24 hours: Not Available.
8.5 Annual number of days of de-icing activities: Average 3-5 days monthly between December and March annually.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? For the airside and landside areas approximately 65 employees per shift.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Airport Equipment: Schmidt TJS 630 4 units, Schmidt CJS 4 units, Vehicle ACTROS MB2640 with Schmidt Airport Sprayer (ASP) 2 units, Vehicle ACTROS MB2640 with Schmidt plough and spreader 1 unit, Vehicle UNIMOG Schmidt plough and spreader 2 units / Schmidt Large Snow Cutter (optional), Vehicle Atego 1823 Schmidt brush 2 units, Vehicle Tractor John Deere Schmidt plough 1 unit, Vehicle Kramer Schmidt plough 1unit, Vehicle Sk151 Schmidt plough 2 units.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: According to prevailing weather conditions, ILS operation status priority as follows: Rwy, adjacent Twy, at least three high speed exits and a taxi lane towards MTB and STB. Simultaneously apron taxiways by different teams.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Vehicles as above with external company assistance (Unimog, 3 units, 2 Tractors), Formation according to wind direction (mainly echelon).
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? Approximately 45 mins.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Clariant SAFEWAY KA HOT (liquid), and Safeway SF (solid) as pre-wet.
12.2 Comment on storage capabilities of the chemicals that you use: Inside warehouses.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Mainly liquids are used.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: No such system is installed. Met info by National Meteo Service.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? N/A.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: N/A.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Athens International Airport S.A, (the Airport Company) does not provide aircraft de/anti-icing operations. There are 3 Ground Handling companies with relevant equipment. Total number of de/anti-icing trucks 5. De/anti-icing truck types: 3 trucks FMC Tempest II, 1 truck Ford Trump 2000 and 1 truck Vestergaard.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De/anti-icing operations take place on each aircraft parking stand.
14.3 Is glycol recovered? If so, please state methods: The glycol is not recovered.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SARSYS FrictionTester, SAAB 9-5 Wagon Surface Friction Tester (SFT), 2 units.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

BARCELONA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Barcelona-El Prat Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): See AIP LEBL
2.2 Landing aids for each RWY (e.g. CAT II): See AIP LEBL

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, we have the SMS (SGSO) implemented in the airport. Currently, the airport is involved in the certification process. All facilities and procedures have been subjected to internal and external audits for hazard identification and risk assessment. The results of these exercises concurrent with the improvement of safety standards, reaching and improving ALoS (Acceptable Level of Safety).
In addition, the main premise SGSO is continuous improvement. The internal procedure BCN-PGS01 "Risk Management System" requires a semi-annual monitoring of all identified situations, facilitating the control of hazards at the airport and which are specific operations. Also, the above procedure has an associated operational instruction: ITS01 "Change Management", each unit responsible for risk management enabled with the following events: Changes in operating procedures, Implementation of new procedures, Infrastructure projects in the area of movement, Commissioning of new infrastructure, Organisational changes.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Handling agents train their staff and we the airport has a company that surveys the handling agents, one of the things monitored are the control of FODs. The airport trains the marshallers.
b) Inspection by airline, airport, and airplane handling agency personnel: The handling agents inspect the parking before clearance and the airport inspects continuously by marshallers and a cleaning company H24.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): The airport uses sweeping and FOD containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): CGA: Airport Coordination Centre.
4.2 General: Are there any special systems or soft-






ware solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? SMR (Primary Radar), ATC and marshallers.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A-SMGCS (NOT COMPLETE).
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: We use paint signs, lighting and procedures.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Local Safety Runway Committee and Safety Apron Committee.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes, our system safeguards the 'non-punitive' principles.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Actions that are performed: performance cards attached. They explain the actions carried out to minimise bird hazards.
6.1 Do your staff attend recognised bird control training courses? Continuous training at the airfield to all components of Animal Control Service. Specific formations in case of need.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? The Wildlife Control Service consists of three teams prevention performs continuously on the airfield during daylight hours. That is from sunrise to sunset.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Equipment used: Hawks Team (14 in each team). Blank pistols. Blank pistols characteristics on the cards attached. Bird frightened off systems by screams of panic in vehicles.
6.4 Do you carry out a bird strike risk assessment? Risk index: A risk index is calculated for each species that is involved in bird strikes. This index takes into account the number of collisions registered for each species and the probability of the collision causing damage (its severity). It is based on the indices recommended by international organisations, with minor changes to adapt it to the local context of Barcelona Airport.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? All incidents are recorded by Animal Control Service daily. They also receive reports from airlines and from the control tower. With all these data, statistics and indicators are carried out. They are also done analysis on stroked birds, in those cases where the seriousness of the case it requires.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Dogs and cats. Cat trapping is done when they are detected on the airfield. The dogs that enter in the airport grounds escaping from hold's aircrafts are captured by the Animal Control Service and are returned to their owners.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: MAN / ROSENBAUER 8X8; 13500L water & 1620L Polyester foam; 2006; 4 units MAN / ROSENBAUER 8X8 MA5; 12000L water & 1500L Polyester foam; 2011; units SIDES 6X6; 10000L water & 1200L Polyester foam; 2004; 4 units.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From December 1st to March 15th.
8.2 Average annual days of snow: 0-1 days.
8.3 Average snow depth: 0-0.5cm.
8.4 Maximum snow in 24 hours: 0.7cm.
8.5 Annual number of days of de-icing activities: 3 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 15 airport-employed. The handling operators have the necessary employees to operate their de-icing equipment.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Airport equipment: Urea spreader: 2 Maquiasfalt, Snowplough trucks: 2 Maquiasfalt, Road Sweeper: 1 Schmidth, Friction Tester: Sarsys SAAB.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Priority: RWY, TWY, Apron, service roads, entries. RWY: Preventive treatment: Urea Spreader in parallel (50m wide back); corrective treatment: Snowplough trucks in parallel (50m wide go). TWY: Preventive treatment: Urea Spreader in parallel (25m wide go); corrective treatment: Snowplough trucks (25m wide go). Apron: Urea Spreader. Service Roads: Urea Spreader. Entries: Urea Spreader.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: The vehicles work in tandem along the track and parallel to the centreline. Tandem behind the Snowplough trucks work and a SPP vehicle supervises all work.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 24 min.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Currently used for preventive treatment solid urea (dampened with potassium acetate) and liquid potassium acetate corrective treatment. Any product used last season.
12.2 Comment on storage capabilities of the chemicals that you use: Now 20Tn of solid urea, and 25 Tn of liquid potassium acetate.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Solid de-icers are effective if they are humidified and mainly for preventive treatments. The time it takes to start acting is too high (30 min).
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? The measuring surface temperature, friction meter and meteorological service, economise on chemical use.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: The Airport Meteorological Office issued forecasts for the possibility of frost and snow and tracks of the meteorological parameters (Aerodrome Advisory Bulletin, TAFOR, TREND, METAR, SPECI). And The SPP has two laser surface thermometers.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Able to implement effective preventive treatment.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Handling Agents provide the service.
14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Parking Area.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SARSYS SaaB-95 Nº874.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

BASEL

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Basel Mulhouse Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Apron surface : Main PRKG: 165650m^2 - Concrete, General aviation PRKG: 24400m^2 - Macadam, GAGBA PRKG: 14000m^2 - Macadam, JAPAT PRKG: 4806m^2 - Macadam. Apron strength: Main PRKG, Maintenance area: 25TRSI-33TJ-85TB, General aviation PRKG, GAGBA: 20 TRSI, JAPAT PRKG: 68F/B/W/T.TWY width: Q: 25m – D,E,F,G,P: 24m – B,H,J,L (J reserved for ACFT with span 36m MAX): 22m – A,C,C1,K: 15m (reserved for ACFT with span 36m MAX), TWY surface :C1,D,E,F,G,K,P : concrete – A,B,C,H,J,L,Q : Macadam, TWY strength : 25TRSI – 33TJ – 85TB – J:PCN: 68F/B/W/T.
2.2 Landing aids for each RWY (e.g. CAT II): B,D,L and Q : CAT III. J,C,E,F,G,H,P : CAT I

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No





4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: 3 inspections by day
b) Inspection by airline, airport, and airplane handling agency personnel: Inspection by airport personnel.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). Visuel inspection (3 x / day)
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Co-ordination in airport safety committee
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Ground radar From DGAC (French authorities).
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): No.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Paint, light procedure.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? For the airport's operators a specific procedure for the traffic with training and examination.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes we have.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Eliminate water source and control the vegetation.
6.1 Do your staff attend recognised bird control training courses? Yes.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Hourly and on request.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Bird scaring from "STERELA".
6.4 Do you carry out a bird strike risk assessment? Yes we have one new risk assessment.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes with dedicated software.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Not anymore.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: SIDES VIM 90: 9000 litres water, 1100 litres foam product, 250 kg powder, (6x6 year: 1995); SIDES VIM 90: 9000 litres water, 1100 litres foam product, 250 kg powder, (6x6 year: 1997); SIDES VIM 60: 6000 litres water, 900 litres foam product, (6x6 year: 2001).
7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes one vehicle for the year 2012 and a second for the year 2013-2015 are planified.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We have a Fire Training Simulator with an aircraft F27. It's small equipment, that's why it's not programmed to be available to other airports for training.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? The winter's organisation is operational from 15 November to 15 March.
8.2 Average annual days of snow: During winter 2010-11: we had 22 days of snow.
8.3 Average snow depth: During the winter 2010-11: we accumulated 42cm of snow.
8.4 Maximum snow in 24 hours: During winter 2010-11: the maximum depth of snow was 11cm.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? We have 19 airport-employed for the winter services and 4 employee's subcontractors for the evacuation of the snow.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example: compact jet sweeper, Schmidt, CJS 720, 4 units): Compact jet sweeper, Schmidt, CJS, 3 units, Jetbroom, sweeper and spreader, Boschung, 2 units, Snow blower, Zaugg, Rolba 600, 1 unit, Spreader, Schmidt, width spreading 24 m, 1 unit, Trucks with snow plow, unimog, 3 units, Truck with snow bow, 2 units.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: We have 2 teams: one for the runways and taxiways and one for the aprons. For the runway and taxiway's team, the priority is the main runway and its taxiways. For the apron's team, the priority depends of the movements of planes.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Before each intervention, all vehicles are full fuel and full de-icing. Before each season's winter, all employed-airport are trained about the vehicle's driving with its equipments. We have some instructions about the method of clearance of runways, taxiways and aprons.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 1 hour.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: We have runways and aprons in concrete and taxiways in macadam. Last season, we used 142,2 litters of liquid de-icing and 10 tonnes of solid de-icing. We use solid de-icing only with ice or risk of ice-rain. We use liquid de-icing in the others situations and by low temperatures.
12.2 Comment on storage capabilities of the chemicals that you use: We have 2 tanks of 50 000 litres and we stock on site 6 tonnes of solid de-icing.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: The solid de-icing is always used with liquid de-icing in order to paste on the ground. Our ratios are: Liquid: 20 g/m^2, Solid: 40 g/m^2.
12.4 Have you experienced any corrosion problems with de-icers? Our de-icing products are very corrosive. All our equipments (tank, pipes, …) are in stainless steel or polymer.
12.5 Have you employed any special means to economise on chemical use? We check our spreaders each year by the builder.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No.
14.3 Is glycol recovered? If so, please state methods: We're sweeping and aspiring area every2 hours on average.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? We have 2 SARSYS SFT.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Not for this new year 2012.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment which you would like to sell? No.

BILLUND

Billund Airport

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Billund Airport

2. MOVEMENT AND MANOEUVRING AREA DATA:

2.1 Please list the identities of primary operational facilities and the surface areas. (For example RWY 18/36 153,000m2) RWY 09/27, 137,700m2; TWY's 142,160m2; Apron South 61,790m2; Apron North, 100,000m2.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary." Please outline the SMS for your airport, and the date of its introduction. Billund Airport has established a Safety Management System.
3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No specific change has been made.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Billund Airport is using a team of fire and rescue personnel who are making the runway inspection at least twice a day. Training is done ad hoc.
b) Inspection by airline, airport, and airplane handling agency personnel: Inspections are done by the airport.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Maintenance is done with use of sweeping when necessary.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). No multiple agencies.
4.2 General: Are there any special systems or software






solutions you employ for FOD control? (Please specify product name and add any comments): Billund Airport does not have software solutions at the moment.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Radio communication, and special cat. 2 and 3 procedures.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? As soon any hazard has been perceived, engineering moves will be taken.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): No specific safety device such as ASMGCS, AMASS etc. are currently employed.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Billund Airport is using wig-wag at the entry of the runway and signs and lighting, and markings painted on the twy´s "RWY 09/27".
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Billund Airport have made a training program for all staff, who are working at the airport (excl. pilots) and specific for the staff who has to work in the manoeuvring area.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? According to the Danish Law, all "near-miss" and runway incursion will be reported to CAA Denmark and to the Airport Safety Management. The reports will also be discussed in the Runway Safety Team, and in the SMS board.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: The airport's assignment is to prevent game from breeding and disturbing air traffic. This is done by inspection of the runway daily and furthermore as needed and by shooting or frightening away the game. Furthermore nests and eggs are removed. BL 3-16 is our legislation in this area.
6.1 Do your staff attend recognised bird control training courses? We aim at employees to have game license, and take part in bird-strike courses recommended by the CAA Denmark.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? We are on the runway less than each hour, however as needed.
6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. Our supplier is Østjysk Våbenhandel (Huntinglife) and our firearm is a sporting gun marked Simson Suhl cal. 12. The rifle is a Baikal cal. 22 mm, and apart from these we have a dummy pistol.
6.4 Do you carry out a bird strike risk assessment? Risk assessment is included in the yearly report from the hunting consultant. Yes.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): We enter all our observations into a runway report table.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: One Toyota Landcruiser 2005, with a 4.2 litre engine, used by the Fire-Officer in command. Two Simba with a Titan TR 39 816 6x6 chassis, 12 cylinder 880 hp acceleration engine, a 8 cylinder 250 hp pump engine. Equipment on the vehicles is Rosenbauer. Fully loaded they weigh 36,000 kgs. and have a water capacity of 11,000 litres and 1,000 litres foam concentrate. Acceleration from 0-80 kph in 25 sec. 1987. Two Scammel Nubian 6x6, 8 cylinder engine of 500 hp, which is both acceleration and pump engine. Equipment on the vehicles is Ruberg. They weigh 24,000 kgs and have a water capacity of 11,000 litres and 1,000 litres foam concentrate. Acceleration from 0-80 kph in 38 sec. 1983 & 1987.
7.2 Future developments – are there plans to purchase or dispose of any equipment? We have ordered two new Panther 6x6 to be delivered in October 2011. Training of staff has begin in November 2011, and we expect to have them in operation January 2012.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We are not in possession of a simulator, but we often frequent other airports that are in possession of a Mock-Up simulator 1/1.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? November – April.
8.2 Average annual days of snow: 46.
8.3 Average snow depth: 22.5mm.
8.4 Maximum snow in 24 hours: 105mm.
8.5 Annual number of days of de-icing activities: 58 on Rwy / 132 Aircraft De-icing.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 11.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): Blower sweeper, Schörling P12, 3.3m/23 km/h, 6 units; Snow plough, Mercedes, 3m/220 HP, 1 unit; Tractor/sweeper, Stensballe, 3m, 2 unit; Tractor/Brushes, Volvo 320, 2m, 2 units; Snow blower, Beilhach HS 230, 1600 T/h, 1 unit; Snow blower, Schmidt VF3, 2000 T/h, 1 unit; Tractor/brushes, Danline, 2.6m, 1 unit; Tractor/brushes, Stensballe, 2.6m, 1 unit; Tractor/brushes, Kubota, 1.5m, 1 unit; Sand, Epoke ITM 35, 1m, 1 unit; Sand spreader, Epoke SKE2000, 2m, 1 unit; Tractor/plough, Partner, 2.5m, 1 unit; Traktor/plough, Stensballe, 2.5m, 1 unit, Loader, Volvo, 2.5 m3, 1 unit, Wheel Loader, CASE 695, 2.5 m3, 1 unit; Rwy Liquid/Epoke Runway, 15m/30km/h/5500, l. unit; Solid De-icer, Combi 4500 2T, 15m/30km/h/3 ton, 1 unit; Sand spreader, Rational MT 400, 1 unit; Friction tester, Skidometer BV-11, 1 unit; Truck with 5m High Speed Plough, 1 unit. Wheel Loader with 5m moveable snow plough, 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 1. RWY 09/27 (+ Fire & Rescue road) including twy Delta / Kilo, 2. TWY Foxtrot, 3. Apron, 4. TWY´s Juliet, Alfa, Charlie, Bravo, Golf, 5. Other.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Snow clearance is performed with 4-6 sweepers from the edge of runway and across the centre line to a distance of about 8m from the opposite runway edge, then a snowplough ploughing from this edge, which will leave the snow in a bank. Snow banks will be removed by blowers. If wind is calm, and deposit small, the removal will be initiated from the centre line. Apron tractors with brushes move snow close from aircraft to open area, then it is moved away with loader.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 35 min.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: De-icing and anti-icing is performed with Aviform Solid and Aviform Liquid, depending on situation. Use of Aviform Solid is very restricted on RWY and TWY's. Aviform Liquid is employed as the main de-icing/anti-icing material on RWY and TWY, but if we have to remove a thick layer of black ice, it is allowed to use Aviform Solid. Used quantities of Aviform Liquid last season: 330 tons. Used quantities of Aviform Solid last season: 166 tons. Aviform Solid and Aviform Liquid are used on apron. We use more Aviform Solid in order to extend the holdover time, with a good result and sawing Aviform Liquid, especially in situations with ice and heavy snow.
12.2 Comment on storage capabilities of the chemicals which you use: No storage problems.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: We have not had any problems with "blow-away", but we have had some problems with moistening of the dry matter to a degree where the holdover time became acceptable.
12.4 Have you experienced any corrosion problems with de-icers? We have corrosion on parts of the de-icer vehicle and on lamps from Aviform 50. We have never had corrosion problems with Urea.
12.5 Have you employed any special means to economise on chemical use? It is very important to know exact surface temperature and weather forecast.
12.6 Do you have any other comments on experience with chemicals? All the new chemicals seem to be corrosive – and very expensive in use.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Ice warning system, own construction. Sensors: 4 rwy surface-temperature, Air temperature 1, Dew-point 1, Anemometers 1. Central monitoring unit: PC with own software. All temperatures are updated every minute, and are graphically displayed for the last one hour on the monitor. PC with connection to DMI (the Danish Meteorological Institute's system for road ice Control). Monitor with radar area view, who is presenting clouds with precipitation.
13.2 Have you plans to purchase further ice warning systems and if so which model? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: It saves chemicals and is a very efficient tool.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so please state vehicle or other facility manufactures, and number of units. Liquid de-icer, own, 23m/6000 l., 1 unit; Mu / Vestergård, 11m/5600 l., 3 unit; BETA/ Vestergård, 13.5m/6000 l, 2 units.
14.3 Is glycol recovered? If so, please state methods: De-ice platform with recovery tank. From the tank the glycol is pumped to a mobile tank, and transported to the municipal sewage treatment plant.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Skiddometer BV-11.
15.2 Have you any comments on the reliability of friction indexes? None.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details





including manufacturer and number of units: No.
16.4 Do you have any winter services equipment which you would like to sell? Yes.

BRATISLAVA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Airport Bratislava

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Runway declared distances:RWY13:TORA 2950 m, TODA 3010 m, ASDA 2950 m, LDA 2950 m, RWY31: TORA 3190 m, TODA 3250 m, ASDA 3190 m, LDA 2950 m, RWY04: TORA 2900 m, TODA 3200 m, ASDA 2900 m, LDA 2900 m, RWY22: TORA 2900 m, TODA 2960 m, ASDA 2900 m, LDA 2900 m. Runway width: RWY04/22: 60 m, RWY13/31: 45 m + asphalt shoulders 7.5 m on each side. Runway bearing strength: RWY04/22: PCN 54/R/B/X/T RWY13/31: PCN 50/R/B/X/T. Total apron area:143.000 m2 .Taxiway width and bearing strength: TWY A: 24,4 m PCN 48/R/A/X/T or PCN 54/R/A/X/T, TWY B: 22,5 m PCN 30/R/A/X/T, TWY C: 22,5 m PCN 54/R/A/X/T, TWY D: 22,5 - 24,4 m PCN 54/R/A/X/T or PCN 30/R/B/X/T, TWY F: 22,5 m PCN 48/R/A/X/T, TWY G and GG: 22,5 mPCN 51/R/A/X/T.
2.2 Landing aids for each RWY (e.g. CAT II):RWY04: non-precision APP only, RWY22: CAT I, RWY13: non-precision APP only, RWY31: CAT IIIA.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes. A little changes in the operational procedures was established, but not important (except adoption of measures in consequence the runway incursion in 2009).

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Included in internal operational document.
b) Inspection by airline, airport, and airplane handling agency personnel: Inspection of movement area by airport personnel (airport dispatch, maintenance, ramp handling) during the regularly inspection or internal audit.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Our company uses the sweeper, rumble strip, jet blower (only in exceptional conditions) and FOD containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Our company cooperates with other handling agents which use the airport, and with personnel of the airliner, which have the base on the Bratislava airport.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? The control of vehicle and aircraft movements by the TWR controller assistant (local ANS provider – LPS SR, š.p.) through the radio.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? For a consideration conclusion of the investigation the runway incursion in 2009, was implemented the changes of the traffic order the Bratislava airport.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Procedural control of the vehicles on the movement area.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: The airport is equipped by the runway guards light and the STOP bars on the primary RWY (13-31) according to the requirements of provision L 14, I.Volume (the national provision of ANNEX 14, I.volume).
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? The all personnel which wants drive the vehicle on the movement area must successfully passed the airport traffic order course.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? We preferred "No-Penalty" principles of reporting safety incidents. The safety incident reports are collected and they are regularly updated on intranet of our company. Further, the airlines and other company which have base on the Bratislava airport are regularly informed about the all incidents.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: At our airports are declared protection zones for Ornithology. The inner zone, there are no attractive crops, this whole area is sown with grass. The outer protective ornithological zone is prohibited to establish any equipment that might be attractive to birds. In the vicinity of the airport there are lakes that are attractive to birds as well as the Small Carpathians mountains, vineyards, fields... as elsewhere. Nearby is a state nature reserve Shur, which lies on the migration route of birds. Despite taking preventive action in the area of the airport is undesirable birds over the crossing area. For the purpose of scaring birds that employs airport hawkers, who in the performance of scaring properly design an organizational norm.
6.1 Do your staff attend recognised bird control training courses? Falconry and hunting have made Falcon tests involving the examination of knowledge of bird species.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Falconry scaring out continuously from sunrise to sunset.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): The airport employs secondary education done by falconers hunting with a falcon test. The condition is a good exam discern all kinds of birds. In addition, the airport employs university-trained biologist who methodically directs the activities of prevention and scaring.
6.4 Do you carry out a bird strike risk assessment? Airport staff regularly monitor species composition occurring in birds, their numbers in the different periods of the year and the date and cause of their presence. We also follow the aircraft encounters with animals, identify the type of animal that caused the conflict. These data are then assessed level of risk with respect to the number of movements.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Employees written out daily report, recording the video and numbers of birds shot, and the numbers of individuals caught with the help of a predator. Entered the ongoing work around the airport, which cause an increased incidence of birds. In case of conflict entered all available data on landfall. In the case of finding a dead animal entered this and if possible determine the cause of death.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? The airport is fenced all around, so the deer do not have access to the area. Deer can get only in case of damage to fencing, in which case the fencing repaired immediately and if they get into the area that is chased out of the airport area. Problems sometimes arise with the rabbits at night. During the day they are put out hunting dogs, or trained hunting predators.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Type of vehicle: CAS – 70; Chassis: SIMON; Axles: 6x6; Water (L): 12,500; Foam: (L) 1,500; Powder: (kg) 250; Year: 1995. Type of vehicle: CAS – 60; Chassis: SCANIA; Axles: 6x6; Water (L): 8,500; Foam: (L) 500; Powder: (kg) 200; CO2 (kg) 60; Year: 2006. Type of vehicle: CAS – 32; Chassis: TATRA; Axles: 6x6; Water (L): 8,200; Foam: (L) 800; Year: 1989. Type of vehicle: CAS – 32; Chassis: TATRA; Axles: 6x6; Water (L): 8,200; Foam: (L) 800; Year: 1989. Type of vehicle: S - 1000; Chassis: PRAGA V3S; Axles: 6x6; CO2 (kg) 1,000; Year: 1989.
7.2 Future developments – are there plans to purchase or dispose of any equipment? We are planning to purchase a special airport fire truck with a charge: approximately 10,000 litres of water plus adequate amounts of foam and powder fire in the year 2012.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Our airport does not have a simulator for training firemen. Training is provided at the airports in Vienna and Frankfurt.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 December to 31 March.
8.2 Average annual days of snow: 39 days.
8.3 Average snow depth: 1.41cm.
8.4 Maximum snow in 24 hours: 10cm.
8.5 Annual number of days of de-icing activities: 30 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Airport-employed – 23 drivers (5 of shift + 5 of emergency) on Airsite area + 4 drivers on Landsite area and 4 mechanics of emergency team. Sub-contracted – none.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Jet sweepers: BUCHER Schörling P21- 6 units, Schörling P12- 2 units, BUCHER Schörling P21C- 1 unit. Snowblowers: BUCHER Rolba 1500- 1 unit, MB Unimog Schmidt- 1 unit, Zetor Nová Paka- 2 units. De-icing spreaders: Schmidt Stratos- 1 unit, Giletta 10 CBU- 1 unit, T-815 FLEX-1 unit, Kuhn 3000-1 unit, Š-706 Nová Paka-2 units. Snow plough: Zaugg 6m-6 units, Beilhack 4m -1 unit, Traktors plough-8 units.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Priority:RWY, TWY, APRON, fire house, landsite termi-






nals, approach roads to petrol station and store, approach roads to radio navigation equipment, parking.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: RWY: Mechanical clearing of surface with combi snow sweepers [plough+sweeper+air blower] in arrow chain formation 5-7 units, then if required, application of de-icing material.
TWY+Apron: mechanical clearing only. Chemical fluids application on critical friction movement.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? appr. 30-40 min.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Transheat (liquid -18,7C)- 125tons- short reaction time. Urea (prill -5C) – 53tons- 15-20min. Tech. salt (-5C) – 19 tons – 10min {not for Airside}.
12.2 Comment on storage capabilities of the chemicals that you use: Liquid max: 92,000 ltr. Prill max: 55 tons.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: No solid de-icers in use.
12.4 Have you experienced any corrosion problems with de-icers? Corrosion effects on metal.
12.5 Have you employed any special means to economise on chemical use? Personnel trained yearly on handling & economic usage of fluids.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Vaisala.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? Borrma by Boschung.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Vaisala has not had active sensors. Borrma has not had visibility sensors.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Airport BTS directly provide aircraft de-/anti-icing operations.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We provide de-icing on the parking area.
14.3 Is glycol recovered? If so, please state methods: We don't use recovered glycol.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Surface Friction Tester (high pressure tire) (Skoda Octavia and Saab 9000).

BREMEN

CITY AIRPORT BREMEN

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Flughafen Bremen GmbH

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): RWY 09/27: 126,772m^2; RWY length: 2040m; RWY width: 45m; TWYs A, B, C, D, E, F, G, H, K, L: 82,712m^2; Aprons: 155,670m^2.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 09: CAT IIIb. RWY 27: CAT IIIb.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary." Please outline the SMS for your airport, and the date of its introduction. SMS (in progress) is an integral part of the company operations manual.
3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No changes.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training. Staff concerned with removal of FOD objects as well as inspecting the movement areas are trained on the job (on the job training).
b) Inspection by airline, airport, and airplane handling agency personnel. Inspections are done. c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). Airport uses sweepers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). Coordination and reporting done by airport duty manager at airport traffic center.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments.) No special software in use for FOD control.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Aircraft and vehicle movements are controlled and coordinated by local ATC (TWR) governed by memorandum containing applicable process instructions for airside of airport.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Apron parking-positions and taxiway-markings to eliminate potential pilot confusion about taxi directions. Follow me-vehicles used also.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) Aircraft movement control during low visibility operations (CAT II / CAT III) is accomplished by an active taxiway lighting guidance system with intermediate holding position markings and lights, stop bars and induction queues.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Markings, signage and lighting installed iaw. ICAO ANNEX 14. RWY guard lights are installed.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Yearly Training for mechanics, airport vehicle operators, and other people who work at the airport (instructions, wireless-communications etc). Airport duty manager at airport traffic center perform yearly training sessions about airport movement areas for authorities like police, MET service personnel and other service personnels etc.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Daily-general-reports. Daily-general-reporting procedures are used.

6. BIRD AND WILDLIFE CONTROL 6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds.
6.1 Do your staff attend recognised bird control training courses? Yes, internal trainings (on the job training).
6.2 Are your bird control staff working on the airfield continuously? Yes. All bird control staff is employed by the airport and familiar with the area and airport procedures.
6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. Bird control is using by approximately 48 stationary shotguns and auxiliary pyrotechnics.
6.4 How often do you carry out a bird strike risk assessment, and is this process audited? Once a year, audited by the DAVVL organization.
6.5 What procedures are in place to identify bird species following a bird strike? If no immediate ID is possible, pictures are taken and sent together with bird strike report and the remains of the birds to the German Bird Strike Committee (GBSC)dvvl and the LBA (Luftfahrtbundesamt).
6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Yes. Immediately after each bird strike.
6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes. Every bird control activity is recorded in a report and available to the responsible bird strike manager.
6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Wild rabbits. Control by state approved hunting on a yearly basis and daily / weekly monitoring.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture. ELW, VW Sharan 4x4, 1998. ELW, Toyota RAV 4 4x4, 2006. TroLF 2000 2000 kg Powder, MAN 6x6, 1996. Flughafen-Hubrettungs-TroLF 2000 kg Powder, MAN 8x8, 1993. FLF 60/90 I 9000 liter Water/1000 liter AFFF, MAN 8x8, 1988. FLF 60/90 II 9000 liter Water/1000 liter AFFF, MAN 8x8, 1989. FLF 60/90 III 9000 liter Water/1000 liter AFFF, MAN 8x8, 1998. FLF 60/60 6000 liter Wasser/600 liter AFFF, MAN 6x6, 1984.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Fire Training Simulator Training procedere externe in Rotterdam and FRA.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? (Okt.) / Nov – Mar / (Apr.)
8.2 Average annual days of snow: 20 days.
8.3 Average snow depth: 2-5cm.
8.4 Maximum snow in 24 hours: 25cm.
8.5 Annual number of days of de-icing activities: 30-50 days.

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? Ca. 15.
9.2 How many sub-contracted winter services personnel are available per shift? Sub-contracted winter services personnel on request only.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufac-





turer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): BRE – Equipment: 5 Airblast-Snow-Sweepers (Schörling P17B) towed by 4 Trucks (Mercedes-Benz, Typ 1928, 4x4)- and 1 Truck (MAN TGA 18.350 4x4 BLS, with Snow Ploughs (Schmidt SM) each. 3 Trucks with Snow Ploughs (Unimog 4x4, Mercedes-Benz 4x4, Mercedes-Benz 4x4), 1 Snow-Blower (Unimog1300 4x4 / Schmidt Turbostream T5), 1 De-/Anti-Icing-Units (Iveco 330-30H, 6x6 / Küpper-Weisser Multi-De-Anti-Icer, 9m³ Fluid, 6m³ Solid), 1 De-/Anti-Icer –Unit (Iveco 330-30, 6x6 / Küpper-Weisser , 14m³ Fluid), 1 Double-Rotation-Solid-Spreader 4,6 m³ (MAN TGM 18.250, 4x4 / Epoke4,6m³), 1 Single -Rotation-Solid-Spreader 0,5 m³ (MB 300GD, 4x4), 1 Single-Rotation-Solid-Spreader (MB UX100, 4x4 / Küpper-Weisser, Typ SDA 95, 1,3m³), 1 Singel-Rotation-Sprayer (MB 300GD, 4x4 / Küpper-Weisser Typ SDA 95, 1,3m³), 2 SKH, Skiddometer BV 12 with Computer MI 90, 1 TAP.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 1. RWY 09/27, 2. TWYs A, F, C (CATIII-TWYs), 3. Aprons (Ramp 1, Ramp 2), 4. Other TWYs, 5. Other Movement Areas.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. Snow Plough + Snow-Sweeper - Formation, first snow removal, second De-/Anti-Icing-Fluid. General prefer De-Icing-Procedures in Prevention, for all movement areas.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? max. 30min.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. YARA Aviform L50. YARA Aviform S Solid. Very good effectiveness! (low temp. and holdovertime). Very effective with short reaction time; holdover time is weather dependent after application.
12.2 Comment on storage capabilities of the chemicals which you use. Max. 80m³ Fluid (L50) and 5 – 20 to Solid.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc. Mixing – Rate 80% Solid + 20% Fluid.
12.4 Have you experienced any corrosion problems with de-icers? No, we have not.
12.5 Have you employed any special means to economise on chemical use? Yes, we have, user information how to handle Anti- / De-icing Procedures in the BRE - Winteroperation – Handbook. Personnel trained yearly on handling and economic usage of fluids and solids.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? Sand: in extreme situations only. But not for the RWY!

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems. In BRE not available.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. 3 Units Vestergaard Elephant.
14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-ice on the parking area only.
14.3 Is glycol recovered? If so, please state methods. Compact-Sweeper in Pickup-Operation only.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SKH (Skiddometer High Pressure) BV 11 with Computer MI 90.
15.2 What are the typical intervals between friction tests? 1-10 times/day or more. As required depending on traffic and weather conditions.
15.3 Have you any comments on the reliability of friction indexes? Friction coefficient – Reporting in conditions like especially under wet conditions, which means when the runway is contaminated with wet ice, wet snow or slush: Under such conditions, to be reported to ATC / pilots using only the terms GOOD, MEDIUM or POOR, corresponding to the figures 5, 3 and 1 in the SNOWTAM item H.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? (snow clearing vehicle formations, for example) No changes intended for now.
16.2 Are there areas of your winter operations which require improvement? No changes intended for now.
16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. Airport operations is always evaluating potential for new vehicles and equipment.
16.4 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. No comment.
16.5 Do you have any winter services equipment which you would like to sell? No, we have not.

BRUSSELS

Brussels Airport
Welcome to Europe

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Brussels Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 02 – 2987m x 50m; RWY 20 – 2987m x 50m; RWY 07L – 3638m x 45m; RWY 07R – 3211m x 45m; RWY 25L – 3211m x 45m; RWY 25R – 3638m x 45m. Twy's: width 30m with 10m shoulders. Main apron: 1,660,000sqm; Cargo apron: 170,000sqm; General Aviation apron: 21,000sqm.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 02 – CAT I; RWY 20 – CAT I; RWY 07L – Non-Precision; RWY 07R – Non-Precision; RWY 25L – CAT III B; RWY 25R – CAT III B.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Implementation of Safety Audit program, Change management, Runway Safety program and prevention of runway incursions course, Revision of SMS procedures, Revision of chapter Communication in Safety Management System Manual, SMS introduction training for new hires and all internal operational services.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Promotion and prevention campaigns, safety newsletters including lessons learnt and safety performance indicators, SMS introduction courses for all personnel.
b) Inspection by airline, airport, and airplane handling agency personnel: 4 daily inspections by airport operator personnel, FOD inspection before arrival and after departure by handling personnel on aircraft stands.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Sweeping program by vehicles equipped with magnetic bars, new FOD bins installed near each aircraft stand and prevention on tool management for our partners available.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Apron Safety Committee and Local Runway Safety Team.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Reviewed FOD action plan and trend monitoring system being under construction.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual observation, SMR, Multilateration, Radio contact. Brussels Airport inspection vehicles will be transponder equipped. Brussels Airport has developed and implemented a definition for the protected area of a runway and has made a specific chart of this area available to all users via courses and documentation.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Use of stopbars 24H. Renaming of a TWY.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A vehicle tracking system and RIMCAS are about to be implemented. Brussels Airport inspection vehicles will be transponder equipped.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Additional painted markings and signs to avoid Rwy line-up confusion between Rwy 25R and Rwy 20. Use of stopbars 24H.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? R/T and standard ICAO phraseology course in aviation English for vehicle drivers. Procedure: Driving on the manoeuvring area – take a safe start. Refresher courses and awareness campaigns, safety newsletters, implementation of the "European Guidelines for the Prevention of Rwy Incursions", regular Local Rwy Safety Team meetings.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? The Civil Aviation Safety Occurrence Reporting is regulated by the Belgian CAA Circular CIR/INS/01, covered by a Royal Decree of 22/04/2005. The "just culture" concept has been adopted by the "Independent Investigation Cell for Air Accidents and Incidents" of the Ministry of Transportation. Brussels Airport has implemented a voluntary reporting system, available online via www.brusafety.be.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Long grass policy, no agriculture or vegetation that can attract birds.
6.1 Do your staff attend recognised bird control training courses? Courses started in 2011 (end foreseen in 2012).
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously: daily between 6am – 10pm.
6.3 What specialist equipment do you employ for bird






control? (Please state relevant supplier/manufacturer): Recorded distress calls (Scarecrow), pyrotechnics (Primetake), shotguns (12G Browning), trapping cages, bird balls on ponds, spikes on signalisation.
6.4 Do you carry out a bird strike risk assessment? Implemented within SMS.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Rabbits, regular hunting is organised.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: CFR VEHICLES INVENTORY STATING: FGK 4105, Kronenburg chassis, 8x8 axles, 16.000 litre water ; 3.000 litre foam, Monitor-output : 4.000 – 7.000 L./min, bumper turret-output: 2.000 L./min, 1997. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water; 1.000 litre foam, 500 kg. powder, Monitor-output: 3.000 – 6.000 L./min, bumper turret-output: 1.000 L./min, Monitor-output powder: 15 – 30 kg.sec, 1999. Z8 FLF 80/125-10 snozzle, MAN 8x8 axle, 12.500 litre water ; 1.000 litre foam, 500 kg powder, Monitor –output : 2.000 – 4.000 L/min (snozzle), powder output: 300kg/min (snozzle), 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg. powder, Monitor-output : 3.000 – 6.000 L./min, bumper turret-output: 1.000 L./min, Monitor output powder : 15 – 30 kg./sec, 2000. TM 19 FA off-road, MAN chassis, 4x4 axles, 4.000 litre water ; 250 litre foam, 500 kg. powder, Monitor-output : 2.500 L./min, bumper turret-output: 1.000 L./min, Monitor-output powder : 15 – 30 kg./sec, 2000. FLF 80/125-15+250P Z6 “Advancer”; Thomas chassis; 6x6; 12.500 litre water; 1.500 litre foam; 250 kg powder; Monitor-output: 3.000 – 6.000 L./min, bumper turret-output: 1.200 L./min; 2010.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No Fire Training Simulator.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? Winter teams: 15 November - 31 March. De-icing of aircraft: 15 October - 15 April.
8.2 Average annual days of snow: 7 days.
8.3 Average snow depth: ± 3 cm.
8.4 Maximum snow in 24 hours: ± 15 cm.
8.5 Annual number of days of de-icing activities: 14 days

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Winter teams: 35. De-icing of aircraft (performed by ground handling companies): ± 42.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Convoy 1 :Compact jet sweeper Schmidt TJS-C560, 4 units, Convoy 2 : Schmidt Supra 5000 snow blower/cutter, 2 units, Sprayer, Nido Schmidt ASP12000 on Actros, 2 units, Convoy 3 : Compact jet sweeper, Schmidt CJS914, 2 units, Compact jet sweeper, Schörling P21C, 1 unit, Sprayer, Nido Schmidt RSP6000 on Atego, 1 unit, Convoy 4 :Compact jet sweeper, Schmidt CJS720, 2 units, Towed blower sweeper , Schörling P17, 1 unit, Towed blower sweeper, Overaasen SB90, 3 units, Sprayer, Nido Schmidt RSP6000 on Actros, 2 units. Convoy 5 : Multipurpose vehicles, LADOG, 4 units, Sprayer, Nido Schmidt RSP3000 on Unimog, 1 unit, Convoy 6 : Spreader, Nido Ardenna on Mercedes, 1 unit, Spreader, Nido Ardenna on Renault, 1 unit, Spreader, Nido Baby on Multicar, 1 unit, Spreader, Nido Stratos on Atego, 1 unit, Spreader, Acometis on Man, 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Snow clearing according to one of two predefined minimum airport scenarios: Minimum airport 25R / 07L : RWY : 25R / 07L, Entries : A1, A3, A7, B1, E6, F5, W41, Exits : B7, B9, P1, TWY : OUT1, INN2-10, OUT6, Z, Intersections between RWY, exits, entries and TWY listed above. Minimum airport 02 / 20 :RWY : 02 / 20, Entries : P7, C6, D2, Exits : B1, E6, E5, TWY : INN3-10, Z, Intersections between RWY, exits, entries and TWY listed above. In parallel with the cleaning of the minimum airport, one convoy (5 vehicles) focuses on individual stand cleaning, priorities defined according to stand allocation planning.
After cleaning of minimum airport main aprons, cargo apron and other TWY are cleaned in function of priority and needs (defined with ATC and Airport Inspection).
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Snow removal is performed according to standard minimum airport scenarios.The choice in scenario is based on weather conditions, priorities and the status of the airport. Each team consists of 6 convoys (composition see question 10.1). Each convoy carries its own particular tasks within the scenarios, matching their capacities and limitations. On top of the scenarios, standard procedures have been developed for snow removal on each part of the airport (RWY, TWY, exits, TWY intersections, RWY intersections and apron).
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? One RWY is cleaned in 35-40 min.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Liquid: CRYOTECH E36: 972.664 liters, Effectiveness is very good but not with extreme low temperatures. Solid: NAAC: 30 ton, Effectiveness when used on individual stands applied by hand for local ice patches is good, Application method, quantities and mixing ratios in combination with liquids for use on larger surfaces remains trial and error.
12.2 Comment on storage capabilities of the chemicals that you use: Liquids: 220.000 l. Solids: no critical limitations: bought in bulk and stored in hangar. Road salt (applied landside and service drives airside): 168 ton (264 ton as of December 1st).
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: See question 12.1.
12.4 Have you experienced any corrosion problems with de-icers? Only on galvanised equipment, not on aircrafts.
12.5 Have you employed any special means to economise on chemical use? GPS is used to economise on liquids. Discussions with supplier are ongoing to fine-tune concentration politic.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Vaisala Icecast Viewer; 13 warning sensors.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? Yes. Model not yet specified.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: It is helpful as an indicator.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No. It is done by handling companies.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? It is done on both, on a dedicated de-icing area and on aircraft stands.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Friction tester SFH, ASFT on Saab 9.5, 1 unit. Friction tester SFH, ASFT on Saab 9000, 1 unit.
15.2 Have you any comments on the reliability of friction indexes? Worldwide standardization of RWY friction values is necessary.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? Scenarios and working methods are under continuous review (workshops and SMS).
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

BUDAPEST

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Budapest Liszt Ferenc International Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 13L/31R: TORA / LDA: 3707 m, Width: 45 m +7,5 m shoulders on both side; RWY 13R/31L: TORA / LDA: 3010 m, Width: 45 m +7,5 m shoulders on both side; TWY system: width: 23m, except A1 is 19m. All taxiways have paved shoulder with 3,5 m width.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 13L/31R: CAT II operations are available on 13L and CAT III/a on 31R. RWY13R/31L: CAT II operations are available on 13R and 31L as well.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? The first edition of SMS manual for Budapest Airport was published in January 2010 following the structure





recommended by ICAO. From this time all relevant process is following the SMS system included construction works, and new procedures. The system running well, no recent changes are planned.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: FOD awareness campaigns periodically, FOD leaflets are circulated periodically also. The FOD is a part of all kind of movement area safety trainings included handling companies, airport operator and subcontracted partners as well.
b) Inspection by airline, airport, and airplane handling agency personnel: The FOD is a relevant part of the daily inspection routine of Airfield staff. Every month an FOD collection is organized by the Airside management together with EHS team as well. Before and after the winter season an overall "FOD-Fishing" is organized.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Two "Apron sweepers" are in operations following a daily routine. These sweepers are equipped with magnetic bars. There is weekly taxiway cleaning program using the Schmidt Jet-sweepers without plough. All defined parking positions are equipped with FOD containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc):
The FOD is a topic of monthly Airside Safety meetings defining the results and informing all relevant airside users.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Magnetic collectors for the sweepers.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? A-SMGCS was implemented by the ANSP to monitor all kind of traffic. All vehicles on the manoeuvring area equipped with Squid by ERA system.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? All runway holding points are indicated by Runway guard lights, and stop bars. The RETs are equipped with permanent stop bars. The safety strip of runways are marked by poles.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A-SMGCS.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Airfield safety publications; High visible signs; NO ENTRY markings; H24 operations of RGLs; permanent stop bars on RETs. A "RWY AHEAD" sign was painted at the most critical RWY holding point, (A1).
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All relevant companies included ANSP, Handling companies underline the importance of runway safety. Maneuvering area inspections and maintenance procedures are in force published and defined in the manulas. Awareness campaigns, trainings for mechanics and maintenance workers regularly organized.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? The data sharing and a joint investigation process are established. The information is continuously shared between partners as part of the regular LRST meetings.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: The airport has an own Bird and wildlife management, with detailed manual which contains all procedures, and data collecting methods. Habitat management includes: tree and bush cuttings on the airside, bird nest removals, spikes on ground lights and signs long grass policy.
6.1 Do your staff attend recognised bird control training courses? Yes.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? During operational hours a dedicated staff on duty, parallel with a "Falconary team". Night time the Airfield team is responsible for monitoring and taking actions.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Pyrotechnics, falcons, recorded distress and bird alarm cries (Scarecrow), gas cannons (Zon Mark 4). Traps and shot guns with pyrotechnics and normal ammo.
6.4 Do you carry out a bird strike risk assessment? Twice a year by internal audit.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes, detailed bird log is in use, including all kinds of activities, actions.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Yes, the rabbit population is critical mainly is between sunset and sunrise. The bird team is using traps and guns to minimize the risk.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Type: Foam, Chassis: Rosenbauer, Frame: Titan, Capacity: 5000 l/min, Year of manufacture: 1984. Type: Foam, Chassis: Rosenbauer, Frame: MAN, Capacity: 6000 l/min, Year of manufacture: 1996. Type: Foam, Chassis: Protector, Frame: Simon, Capacity: 7250 l/min, Year of manufacture: 1993. Type: Foam, Chassis: Rosenbauer, Frame: Freitliner, Capacity: 6200 l/min, Year of manufacture: 2004. Type: Foam, Chassis: Rosenbauer, Frame: Mercedes, Capacity: 7000 l/min, Year of manufacture: 2007. Type: Foam, Chassis: Rosenbauer, Frame: Rosenbauer, Capacity: 6000 l/min, Year of manufacture: 2011. Type: Foam, Chassis: Rosenbauer, Frame: Rosenbauer, Capacity: 6000 l/min, Year of manufacture: 2011. Type: Water, Chassis: Rosenbauer, Frame: Mercedes, Capacity: 3000l/min, Year of manufacture: 2011. Type: Water supplier, Chassis: Rosenbauer, Frame: Actross, Capacity: 10000 l/min, Year of manufacture: 2005. Type: Water, Chassis: Rosenbauer, Frame: Mercedes, Capacity: 2400 l/min, Year of manufacture: 2001. Type: Water, Chassis: Rosenbauer, Frame: Mercedes, Capacity: 2400 l/min, Year of manufacture: 2001.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Due to new CFR vehicels in short term no plans, but renewing the old ones the midterm plan contains purchasing new equipments.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? At this point two old non-used ACFT serve for training and a new training fire fighter container has been built this year. There is midterm plan to purchase a new "mock-up".

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? According to Winter Services Manual the designated period is between 1 November and 30 March.
8.2 Average annual days of snow: 25-30 days.
8.3 Average snow depth: 10cm.
8.4 Maximum snow in 24 hours: 25cm.
8.5 Annual number of days of de-icing activities: 65-75 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 8-63 depends on level of activities.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): 10X SCHMIDT-MERCEDES compact JET SWEEPER; 10X IVECO-SCHÖRLING P-17 runway sweepers; 5X SUPRA 4000 blowers; 2X SCHMIDT TS-4, blowers; 9X UNIMOG compact units; 2X NIDO.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Generally the basic concept to maintain the limited but continuous operations from the barriers of car parking areas to the runways, but in severe weather the Duty Airside Manager will decide the priorities following the list below:
1) Active RWY (13L/31R), belonging connecting TWYs of the RWY;
2) Aprons 2AB/Apron 1;
3) Other TWYs;
4) Maintanace area, Landside areas and car parks have separate dedicated equipments/staff.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: The "conga-line" with 5-6 runway-sweepers is opening the cleaning procedures on the designated RWY and on the TWYs. The snow is pushed from the centreline to the edge of the surface with respect for the elevated edge light system. Since the runways are 45m wide, a number of two turns are required in order to clear the entire surface. On the same time 3-5 Jet Sweeper clean the designated blocks of the apron area and the preferred TWYs. Closing the cleaning procedure NIDO sprayers carried out if necessary. The final step is the friction measuring process before reopen the runways or taxiways.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 30-35 minutes, it depends on snow depth, and how many snow cleaning units are in working order.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Urea (1268 t) and Clearway-1 (13220 l) on the airside. CaCl2 (138 t), Sand on the landside and other non-airfield areas. Last season the most important experience was that the Urea was uneffective below -6-8 C° resulted that extremely high quantity of Clearway was used.
12.2 Comment on storage capabilities of the chemicals that you use: No.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Till -6C° we are using the Urea only. Below this temperature or in case of heavy wind the mixture of Urea and Clearway must be used. The mixing ratio at -6 is X % Urea- Y % Clearway.
12.4 Have you experienced any corrosion problems with de-icers? No corrosion problems were detected with Urea. The CACL2 is aggressive and corrosive resulting that tpo use on the airside is strictly prohibited.
12.5 Have you employed any special means






to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? Sand is used at a maintenance hangars only.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: MET OBSERVER DUTY, ALMOS SYSTEM, Sensors: Air temperature: two/ runway at 2m from the ground, RWY temperature: two/ runway flush with surface.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: No.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No, the handling agents take care of the aircraft de-icing on the airport.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-icing is done on parking area normally. In case oversize aircraft is operating or the hold over time is reduced, the Holding bay B5 is dedicated for remote deicing process.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? ASFT-CFME (SAAB wagon). ASFT-CFME (SAAB sedan).
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? Due to reduced width of runways we have to focus on the snow-blower activities parallel with the sweeping process. Parallel with the machinery improvement the Budapest Airport Zrt. has a project to change the technologies of surface de-icing and snow melting included the changing of chemicals are in used, spreaders as the storage technologies as well.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes. The Budapest Airport Zrt just analysing the market to buy new spreaders spaying a liquid base de-icing materials.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No, only in 2013. There is plan to sell out the existing Schorling P-17 (10) fleet.

BURGAS

Burgas Airport

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Burgas Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): RWY 04/22, 3200 x 45m, Shoulder 5m, TORA 3200m, TODA 3260m, ASDA 3260m, PCN 60/R/B/X/T Concrete, Total apron area – 195 250m2. Construction works in progress. Estimated apron area after extension – 222 885 m2.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 22 CAT II, ILS category I; RWY 04 CAT II, Co-located VOR/DMA.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Burgas Airport has established and implemented a Safety Management System since 2007. The SMS structure and goals are in accordance with the ICAO Manual on Certification of Aerodromes. Safety Manager nominated. Aerodrome manual is available. An Airport Safety Committee has been established. Safety relevant processes have been identified and documented as Incidents/Accidents, Spillages, Bird strike and presence of animals in maneuvering areas, Damages to aircraft or to airport facilities, Jet-blast, Incorrect service operations, including refueling and catering procedures, Wrong procedures of aircraft movement to/from stands, and any other events with potential impact on safety. The SMS is a continually evolving process and internal audits ensure that improvements are made where necessary.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Removal and prevention of FOD is a theme that is communicated to all persons trained or in training for work in the movement area.
b) Inspection by airline, airport, and airplane handling agency personnel: Inspection by the Airport. All parties operating in the movement area are responsible for the prevention and removal of FOD. Stand Pre-use FOD inspection is part of handling agency obligation. Airport Apron Supervision inspects all apron areas every day.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Dedicated FOD bins on each stand, FOD inspections by Airport Operations and Safety staff and removed by airfield maintenance service employee. Routine maintenance on a daily basis and on special request using Sweepers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): YES, Airlines and Handling agencies. Within Safety Management System.
4.2 Genral: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments.) All FOD findings are recorded and airfield maintenance service is advised accordingly. A software is used for statistical purposes to check the stored recorded values.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual control from ATC Tower. All vehicles are equipped with radio communication devices to contact with ATC Tower.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? YES. All marking, signs and lighting systems are designed according ICAO Annex 14. Incursion hot spots have been identified and published. Hazards will be eliminated with all necessary changes.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) No specific safety devices are currently employed.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Reflective pavement paint, illuminated signs. Airport constantly upgrades infrastructure.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? For airport operators a special driving license is issued by Airport Safety Department after training and instruction. Any subcontracted airside services are escorted by trained airport employee with continuous radio contact to ATC. Radio communication ICAO phraseology for the staff who is working at the movement area is obligatory.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes. Meetings of Local Runway Safety Teams (LRST) hold regularly. Fraport Twin Star Airport Management AD Burgas Airport has 'no-penalty' reporting regulations for reporting system.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Phoenix Wailer- 64. It is deterrent. It works on the principle of creating a zone in which it is uncomfortable for the birds/animals to remain by giving a disturbing impression of a sweeping movement of sound by switching random frequencies from speaker to speaker at controlled speeds and intervals. Bird X megablaster-2. Mega Blaster uses intermittent distress calls to create a danger zone that frightens infesting birds away for good. Birds are stubborn and territorial returning year after year. Mega Blaster uses their memory against them and scares them away repeatedly so they learn not to return. Bird critter blaster-3. Digital harassment sounds irritate animals and birds so they leave - for good! Sounds are not species-specific, so they are effective against all animals and birds, plus bats and rodents. Wind Powered Constantly Revolving Scarecrows- 10. Constantly moving visual deterrent based on the fear of man. Each of the three scarecrows comprises a human profile made out of tough reinforces long life PVC which is stretched over an easily assembled steel and aluminum frame to create an S shaped aerofoil, which has a screen printed human figure on one side and is predominantly while on the reverse side. The revolves on good quality bearings in the slightest breath of wind, with the whole body being held securely upright, even in the strongest winds on a metal fencing spike. Wind Powered Constantly Revolving Flashing Hawkeyes with mirrors- 10. Constantly spinning visual deterrent. Large multi-angled mirrors give a powerful flash of reflected light from the sun, or even a full moon. Birds Repellent Laser Torch "LEM 50"-1. The "LEM 50" laser torch is conceived to generate a green laser beam in order to startle the birds. This material can bring a help to the prevention of the bird strike risk. Automatic Scarecrow working with Propane or Butane Gas – "GUARDIAN-2" -2. Our most effective device due to its automatic rotating system which allows it to vary the direction of the detonations in opposite directions. Its telescopic tripod allows the height to be regulated from 1,60 to 2,30 m, achieving widespread sound and a larger protected area.
6.1 Do your staff attend recognised bird control training courses? Yes.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Yes. Our staff conducts monitoring of the airfield and initiate action when necessary.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer) RWY are equipped with electronic Bird Repellent System: Phoenix Wailer, Bird X megablaster, Bird critter blaster, Wind Powered Constantly Revolving Scarecrows, Wind Powered Constantly Revolving





Flashing Hawkeyes with mirrors, Birds Repellent Laser Torch "LEM 50", Automatic Scarecrow working with Propane or Butane Gas – "GUARDIAN-2", shotguns- use gas cartridges to disturb birds.
6.4 Do you carry out a bird strike risk assessment? Risk assessment is carried out monthly by out Safety Department.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) YES, all aspects of bird control are documented in details.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Usually we have no problems with other wildlife.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam1500 l.Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam 1500 l. Panther, Rosenbauer, 6x6 CA-05 Stinger, 11800 water, foam 1500 l
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 15 Nov-30 Apr.
8.2 Average annual days of snow: 14 days (based on statistics of last 20 years).
8.3 Average snow depth: 5cm.
8.4 Maximum snow in 24 hours: 10-30cm.
8.5 Annual number of days of de-icing activities: 20-30 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 1 technician, 7 drivers on shift, 5 drivers stand-by. Subcontracted winter services personnel on request only.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): Universal machine on TGM 18.240 – 2 units, Unimog VKS 7 dual engine snow sweeper – 2 units, Plough KRaz – 1 unit, Plough and heating machine ZIL 131– 2 units, Plough ZIL 130 – 1 unit, Plough, runway sprayer and compact sweeper Mercedes Atego – 1 unit, Fertilizer – spreading machine – RCP 25 – 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Runway, Taxiways- A, C, H, Apron, then all other areas.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. Depending on current weather situation, wind direction and velocity-2 snow sweepers will clear the RWY along the whole width.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 2 hours.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. SAFEWAY KA HOT will be used for second time this year.
12.2 Comment on storage capabilities of the chemicals which you use. Storage is no problem. We expect to use approximately 50 tons liquid and 30 tons solid chemicals.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc. We use separately liqud deicer – SAFEWAY KA HOT and solid de-icers. No experience with mixing ratios.
12.4 Have you experienced any corrosion problems with de-icers? We haven't had any corrosion problems.
12.5 Have you employed any special means to economise on chemical use? Yes. We purchased and received two new vehicles with precise proportioning.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems. VAISALA-RWY 04/22-1 sensor.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. Good.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. Yes. DAF FMC-1 unit. We use 'Clariant' de-icing product, trade name-Safewing MP II 1951 airc. Producer- Clariant Produkte (Deutschland) GmbH. CM-Deutschland Brueningstr. 50, 65929 Frankfurt am Main, Telephone: +49 6196 757 60.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No. Parking area is used.
14.3 Is glycol recovered? If so, please state methods. No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? STF300/ SARSYS TRAILER FRICTION TESTER.
15.2 Have you any comments on the reliability of friction indexes?
The SARSYS trailer friction tester is brand new and under warranty.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? Depends on the purchase of new winter equipments, afterwards also the change of technology and methods.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details. We have received one runway sprayer and compact sweeper and we plan for purchasing one Jet Broom unit next year 2012.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. No.
16.4 Do you have any winter services equipment which you would like to sell? Not yet.

CHISINAU

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Chisinau International Airport.

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY Designator – 08/26. Total RWY length 3590m x 45m, 59 R/A/X/T Concrete. Strip dimensions – 3710m x 234.5m. TORA / TODA / ASDA / LDA for RWY 08/26 – 3590m. Taxiways – 8 and apron taxiway. Total apron and ramp area – 110000 m2. Stands – 31. Rescue and fire fighting service – cat VI. CHISINAU Apron – 131,700 MHZ.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 08 – CAT II 870M LIH. RWY 26 – CAT-I 899M LIH.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Training of personnel every 6 months.
b) Inspection by airline, airport, and airplane handling agency personnel: Inspections by airport personnel - every three hours.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Twice a day cleaning by compact jet sweeper, Schmidt, CJS 914, 3 units; Twice a week use of magnetic bar; FOD containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Yes.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Markings, Signs and Lights on site.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): SQMS. SMGCS.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Permanent improving of Standard Operational Procedures. Installation of additional signs.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Training and testing of aerodrome users, drivers twice a year.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes, according to Chapter 5 of Aerodrome Manual and Recommendations of Doc 9859.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds:
6.1 Do your staff attend recognised bird control training courses? Yes.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Smooth-bore guns and pyrotechnics. Recorded distress calls / Bird Gard® SUPER PRO PA4.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Our airport also has problems with dogs, rabbits and foxes. RWY, TWY and Apron incursions.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating:






vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: "Mercedes Benz" 3350, axles 6x6, 9000 litre of water and 1200 litre of foam solution, 500 kg dry chemical powders. Year of manufacture is 2008. 2 units.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Rapid response vehicle, axles 4x4.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? LUKK doesn't possess any FTS.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? November – April.
8.2 Average annual days of snow: 15-20 days.
8.3 Average snow depth: 4-6cm.
8.4 Maximum snow in 24 hours: 20cm.
8.5 Annual number of days of de-icing activities: 15 - 25 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Aerodrome division – 10 persons. Drivers – up to 15 persons.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Compact Jet Sweeper, Schmidt, CJS 914 Super II MB, 3 units. Snow Clearing Schmidt Supra – 4001, 1 unit. Snow ploughs DE – 224A, 2 units. Thermal machine TM – 59, 1 unit. Spreaders for solid de-icers – 2 units. Bulldozer, 2 units. Scrappers RMG-4B, 2 units. Wheeled tractors T-150, 2 units. Front loaders, 2 units. Graders, 3 units.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Clearance priorities: 1. RWY, TWY's B1, B2, E, C1, D (between TWY's C1 and E), Apron, ILS Zone and access road from fire station. 2. TWY D (between TWY's E and B1), TWY A2, parking positions. 3. TWY C2, cargo apron, roads.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: From centre line (around the RWY, TWY, aprons) to edges, depending on direction and intensity of wind.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 3.50 hours.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Traditionally we use effective solids AHC, HKMM (Russia), and liquid (Nordiks -P) de-icers.
12.2 Comment on storage capabilities of the chemicals that you use: According to manufacturer recommendations.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: No experience in this field.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: No.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: No experience.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? On the parking area.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? ASFT, AFM-2, skiddometer BV11.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

COPENHAGEN

Copenhagen Airports CPH

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Copenhagen Airports A/S

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY04L-22R, Asphalt, 216.000m2 / RWY04R-22L, Asphalt, 198.000m2 / RWY12-30, Asphalt, 192.000m2 / Taxiway, Asphalt, 1.500.000m2 / Apron, Concrete, 1.200.000m2 / Transport roads, Asphalt, 290.000m2.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits?

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: All employees and staff working in CPH, are bound to gather F.O.D – We have to pass a test, so we can work and go about the Apron and Manoeuvring areas.
b) Inspection by airline, airport, and airplane handling agency personnel:
CPH have 4 Safety Inceptors 24H. They inspect Stands and have contact to Airlines and handlers.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): CPH have 4 sweeping cars(in the nearest future one of the cars fit out whit a magnetic bar), we sweep 24H on stands and TWY´s. Every month we equip an John Deere tractor whit a magnetic bar and sweep the aerodrome. On all stands we have FOD containers and they being empty every day.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? The use of A-SMGCS.
5.2 Are any design or engineering changes being undertaken / required to eliminate perceived hazards? Minor revision of taxiway layouts.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A-SMGCS.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: The use of stop bars H24. Provision of mandatory instruction markings and enhanced centre line markings on the surface of the taxiway pavement (with reference to Annex 14, figure 5-7 and 5-10).
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All controllers, mechanics, airport vehicle operators, and other people who work at the airport shall attend a CPH airside training course and pass the appurtenant test before they must drive or walk airside.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? In 2001 the Danish Civil Aviation Authority established a mandatory, non-punitive and confidential reporting system with an incident reporting deadline of 72 hours. In 2011 Copenhagen Airport established a mandatory, non-punitive (just culture) and confidential reporting system with an incident reporting deadline of 24 hours.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Long grass policy is in place significantly decreasing the numbers of gulls, lapwings, and oystercatchers.
6.1 Do your staff attend recognised bird control training courses? Yes.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): distress calls (Scarecrow); live shots, traps for crows, green laser, dogs.): Pyro technique.
6.4 Do you carry out a bird strike risk assessment? Yes, monthly, and a revision of the risk values for the birds is carried out once a year.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No. The hares at the airfield are reduced to the lowest possible number by a regular hare-shooting.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 2 x Rosenbauer Panther 6x6, 11.000l water, 225 kg dry powder, HRET snozzle (2008). 1 x Rosenbauer Panther 6x6, 12.500l water, CAFS (2007). 2 x Volvo FM 12 6x6, 12.000l water (2003 & 2004).
7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes.
7.3 If your airport possesses a Fire Train-





ing Simulator, is this available to other airports for training purposes? Yes.
PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? Nov-Mar.
8.2 Average annual days of snow: 32.
8.3 Average snow depth: 10cm.
8.4 Maximum snow in 24 hours: 42cm.
8.5 Annual number of days of de-icing activities: 91.

9. WINTER ORGANISATION5

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 50, none sub-contracted.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Sweepers: 8 units Øvreaasen RS400, 8 units Øvreaasen SB470 and 7 units Øvreaasen RS200. Snow blowers: 1units Schmidt slynge TS5, 1units Øveraasen TV 110- 150- 825S, 2 units Oshkosh H2718B, Highspeed, 1 units Viking UTV. Tractors: 4 units John Deere, 2 units Lundberg Hymas 7200 LSE, 2 units Caterpillar, 5 units Lundberg Hymas 4200 LS, 5 units Kubota 135 hk, 9 units Kubota 95 hk, 4 units Holder/Kubota, 2 units SAAB Friction tester, 2 units anti-icer Damman spreader (40 meter) and 1 unit Epoke 1520/SW5015, 3 units NIDO Stratos speaders.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 1."Runway-in-use" runway, taxiways and secondary aprons, roads and parking areas.with affiliated taxiways, de-icing platforms, apron and access roads from fire stations. 2.Second ILS runway with affiliated taxiways 3. Remaining.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: On runways and adjacent taxiways we normally use 12 sweepers, 2 blower and 2 multi de-icer. Runways are cleared in full length. A column of snow clearing equipment typically consists of a foreman in a leading car, 12 sweepers, 2 blower and 1 de-icer Damman (40 meter). To minimise operational disruptions, all operations on the runway system are coordinated by the snow clearance supervisor and TWR. The clearance operation is controlled by a foreman who maintain the radio contact with TWR. A cycle of snow clearing on a runway with adjacent taxiways, de-icing measures and friction testing may take from 15-20 minutes, depending on snow quantities, type of precipitation, runway-in-use, wind direction and speed, etc.Then the runway surface is checked by inspection foreman in a SAAB Friction tester, and then the column moves on to the adjacent primary taxiways. If the friction coefficient is below 0,4 on the surface, formate is sprayed on the runways and taxiways. Then the next taxiways and adjacent taxiways are cleared and subsequently checked. APRON CLEARANCE: Snow clearance on aprons are coordinated between ATWR and the snow clearance supervisor, who is responsible for snowclearance on behalf of the airport, arranging the snow clearance operations in close contact with the handling companies and other operators. Snow clearance is led by a foreman, who coordinates the actions with ATWR and the snow clearance supervisor. The snow clearing team consist of 4 sweepers and up to 25 tractor-brushes/ploughs. Snow is removed from the apron by contractors and transported to the snow dump.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 15-20 min.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: The chemicals used Aviform L50, provide high efficiency and quick result. Aviform S-Solid shows less dust and better performance and low blow-away factor. It shows as well swift action and a good holdover time. Quantities used last year: Aviform L50 = 1,200,000 L. Aviform S-Solid = 235,000 kg.
12.2 Comment on storage capabilities of the chemicals that you use: Liquid de-icer is stored in 2 x 55.000 liters tanks. S-Solid in stock 30,000 kg.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Aviform S-Solid is mixed 50- 50 % with Aviform to avoid "blow-away" and provide high efficiency. Experience has shown, it is important to mix Aviform L50 and Aviform S in ratio 1:1.
12.4 Have you experienced any corrosion problems with de-icers? We have not experienced corrosion problems above normal, but corrosion control program is carried out.
12.5 Have you employed any special means to economise on chemical use? We keep de-icers down to a minimum, because of a forecast modul, VejVejr modul 5.22 gives us a good forecast.
12.6 Do you have any other comments on experience with chemicals? We are testing the use of Aviform L25 – mix of L50 with 50% water for use in non Aircraft zones.
12.7 Do you use other chemicals or sand on operational areas? In extreme conditions, the snow clearing supervisor can decide to spray Aviform on operational areas.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: The Ice Warning System of Copenhagen Airport – Kastrup is a Vaisala system. The system consists of 28 surface sensors. Data is collected via TCP/IP network. Data is implemented in the national system for Road authorities in Denmark. Data is viewed via the internet. VejVejr.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? 24-hour forecast modul is active and give good guidelines. Particularly the 4 hour forecast has made us able to predict black-ice and incoming snow. The result is: no delayed operations during winter.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No - aircraft de-icing it is provided by handling agents.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We have dedicated de-ice positions.
14.3 Is glycol recovered? If so, please state methods: Drainage system in connected with de-icing platforms. Used glycol is collected in tanks and transported to local authorities for use in their plants. No re-use at the airport.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? 2 units of SFH Saab friction tester.
15.2 Have you any comments on the reliability of friction indexes? Full reliability.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? Different methods, different patterns in the column of sweepers/snowblowers will still be tested to obtain more effective results.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Airside Operations is continuously looking at new vehicles and equipment. No comment.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No comment.
16.4 Do you have any winter services equipment that you would like to sell? No comment.

DORTMUND

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Dortmund Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): RWY length: 2000m; 92,700m^2. RWY width: 45m. TORA: 5577ft. TWY A/C/D/M: 23m. TWY B: 15m.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 06: CAT II. RWY 24: CAT II.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary." Please outline the SMS for your airport, and the date of its introduction. Practically running, for official introduction we are waiting for government response; Runway safety team has regular meetings. SMS Software is installed and in use.
3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No changes necessary until now.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Staff concerned with removal of FOD objects as well as inspecting the movement areas are trained yearly.
b) Inspection by airline, airport, and airplane handling agency personnel: Inspections are done by airport duty manager and handling agents.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Airport uses FOD-BOSS and sweepers, FOD bins at every parking position.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Coordination and reporting done by duty traffic manager at airport traffic center.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): FOD founds are documented in SMS software.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Aircraft and vehicle movements are controlled and coordinated by local ATC (TWR) governed by memorandum containing applicable process instructions for airside of airport.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Hazards will be eliminated with all necessary changes.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Aircraft movement control during low visibility operations (CAT II) is accomplished by an active taxiway lighting guidance system with intermediate holding position markings and lights, stop bars and induction queues.






5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Markings, signage and lighting installed iaw. ICAO annex 14. RWY guard lights are installed.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? ATC controllers perform yearly training sessions about airport movement areas for authorities like police, MET service personnel etc. Everyone gets training about behaviour on the apron before he is allowed to enter, for vehicle drivers training records exist.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Everyone can report incidents to the duty traffic managers or local government, anonymous reporting will be installed shortly.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Biotope management according to DAVVL for prevention of bird hazards to aircraft.
6.1 Do your staff attend recognised bird control training courses? Yes, internal courses as well as external training seminars.
6.2 Are your bird control staff working on the airfield:
a) continuously? No
b) at least every hour? If neccessary
c) less than hourly? At minimum 12 controls during opening hours.
6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer: Bird control is using pyrotechnics and shotgun and recorded distress call (this one by SCARECROW).
6.4 How often do you carry out a bird strike risk assessment, and is this process audited? Once a year, audited by the DAVVL organization.
6.5 What procedures are in place to identify bird species following a bird strike? If no immediate ID is possible, pictures are taken and sent together with bird strike report and the remains of the bird(s) to the DAVVL.
6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Yes. Monthly, immediately if there is damage to aircraft.
6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes. Every bird control activity is recorded in a report and available to the responsible bird strike manager.
6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Wild rabbits. Control by state approved hunting on a yearly basis.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture. ELW MB Vito, 1x2, Command Post, 200l water, 20l foam, 2000. Rosenbauer Panther, 8x8, 13,500l water, 1,500l foam, 500kg powder, 1996. Rosenbauer Panther, 8x8, 13,500l water, 1,500l foam, 500kg powder, 1998. Rosenbauer FLF3500.300, 4x4, 3,500l water, 350l foam, 60kg CO2, 1993. Rosenbauer FLF3200, 6x6, 12,000l water, 1500l foam, 250kg powder, 104l CO2, 2008. MB Vito paramedic unit, 1x2, 2001.
7.2 Future developments – are there plans to purchase or dispose of any equipment? None at the moment.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Airport does not possess a Fire Training Simulator.
7.4 If any, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. None.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 15 October until 15 April.
8.2 Average annual days of snow: 9 days.
8.3 Average snow depth: 3cm.
8.4 Maximum snow in 24 hours: 30cm.
8.5 Annual number of days of de-icing activities: 80.

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? 10 employees.
9.2 How many sub-contracted winter services personnel are available per shift? None.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): Jet sweeper trailer, Bucher-Schoerling, P21, 2 units. jetsweeper trailer, Overaasen RS 400, 2 units. All pulled by: Mercedes Actros with snow plough from Schmidt, 1 unit. Mercedes Unimog with snow plough from Schmidt, 3 units. Compact self driven units with jet sweep and snow plough, 2031A, Schmidt, 2 units. Clearway sprayer Nido 12/24m, Mercedes Actros 4041, 1 unit. Spraytrailer, 12/24m Nido, 1 unit. Snow plough, Schmidt, on Mercedes UX 100, 1 unit. Sweeper and salt disperser, M30, Multicar Fumo. Self driven brooms for small areas, Radtke, 2 units. Kahlbacher Rotary Snow Blower, 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: First the RWY, then taxiways, apron as required, then rest of movement area.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. Runway: 3 vehicles shifted formation from centerline to outside margin. Taxiway: 2 vehicles shifted formation. Apron: single vehicle.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? After 15 min.

12. FRICTION TESTING
12.1 What model(s) of friction tester do you use? 2 Saab Frictiontester, DC Spezialfahrzeuge.
12.2 What are the typical intervals between friction tests? As required depending on traffic and weather conditions.
12.3 Have you any comments on the reliability of friction indexes? No problems detected; according to pilots the indexes are reliable.
13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Clearway
3.2 Comment on storage capabilities of the chemicals which you use. 35000ltrs plus 16000ltrs in vehicles.
13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc. No solid de-icers in use.
13.4 Have you experienced any corrosion problems with de-icers? No.
13.5 Have you employed any special means to economise on chemical use? Staff gets training about economic use, additionally the amount of chemicals is calculated by computers in the vehicles.
13.6 Do you have any other comments on experience with chemicals? No.
13.7 Do you use other chemicals or sand on operational areas? No.
14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. None installed.
14.2 Have you plans to purchase further ice warning systems and if so which model(s)? Yes, intended, model not yet sure.
14.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. None.
15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. 3 x Vestergaard Elephant Beta Aircraft de-icing trucks.
15.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Complete Apron is free for Deicing, for practical reason we use Positons. 0-2 or 9-12.
15.3 Is glycol recovered? If so, please state methods. No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? (snow clearing vehicle formations, for example): No.
16.2 Are there areas of your winter operations which require improvement? No.
16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. No.
16.4 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. No.
16.5 Do you have any winter services equipment which you would like to sell? No.

DUBROVNIK

DUBROVNIK AIRPORT
ZRAČNA LUKA DUBROVNIK

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Dubrovnik Airport Ltd

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY12: 3300mx45m, TORA 3300m, TODA 3300m, ASDA 3300m, LDA 3150m. RWY30: 3300mx45m, TORA 3300m, TODA 3300m, ASDA 3300m, LDA 3300m.
2.2 Landing aids for each RWY (e.g. CAT II): RWY12: CAT I 900m W VRB LIH, PAPI 3 L/R. RWY30: SALS 420m R VRB LIL, PAPI 3.2 L/R.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, risk and hazard identification is preventive part of our SMS and it is under constant improvement also according to the reappraisal of risks and hazards identified by internal/external SMS audits.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme





to control FOD in terms of:
a) Training: All airside pass holders have FOD awareness training as a part of Airside Safety course.
b) Inspection by airline, airport, and airplane handling agency personnel: Regularly, two times per day (before airport opening and immediately after sundown) and before any movement of aircraft in case of absence of movements for more than one hour. In case of bad weather conditions more often checks are performed. Also, parking stands are checked every time before parking of aircraft is performed and before aircraft engine start.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Sweeping, carpets, FOD containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Safety promotion/FOD awareness theme is discussed on ASC meetings.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual and radio communication method.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): None.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: None.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Airside Safety training is obligatory for all airside pass holders.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Because of increased Herring gulls activity on and in the vicinity of aerodrome, we have short and long term measures and procedures defined in Aerodrome Manual, chapter 4.12.
6.1 Do your staff attend recognised bird control training courses? No.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? They are working continuously as a part of Rescue and Firefighting brigade.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): 1 rocket pistol (Pistolet lanceur calibre 18.6mm, multipropulseurs), 3 gas cannons (Guardian 2), pyrotechnics, shotguns.
6.4 Do you carry out a bird strike risk assessment? Yes, according to the data collected during daily monitoring activities and birdstrikes.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: ZIEGLR MAN (FLF 60/91-11), 6x6, 9100 L/water, 1100 L/foam, year 2002. ROSENBAUER – OSKHOSH (FLF 10000), 6X6, 9000L/water, 1000 L/foam, 250 kg/powder, year 1982. ROSENBAUER – TITAN (SIMBA), 8X8, 11600 L/water, 1200 L/foam, 2000 KG/powder, year 1985. MAZDA – ZIEGLER PICKUP, 4x4, 200 L/water, 10 L/foam, year 2009.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No FTS available.
PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 31 October – 31 March.
8.2 Average annual days of snow: 1 - 2 days.
8.3 Average snow depth: 1 - 2cm.
8.4 Maximum snow in 24 hours: 5 cm.
8.5 Annual number of days of deicing activities: 1 - 2 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? No dedicated winter service personnel available. In case that it is needed, GHA ground support equipment drivers and RFF staff forms winter service unit.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Snow plug 2 units, sweeper truck 1 unit, spreader (urea) 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 1-RWY (12-30), 2-TWY (B, C), 3-APRON (STANDS P8-P12).
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: They are not defined.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? Since we have snow very rarely we do not have exact information but we expect to achieve it in 3-5 hours.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Urea, 1000 kg.
12.2 Comment on storage capabilities of the chemicals that you use: None.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: None.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? Yes, sometimes we use sand or salt on apron area.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: No.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: No.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Yes, IVECO – BLUMENBECKER 100E15, 1 unit.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We do de-icing on the parking area.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? AEC AB SYSTEM BV-11 Skiddometer.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? Yes.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

DUSSELDORF

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Düsseldorf International Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surfaceareas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Runway System: Southern Runway: 05R/23L, 3,000m; Northern Runway: 05L/23R, 2,700m; Apron: 722,329m².
2.2 Landing aids for each RWY (e.g. CAT II): CATI/ II/ IIIa-b-c.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? NOSIG.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Permanent advising for Beginners.
b) Inspection by airline, airport, and airplane handling agency personnel:
Head loader-Loaders-Ramp Agent-every Person involved in Aircraft Handling
Has to pay attention for FOD Objects.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Sweeping bars, FOD Containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc):
Duty Traffic Manager.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Automatic detecting in Test. Singapore CORP Airport.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Traffic supervision by Instructors (Marshaller) & Duty TRAFFIC Manager.
5.2 Are any design or engineering changes being undertaken/ required to eliminate perceived hazards? Point system at violations of the aerodrome terms of use with a renewed apron instruction.
5.3 What safety devices are currently employed?





(A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): AMASS.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Permanent supervision and maintenance of the markings. Cheap solutions are always tackled.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Every person would like a company or a licensed apron admittance to enter the security area apron.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? The Duty Traffic Manager is the authorises instance and keeps any penalty in booked files. The Security Staff do similar outside the Security Area.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: consists, that RWB has cut/mulched under the approach sectors first without a so-called diversion stripe having been cut in an uncritical place. As is well known, low grass attracts the birds. Within the last years a stripe has parallel been cut, removed far enough, however, diversion to.
6.1 Do your staff attend recognised bird control training courses? No.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Yes.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Unknown.
6.4 Do you carry out a bird strike risk assessment? No.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? To the Hunter.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture:
7.2 Future developments – are there plans to purchase or dispose of any equipment? Unknown.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No simulator.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 01 or 15.11.11 depends on WC end on 31.03.12.
8.2 Average annual days of snow: 22 days.
8.3 Average snow depth: 5cm.
8.4 Maximum snow in 24 hours: 30cm.
8.5 Annual number of days of de-icing activities:125 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 30 employees.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): 14 sweeping blowing equipment, 5 spraying vehicles, 2 snow blowers and 2 celebration substance straw vehicles stand for the snow and ice clearing at the disposal at Düsseldorf Airport for the winter 2011/12. Being 400,000 l Aviform L50 of Addcon Nordic used up as a de-icing remedy for taxi and Runways. After that the de-icing means will find Clearway F1 of Kemira.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read No 10 sweeping blowing EQ. after spraying vehicles.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 20-30 minutes for each runway.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: not available.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: no comment.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: 12 Vehicles.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Deicing area East and West no parking positions.
14.3 Is glycol recovered? If so, please state methods: no.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Sarsys Friction Tester, model Saab & Volvo.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: unknown.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: unknown.
16.4 Do you have any winter services equipment that you would like to sell? No.

EAST MIDLANDS

east midlands airport
Nottingham • Leicester • Derby

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: East Midlands Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): Runway 09/27 is 2893m long and 46m wide and is constructed of grooved asphalt, with 7m runway shoulders either side of the runway. Take Off Run Available [TORA] for Runway 09/27 is 2893m. Central Apron: 112,000sqm. Central-West Apron: 32,000sqm. East Apron: 60,000sqm. West Apron: 160,000sqm.
2.2 Landing aids for each RWY (e.g. CAT II): ILS systems are provided for both runways. Runway 27 is equipped with a CAT IIIB system, and runway 09 is equipped with a CAT I system.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? SMS Manual updated bi-annually, risks or hazards identified by SMS audits within each 6 monthly period are assessed through safety assurance documentation process (ICAO Doc 9859 refers) and following subsequent reviews are amended as required.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Airside safety briefing provided to all airside pass holders (inc. contractors) details FOD awareness and ownership/collection methodology.
b) Inspection by airline, airport, and airplane handling agency personnel: Stand inspection for FOD prior to aircraft arrival and departure by handling agents. Movement area inspections undertaken by operational staff throughout daylight hours.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Daily sweeping regime utilising dedicated sweepers. Mag bars on certain vehicles.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Safety promotion/FOD awareness campaigns run through Airside Safety Committee, Pilots Liaison Group and weekly co-ordination meeting with the airport and GHO's and highlighted as a regular theme item in EMA Airside Safety Newsletter.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): FodBoss – towable FOD collection equipment, attached to operational ramp vehicle.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visually.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Original wig-wags at A1 replaced with Hi-intensity LED model, forthcoming installations of same at A2, G1 and G2 (CAT II/III holding points). Standard LED wig-wags have replaced original models at all other runway holding points.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Nav-tech/Cobham Surface Movement Radar, plus extended trial of ERA vehicle mounted ADS-B transponder (Squid).
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Runway designators and enhanced taxiway markings denoting proximity of runway holding position implemented as per CAP 168 Chapter 7.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Specific Operators Permit scheme targeted at all personnel with a requirement to work within the Manoeuvring Area. Aerodrome Manual concisely details boundaries between Movement and Apron areas. Co-operation with the local pilot community through Pilots Liaison Group and targeted ATC/Airside Operators safety campaigns.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Runway safety incidents form part of the ATC reporting process, promulgated to operational departments via Airport Safety Review Board.

6. BIRD AND WILDLIFE CONTROL





6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. CAA recommended long grass policy, provides an unsafe environment for birds.
6.2 Do your staff attend recognised bird control training courses? Yes.
6.3 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.4 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Digi-scare (recorded distress calls), Pyrotechnics, Shotguns, Lure.
6.5 Do you carry out a bird strike risk assessment? Yes.
6.6 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes, all details recorded on electronic database.
6.7 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Rabbits, addressed through targeted culling regime.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 2 x Cobras 6x6, Detroit engines, 12000cc, year purchased 2000. 1 x Protector, Detroit engine, 12000cc, year purchased 1993. 1 x Snozzle, Caterpillar engine, 18000 cc, year purchased 2007. 1 x Rosenbauer Panther, Caterpillar engine, 18000 cc, year purchased 2011. 1 x Toyota Hi-Lux, 2.4ltr Toyota engine, year purchased 2011.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Not at present.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes, details on application.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 November to 31 March.
8.2 Average annual days of snow: 10.
8.3 Average snow depth: <25mm.
8.4 Maximum snow in 24 hours: <12cm.
8.5 Annual number of days of de-icing activities: 22.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 11.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 1 x Schorling P21 with MAN prime mover + 16 foot plough. 1 x Schorling P17b with MAN prime mover + 16 foot plough. 1 x Shorling P17a with MAN prime mover + 16 foot plough. 1 x Danline 2000 with MAN prime mover + 16 foot plough. Additional 4 x Magirus Duetz prime movers.2 x Chafter de-icer with JCB fast trax. 6 x Sicards 540 with combination of JCB, and 2 X John Deere movers+ 16 foot plough. 1 x Leyland truck with bunce gritter mounted on top. 1 x Ford tractor with small Danline brush. 1 x Iglo de-icer unit tow along.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: A. Clearance priorities will always commence with the runway and would then proceed on to the taxiways and aprons. B. Runway 09/27 (with access to runway for fire appliances). Initially runways will be cleared to 36m width and then to the full 46m as soon as possible with snow banks no higher than 25cm (10 inches). Particular attention is given to the runway ends to prevent the build-up of snow banks. C. Following on from the runway clearance, priorities will move to taxiways and bellmouths. These priorities will depend on the time of day. During daytime operations access to the central (passenger) apron will be the priority route. Night-time operations would prioritise access to the east and west (freight) aprons. D. Aprons - taxiway and stand centre lines cleared first. When moving snow it may be best to close one stand and push all the snow into this area, it can then be removed. E. Remainder of parallel taxiway system, initially to allow access via Mike taxiway. F. Rest of taxiway system (including access to maintenance area).
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Four vehicles fitted with 16' ploughs and towing the sweeper/blowers will lead the clearance operation and will move, as far, as is practicable, in echelon. Clearance operations start with one sweeper/blower combination making a run along the downwind side of the runway, with plough and brush angled towards the runway centre-line, and then continue on to clear the taxiway. The three fastest combinations (prime movers sweeper/blowers) move in echelon from the upwind edge of the runway working downwind across the runway, working 09/27 until clearance operations are complete. Whilst runway clearance is in progress the tractor / Danline brush and the 2 tractors fitted with 10' ploughs (towing Sicards if available) are employed on the Central, Eastern and November aprons. Other vehicles move to taxiway clearance after completing their task on the runway.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? As quickly as possible.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Safegrip (supplied by Brothertons) and Isomex 1 supplied by OMEX (compatible with Safegrip) for all airside areas. Effective for about 2 hrs dependent of amount of ice/snow melt. Approx usage of 300,000 litres. Airside walk ways ice breaker (supplied by Thurmatagy). All landside areas normal rock salt.
12.2 Comment on storage capabilities of the chemicals which you use: Safegrip stored in 1 x 40,000 capacity tank. Isomex is stored in 2 x 100,000 litre tank.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Not used.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: None.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Not at present.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. N/A.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. Aircraft anti/de-icing operations undertaken by Ground Handling Organisations contracted to individual airlines.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-ice on stand.
14.3 Is glycol recovered? If so, please state methods. Glycol surface run off intercepted to winter retention pond, biological oxygen demand is monitored and flow regulated at the permitted discharge consent rate.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Findlay Irvine Mk2 GripTester D Type.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? In line with SMS principles, existing procedural methodology is maintained under constant review.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details. 1 x JCB 3200 with Bunce brush / plough combination. 1 x tow along gritter.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. No.
16.4 Do you have any winter services equipment which you would like to sell? No.

EXETER

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Exeter International Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): Runway 08/26 2083x46m. RWY Designator: 08, TORA (m): 2047, TODA (m): 2263, ASDA (m): 2047, LDA (m): 2037. RWY Designator: 26, TORA (m): 2073, TODA (m): 2653, ASDA (m): 2073, LDA (m): 2037.
2.2 Landing aids for each RWY (e.g. CAT II): Cat I.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Airport SMS, since 2002. SMS is reviewed following audit, changes in procedures and occurrence reporting. Exeter also holds ISO 9001, 14001 and 18001 accreditation.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: All Airfield Operations & Bird Control staff trained as required, and assessed annually. A member of the Airfield Operations team holds the role of FOD Officer to monitor FOD found, investigate and stop source and raise general FOD awareness across the airport.
b) Inspection by airline, airport, and airplane handling agency personnel: Airport personnel.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): FOD Boss and mechanical sweeper on an ad-hoc requirement basis. FOD bins across airfield.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Quarterly Airfield





Users and Apron Users Safety Committees.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? VCR.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): N/A.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: All runway hold points have enhanced markings installed as per CAP168. Runway Ahead markings to be installed at all hold points.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Airfield training and campaign awareness to all airside users. A two tier airfield driver permit scheme in place.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes via the Local Runway Safety Team and promotion of a "no-blame" safety culture.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Long grass policy employed, consultation with local landowners and general wildlife management.
6.1 Do your staff attend recognised bird control training courses? Yes.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously during daylight hours.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Recorded distress calls from Scarecrow Bio Acoustic Systems, pyrotechnics, shotguns.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Combined wildlife management programme.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture. 3 x Cobra major fire appliances.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? N/A.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? Nov – Mar.
8.2 Average annual days of snow: 2.
8.3 Average snow depth: 6mm.
8.4 Maximum snow in 24 hours: 17mm.
8.5 Annual number of days of de-icing activities: 7.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 8.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 4 x Ploughs, 1 x Sicard Snow Blower, 2 x Runway De-Icers.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 08/26, Taxiway Bravo, main Apron, Taxiway Charlie, Taxiway Echo, Taxiway Alpha, Taxiway Golf.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 2 – 6 hours.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Konsin and Isomex.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? Improved Metering.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: N/A.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Provided by Flybe Engineering.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Parking areas.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? N/A.
15.2 Have you any comments on the reliability of friction indexes? N/A.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

FARO

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Faro Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): RWY length 2490m; RWY width 45m; TORA 2490m; TWY A/B/C1/C2/D/E/F/P/RD/RG 23m; Main Apron 271,061m2.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 28 – CAT II – (Delayed to early 2012).

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No. New reporting system implemented.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: No stand-alone training program. FOD training is included in the "Airport Rules and Regulations Training".
b) Inspection by airline, airport, and airplane handling agency personnel: Permanent inspections by airport operations.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Airport uses sweepers, FOD bins at all parking positions.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Coordination and reporting done by airport operations.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Aircraft and vehicle movements, on manoeuvring area are controlled and coordinated by local ATS (TWR). ATS (TWR) and Airport Operations have a local protocol to regulate the remaining airside of airport.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Apron breakaway points/area to clear aircraft taxi in/out to parking positions.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Aircraft movement control during low visibility operations (CAT II) with active taxiway lighting guidance system with intermediate holding position lights, stop bars and microwaves beam (Delayed to early 2012).
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: ICAO - Annex 14 - Markings, signage and lighting installed. RWY guard lights are installed.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All drivers have an initial training program. Yearly, Safety Campaigns involving major handlers and all drivers.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Reporting procedures according National Law and EU Directive 2003/42.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Habitat management policy includes: drainage of the accumulated rainwater, vegetation maintenance (to maintain the height and the trees are cut back near the runway or taxiway centre line), priority to the not-attractive vegetation species, minimize the shelter points (holes on the walls are covered, application of measures to avoid the nesting).
6.1 Do your staff attend recognised bird control training courses? Environment department seminars integrated in Safety Campaigns.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Yes. Dedicated bird control staff (from Sunrise til Sunset).





6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/ manufacturer) Bird control is using: Gas canon, Falconry, Recorded distress calls, Pyrotechnics.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes. Bird Strike database and census for species, bird movements and bird flocks lead by Faro Airport Environment Department.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: OSHKOSH STRIKER 00-001: Water 12000L, Foam 1500L, Dry Chemical Powders 250Kg. OSHKOSH STRIKER 00-007: Water 12000L, Foam 1500L, Dry Chemical Powders 250Kg. OSHKOSH T1500 00-002: Water 6000, Foam 776, Dry Chemical Powders 320. TITAN E-ONE 00-003: Water 12000, Foam 1500, Dry Chemical Powders 230.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes. 1 Command vehicle – end of 2017. Complementary rescue equipment for mud waters – end of 2017.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? ANA Airports will have a corporative Fire Training Simulator in Lisbon Airport.

PART 2: WINTER SERVICES QUESTIONAIRE

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? 1 X Mu-Meter. 1 X ASFT.

FRANKFURT

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Frankfurt Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY: 07L/25R – 2800m x 45m LDA 2800m; 07C/25C - 4000m x 60m TORA 4000m, 07R/25L - 4000m x 45m TORA 4000m, 18W - 4000m x 45m TORA 3970m. Total RWY surface area: 726,000sqm. Total apron surface area: circa 2,000,000sqm.
2.2 Landing aids for each RWY (e.g. CAT II): ILS, PAPI and CAT I - II/III.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? The Safety Management System (SMS) for the Frankfurt Airport is being continuously developed and includes the results of our Risks and Hazards Identification Process determined by our SMS audits and risk analysis.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Removal and prevention of FOD is a theme that is communicated to all persons trained or in training for work in the movement area as well as all other participants.
b) Inspection by airline, airport, and airplane handling agency personnel: All parties operating in the movement area are responsible, per Airport User Regulations, for the prevention and removal of FOD. Ground servicing companies and airline personnel are directly responsible for the prevention and removal of FOD on the aircraft positions they service. Frankfurt Apron Supervision inspects apron areas continuously 24 hours a day and orders clean up details as needed. Fraport Apron Control conducts regular inspections of the manoeuvring area conducted on a 24 hour basis at least every 4 hours and when necessary. Additionally inspections and observation are conducted by the Airport Duty Manager.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): The movement area is serviced at regular intervals and when required by surface sweeper vehicles with magnet bars. Other apron areas are continuously cleaned with surface sweeper vehicles. Hot Spots in the movement area and apron (e.g. equipment parking areas) are cleaned manually. Additionally a FOD*BOSS duplex system is utilised by our Apron Supervision in the apron areas.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Airside Operations is responsible for the daily operational safety of the movement area and guarantees the cleaning of surfaces per company contract with our Facility Management Dept. and initiates immediate remedial action when necessary. Additionally FOD is a constant theme at the AOC level communicated by Airside Operations to participating airlines and ground handling companies.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No. Fraport AG is interested in installing an FOD detection system.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Primary methods consist of traffic control conducted continuously by Apron Supervision (Follow-me) in the movement area and Airport Security conducting vehicle traffic control in the apron area.
ACFT ground traffic is controlled visually and per radio guidance. Additionally ACFT ground traffic is controlled utilizing system described in section 5.3.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Changes in the traffic scheme such as markings, signs and lighting are made when real or perceived hazards exist or to improve vehicle and aircraft traffic flow.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): FRA Apron Control and German ATC Tower utilises a combined SMR and multilateration radar system for tracking aircraft and vehicle movements in the manoeuvring area. FRA requires all vehicles that are designated to drive in the manoeuvring area to be equipped with Mode-S Transponders.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Frankfurt Airport constantly upgrades infrastructure such as lighting, stop bars and markings designed in part to prevent runway incursions and increase safety. FRA has installed RWY vacated signs at the RWY turn offs that illuminate when aircraft have vacated the RWY and are a visual for the pilots.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Frankfurt Airport Airside Operations regularly reviews standard operating procedures and conducts runway safety workshops with German ATC and airlines to find solutions designed to reduce the risk of runway incursions.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Frankfurt Airport Airside Operations has a good working relationship with German ATC and airlines concerning reporting procedures and finding solutions. FRA in general cultivates a "No Blame" culture unless naturally the incursion or incident demands disciplinary action.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: The bird control program at Frankfurt Airport is carried out by the airport operator Fraport AG in accordance with national laws and International practises for aerodromes and based on recommendations of the German Airports Association (ADV). One of our main policies is to manage habitat conditions to influence the bird population in a qualitative and quantitative way within the area critical to air safety around the airport. One practice is to replace large birds with smaller birds and manage plant life so as to discourage bird populations. Direct dispelling measures (e. g. Pyroacoustics) are only applied if there is possible danger or in cases of explicit danger leading to calamities.
6.1 Do your staff attend recognised bird control training courses? We have company staff that are trained and responsible for dealing with bird and animal control, work out operational procedures, and keep operational staff informed.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Our staffs conduct continuous monitoring of the airfield and initiate action when necessary.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/ manufacturer): Frankfurt Airport utilises pyroacoustic equipment and controlled hunting
6.4 Do you carry out a bird strike risk assessment? At the national level a Bird Strike Risk Forecast System has been established and provides our Bird Control Officer with useful information. Furthermore risk assessment for our aerodrome is carried out by our Bird Control Officer according to experience gathered.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? All aspects of bird control are documented in detail.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Frankfurt Airport has modified the perimeter fencing to minimise wildlife entering the movement area and is inspected regularly. This has eliminated past difficulties with wildlife.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 2x Z8XXL, 5x Simba 6x6, 5x Simba 8x8 plus a multitude of CFR vehicles and equipment for fire fighting , salvage, power generation, mobile emergency operations coordination, HAZMAT Controll etc.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Additional crash trucks for our new fire station that will service the new runway are to be delivered this year.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training






purposes? Our Fire Brigade has a Fire Training Simulator and does offer training to other airports.
PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? November 15 to March 31.
8.4 Maximum snow in 24 hours: 24cm.
8.5 Annual number of days of de-icing activities: 105 days Surface clearing and/or surface de-icing.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 105 plus depending on actual weather conditions. Number of personnel includes airport- employed and contracted.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Compact Jet Sweepers/co. Schmidt: Jet Sweepers RS200/400/co. Overaasen, Snow Blowers/co. Schmidt , Overaasen and Kuepper-Weisser: Diverse deicing vehicles for spreading sand, solid and fluid deicing materials/co. Schmidt, Iveco and Kuepper-Weisser. Diverse trucks, tractors, fuelling vehicles, plows/ Schmidt, Kuepper-Weisser and Iveco, 4X Surface Friction Tester (SAAB).

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Following information states facility and priority respectively: 1. Active runways and main taxiways in the manoeuvring area 2. ATC landing aid sender areas 3. Taxiway centre lines 4. Aircraft servicing areas 5. Passenger bridge manoeuvring areas 6. Areas used for parking ground servicing vehicles, equipment and transfer cargo and post 7. Main apron roads 8. Public roads, pedestrian paths, and parking areas.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: 1. RWY clearing convoy consisting of 14 snow sweeper-plough vehicles, 2 snow blowers, 2 de-icers and 2 guidance vehicles (back and front) lined up diagonally to clear the runway in one run. After Vehicles have vacated the RWY a Friction Tester (SFT) run is conducted. 2. Smaller convoys and flexible vehicle combinations for clearing and de-icing taxiways and apron areas.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? We have set average clearing times for closing and clearing the runways and generally get the job finished in the allotted time frame unless we experience severe weather conditions (e.g. continuous heavy snowfall).

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: AVIFORM L50 and AVIFORM S-Solid, Clearway F1 and Clearway SF3, Safeway KF-Hot. Holdover times generally vary according to temperatures and snowfall intensity und can only be quantified according to day of operations.
12.2 Comment on storage capabilities of the chemicals that you use: Our operational capacity is 700.000 litres with 1.9 million litres in reserve, stored at the aerodrome. The chemicals are stored in tanks that meet German environmental and safety regulations.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: We only use solid de-icing chemicals in extreme weather conditions because of the so called "blow-away factor" and environmental restrictions. If we use solids then it is pre-wetted before application. Our goal is always to use the optimal mixing ratios adapted to prevailing surface conditions when we have to use them. We only use solely solid chemicals in emergencies (ice build-up).
12.4 Have you experienced any corrosion problems with de-icers? We generally experience the usual problems that every airport has with GSE etc. To minimise corrosion we paint and wax our winter service vehicles. The products we use have corrosion inhibitor additives.
12.5 Have you employed any special means to economise on chemical use? We have installed a GPS based Surface Management System in order to document all activities and gain live operational control over vehicle movements and chemical application. We are also restricted to 25gr m^2 by our Environmental Authority. We also utilise an Ice Early Warning System, friction measuring results and weather forecasts from the German Weather Service to optimize the use of surface de-icing chemicals.
12.7 Do you use other chemicals or sand on operational areas? Due to environmental issues some sections of the Movement area are sanded. We use only the chemicals mentioned above.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: VAISALA ROSA system "Ice View" and is installed in the manoeuvring area.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? We have expanded our system to cover our new RWY and TWY Bridges.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: It is a good tool for assessing the condition of RWY surfaces but is only secondary information for decision making. We still depend primarily on weather forecasts and actual assessment of surface conditions.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Aircraft de-icing is carried out by our service provider N*ICE. N*ICE can conduct aircraft de-icing operations up to A380 aircraft. 52 vehicles are available for operations.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Frankfurt Airport has 2 active De-icing Pads and 2 dedicated de-icing surfaces with no towing required. Otherwise aircraft de-icing is carried out on aircraft parking areas.
14.3 Is glycol recovered? If so, please state methods: To the most part glycol is captured along with drainage run-off and retained in special reservoirs, treated on site before being released to the city sewage plant. Position areas are cleaned of glycol using surface sweeper vehicles and is considered to be chemical waste and treated accordingly. The sweeping of positions also helps reduce related safety risks.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SAAB 9.5 "SarSys" Surface Friction Tester (SFT) vehicles.
15.2 Have you any comments on the reliability of friction indexes? An international standard for friction indexes and reporting of such would be invaluable for the Aviation Industry.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? FRA is continuously working on reducing clearing and de-icing times by improving and setting standard driving routes used in the manoeuvring area.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: This year we ordered and received a new Clearing Convoy consisting of 14 vehicles to service our new RWY.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

FRIEDRICHSHAFEN

Bodensee-Airport FRIEDRICHSHAFEN

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Flughafen Friedrichshafen GmbH

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): RWY length: 2,356m, 106,020sqm; RWY width: 45m; TORA: RWY06: 2,210m; RWY24: 2,146m. TWY A: 22.5m, TWY B/E/F/N: 18.0m, TWY C: 15.0m, TWY D/S: 12.0m, Apron1: 30 x 30m; 900m^2, Apron2: 250 x 60m; 15.000m^2, Apron3: 270 x 30m; 8,100sqm. New anti-skid.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 06: CAT I. RWY 24: CAT IIIb.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? SMS installed since November 24, 2005; SMS is an integral part of the company operations manual; Proofed by government in 2007.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training. Staff concerned with removal of FOD objects as well as inspecting the movement areas are trained yearly, also trainings offered by insurance companies. E-based training programme.
b) Inspection by airline, airport, and airplane handling agency personnel. Inspections are done by different airlines operating at Friedrichshafen, for example Deutsche Lufthansa, Air Berlin.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). FOD Container, sweeping mat.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). Co-ordination meetings take place monthly.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Only teaching software and procedure for apron and runway check list.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visible. On CATII/III-conditions by contact loops at stopbars for monitor entering/vacation RWY. Alert in case of unallowed crossing red stopbar.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Not for the time.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): The single build system of a local company is replaced (2009) by a Honeywell system. No detailed description available for the time.
5.4 Comment on the use of any innovative warn-





ings or guards – use of paint, signs, lighting and other lower-cost technologies. RWY guard lights are installed. Red CATII/III Lighting signs + red stop bars with alarm if unauthorised overrun.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Training (practical & theoretical) and periodical checks for vehicle operators.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Reporting procedures are iaw. EG directive 2003/42, Runway Safety Team is installed, Safety Circle is installed.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. New trees only unattractive to birds (no berries etc.), no attractive plantings, long grass during breeding session.
6.1 Do your staff attend recognised bird control training courses? Not yet, but since 2009 we are member of the German Bird Strike Committee (GBSC).
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Only if birds detected by Tower.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer) Pyrotechnics and shotgun (used as back-up).
6.4 Do you carry out a bird strike risk assessment? Once a year, not audited.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): All carcasses findings are logged, pyrotechnics usage is not logged. For the time bird/wildlife control works with expected success.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No, only rabbit, fox, mouse. Rabbit and fox are hunted, mice reduced by surviving foxes.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture:
+ 1x PANTHER 8x8 AT / HRET 12000/1500/500 Foamatic MAN 38.1000 VFAEG/8x8; + 1x PANTHER 8x8 AT / 12000/1500/500; Foamatic MAN 38.1000, VFAEG/8x8, 1x FLF 60/88-12 Mercedes-Benz 3255 AF/38/6x6, 1 x Ambulance (Mercedes Benz), 1x Truck with technical equipment (Mercedes-Benz), 2x ELW (Mercedes Benz 220T, Mitsubishi L200 – 4x4).
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Fire Brigade is given Fire Fighting Training for Regional Airports every year 1-2 courses.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 November – 30 April.
8.2 Average annual days of snow: 18.
8.3 Average snow depth: 5cm.
8.4 Maximum snow in 24 hours: 57 in 2006.
8.5 Annual number of days of de-icing activities: 45.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 5 per shift.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 7 x Air Blast sweepers Schoerling P17 (trailers); 7 x Snow Ploughs; 3x MAN, 2x Mercedes-Benz, 1 IVECO, 1 Magirus-Deutz. On standby (old equipment): 2 x Air Blast sweepers Schoerling P12 (trailers); 2 x Snow Ploughs (1 MAN, 1 Magirus-Deutz); 1 new Rotary Snow-plough B4 - Küpper –Weisser; 1 Rotary Snow-plough FS 5L; 2 de-icing units ASP 6 by Schmidt; 1 airport de-icer with 45m sprayer – Küpper-Weisser; 2 aircraft de-icers Vestergaard Elephant μ.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility. First the RWY, then main TWYs, 2 positions on main apron, then rest of movement area.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. First mechanical clearing of surface with snow ploughs in combination with Air blast sweepers in formation of 7 vehicles, then if required, application of chemical fluids ("Safeway" from Clariant).
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? After max. 30min including RWY, main TWYs and main apron. No time for "only RWY" available, as far as the rotate on RWY and main TWYs.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. 90,000kg "Safeway KA HOT" from Clariant (delivery receipt doesn't shows liters). No special comments, satisfied.
12.2 Comment on storage capabilities of the chemicals which you use. 30,000ltr for aircraft de-icing fluid; 20,000ltr for movement area.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc. No solid de-icers in use.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems. Not installed but electronic measure system on airport de-icing unit for ground temperature.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Not at the moment.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. None.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. 2 x Vestergaard Elephant μ Aircraft de-icing trucks.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? On stand.
14.3 Is glycol recovered? If so, please state methods. No recoverage.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? 2 x Saab.
15.2 Have you any comments on the reliability of friction indexes? None. According to A/C-crews it seems to be okay. Calibration of friction testing equipment is done prior winter season by service staff, during heavy use daily calibration by airport staff.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No changes intended for now. Good experience has been made by spraying snow-cleaned surface prior night-closure. No icing between surface and snowcover detected.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details. No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. We have bought for in 2010 1 airport de-icer – sprayer and 1 snow removal snow plough.
16.4 Do you have any winter services equipment which you would like to sell? No. Maybe old snow blast sweepers and trucks after winter season.

GENEVA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Genève Aéroport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): Runway 05/23: Concrete 190,000sqm. Taxiways: Concrete 190,557sqm. Apron: Concrete 596,100sqm. Parking: Asphalt 107,835sqm.
2.2 Landing aids for each RWY (e.g. CAT II): Runway 23 is equipped for approaches in CAT I/II/III. Runway 05 is equipped for approaches in CAT I. The missed approach procedure use the VOR/DME of SPR and GVA.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Genève Aéroport (GA) is implementing a SMS in several phases. This phased approach is in line with the ICAO guidance as well as requirements defined by the Swiss Federal Office for Civil Aviation. The primary processes of the SMS are currently implemented. These include reporting, hazard identification and risk management, change management, safety promotion and training activities and a generic audit process. An SMS with all operational processes is scheduled to be in place by the end of 2011. The aerodrome manual of GA, which contains over 180 operational procedures has been accepted and certified by the Swiss Federal Office for Civil Aviation (FOCA). GA received its initial Aerodrome Certificate in December 2006 and underwent recertification according to ICAO standards in November 2010. The aerodrome certificate is now valid for 3 years.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training.
b) Inspection by airline, airport, and airplane handling agency personnel.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Runway inspections are carried out six times a day. All aircraft positions are swept once a day. The Apron is swept two times a week. The Links are swept two times a week. The Taxiways are swept once a week and the Runway is swept once a month, or on request. All positions are checked for FOD before arrival and on departure of






the aircraft. Sweepers and FOD containers are used.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc).
The FOD inspection is carried out in coordination with multiple airport users. A widespread FOD awareness and prevention campaign was carried out in November 2010. Regular campaigns are planned for the future.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No special systems or software are used.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? The primary method of monitoring vehicle and aircraft movements on the ground is visual observation.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Runway incursion protection equipment currently installed: Alternating yellow lights installed at CAT I holding point (A, G); "Runway Ahead" markings are painted at all CAT I holding points; Wig-wag lights are installed at all CAT I holding points; Lighted red stop bars are installed at all CAT II/III holding points (used only in LVC); ICAO standard signage and markings at all RWY entrances.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) An A-SMGCS (level 1 and 2) based on Park-Air with Sensis multilateration system and Terma SMR is used as an additional monitoring tool.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Painting has been reinforced ("Runway ahead"). On the two north taxiway (Y, Z), wig-wags have been installed. Due to proximity between the runway and the apron, stop bars on taxiways C, D, E are always illuminated. A-SMGCS level 2 is implemented.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Two specific programs for drivers are in place (apron and maneuvering area).
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? All incidents on the maneuvering area are reported according to the directives of the Swiss regulatory authority (Federal Office of Civil Aviation) based on ESARR. Incidents reports and subsequent analysis are shared between the ANSP and the Airport Authority.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: At GA the following ecological measures predominate:Grass cut to a height between 15 and 20 cm; Elimination of trees and bushes along runways; The use of liquid or solid manure or residues from waste treatment plants is prohibited; Tilling of the soil and cultivation of cereal crops is not permitted; Presence of stagnant or exposed water avoided (drainage); Nesting control; Building and infrastructure adaptation.
6.1 Do your staff attend recognised bird control training courses? Yes, the staff attends specific courses but also provides special wildlife management training courses trough the "Airtrace" training center (www.airtrace.ch): International master's programme for Wildlife Hazard Prevention Specialists; International bachelor's programme for Wildlife Hazard Prevention Agents; Introduction to Wildlife Hazard Prevention Course; Informational seminars on wildlife hazard prevention.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? The bird strike prevention unit works from dawn till dusk every day of the year. Bird watching and daily reports of species present in the airport enclosure take up most of the daily activity. All collected data is recorded electronically. The staff conducts tours and controls of the airfield at least every hour.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Exploding cartridges (9 mm), Whistling cartridges (9 mm), Long range silent, then exploding, rockets (Lacroix Capa) discharged from Revolvers, Bird scaring laser (handheld), Acoustic broadcasting of natural and synthesized distress calls (mobile recorder and speaker, in the car), 30 stationary units of electronic generators Efbitech 300W and 2 units mobile, fixed on a trailer, Bird strike prevention vehicle fully equipped with different net, cage, disinfectant, insecticide.
6.4 Do you carry out a bird strike risk assessment? Activities are saved on real time in the prevention vehicle thanks to a database system specially dedicated to wildlife hazard management (software called AWHM : Airport Wildlife Hazard Management). A general report including all the activities of the wildlife hazard prevention unit is published every two year. In addition, statistics are published which include precise records of bird strikes and wildlife observations. The wildlife hazard prevention unit is audited several times a year according to the environmental, quality and safety system, certified ISO 9001, ISO 14001 and OHSAS 18001.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): All the activities, bird strikes, bird watching activities and works undertaken in the airport enclosure are centralized and recorded electronically in a daily report. All data is available at any time. Once a week, the environmental engineer in charge of Wildlife Management Unit examines the daily reports and inscribes the specifics activities of the agents (time, person, radio calls, intervention, solution) in a special log report.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Exceptionally an animal succeeds in forcing the fence and creating a hazard for the aeronautical traffic. For this type of intervention, special procedures are in place with the local authorities to assure the capture and the elimination (if necessary) of the animal (department for the protection of nature and landscapes).

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Subaru For., Command vehicle, 2003, 4x4, Subaru For., Headquarters vehicle, 2004, 4x4, Ford, Duty officer's vehicle, 2011, 4x4, Mercedes, PCI "Transmission" vehicle, 1992, Mercedes, Fire duty officer's vehicle, 1997, 4x4, VW T5, Escort vehicle, 2010, Opel, Transport and escort vehicle (14 places), 2007, Toyota, Vigilance duty officer's vehicle, 2007, Ford, Transport and escort vehicle (15 places), 2006, Smart, Escort vehicle, 2004,Opel,Transport and escort vehicle, 2007, Suzuki, Head-quarter vehicle, 2006, 4x4, Smart, Infirmary vehicle, 2003, Toyota Auris, Escort Vehicle, 2011, Toyota Aygo, Escort Vehicle, 2011, Rosenbauer MAN, Extinguishing vehicle, 12,500 l water, 2005, 8x8, 1,500 l extract, Rosenbauer MAN, Extinguishing vehicle, 12,500 l water, 2000, 8x8, 1,500 l extract, Rosenbauer MAN, Extinguishing vehicle: Type Snozzle, 11,000 l water, 2008, 8x8, 1,500 l extractIveco, Bridge, 2006, Vogt, Mercedes, Extinguishing vehicle, 4,000 l water, 2004, 4x4, 500 l extract , 250 kg of power, Mercedes, Loading vehicle for Berces, 2004, 6x8, Rosenbauer MAN, Extinguishing vehicle, 12,500 l water, 2003, 8x8, 1,500 l extract, Ford, Ambulance, 2006, Ford, Ambulance, 2006, Ford, Ambulance, 2003, 4x4, Hänni, Berce Sanitary, 2000, Vogt, Berce moss, 2004 , Mercedes, "Pionner" vehicle, 1996, 4x4, Dodge Ram, Replacement vehicle, Saturne, 2001, 4x4, Mercedes, Loading vehicle for Berces, 2000, 8x8, Mercedes, Materiel vehicle, 1984, Deschamps, Berce ground carpet, 2002, Hänni, Aircraft Recovery, Berce of levage, 2002, Boston, Boat of rescue, 2 engines of 130 HP, 1994, Whaler, 2 nacelles de 65 places each, 1999, Teklite, Projector with auxiliary engine, 2002, Teklite, Projector with auxiliary engine, 2002, Luxomobile, Projector with auxiliary engine, 1985, Bosch, Honda diesel GD 410 4,7 KW, 1998, Hatz, Hatz diesel 1D41T24 5,2 KW, 1997, Gottwald, Crane 20 T, Chemical container, 2006.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Geneva International Airport currently does not use a fire training simulator, but its installation is foreseen.
PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS (2010-2011)

8.1 What is the designated period of winter readiness? November 1st to April 15
8.2 Average annual days of snow: 25 days (between Nov. and Dec.)
8.3 Average snow depth: 72cm (between Nov. and Dec.)
8.4 Maximum snow in 24 hours: 19cm
8.5 Annual number of days of de-icing activities: 119 days

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Command personnel x 3, Command vehicles x 3, Snow removal Runway + Twys x 12, Snow removal Apron x 16, Snow removal line x 4, Friction measurement x2 Maintenance (2 stand by) x4, Snow removal access roads x4

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): Equipment for snow removal on runway: Truck, 4x4, Mercedes Unimog, 1, Truck, 4x4, Mercedes 360cv, 2, Truck, 6X4, Mercedes 400cv, 2, Sweeper blower, Bucher P21, 7, Sweeper blower with snow blade, Boschung (Jet Broom) Runway, 3, Sweeper blower with snow blade, 3 (soon), Sweeper blower with snow blade, Boschung (Jet Broom) with Sprayer, 1, Rotary snow plows, Rolba, 4 (+1 soon), Snow blade, Boschung 6m, 2, Snow blade, Boschung 8.4 m, 2, Snow blade, Zaugg 6m, 11, Snow blade, Peter 6m, 2, Snow blade, Zaugg 4.25m , 2, Snow blade, Zaugg 1.5m, 1, Sprayer, Boschung, 2, Equipment for snow removal on other surfaces:Truck, Iveco, 1, Vehicle FORD 4X4, Ranger, 1, Tractor, Terratrack, 1, Tractor, Reform pavot, 3, Tractor, Boschung Pony, 5, Snow blade (pusher), Zaugg 2m, 2, Snow blade (pusher), Zaugg 4m, 1, Snow blade (pusher), Zaugg 7m, 3, Snow blade, Zaugg 1.5m, 1, Snow blade, Zaugg 2m, 2, Snow blade, Zaugg 2.4m, 3, Snow blade, Zaugg 3m, 1, Snow blade, Boschung 2.20m, 2, Rotary plows, Boschung Pony, 1, Sprayer, Boschung, 2, Snow evacuation trucks, 2, Rotating Sweeper, Boschung 1.5m, 2, Rotating Sweeper, Zaugg 2m, 2, Blower AF1 from R.P.M.TECH INC, 1, Tractor with special blade for runway lights, New





Holland, 1, Trax Caterpillar 930, 1. Glycol absorbers: Sweeper and absorber, Boschung 7000, 1, Sweeper and absorber, Bücher 8000, 1, Sweeper and absorber, Boschung Jet Broom, 1.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility. Priority 1 Runway, Priority 2 Taxiways, Priority 3 Apron South and Apron North "General aviation", Priority 4 Parking area and hangars.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. Runway: Vehicles are aligned diagonally; Snow is pushed to both edges of the runway by trucks equipped with snow-blades and sweeper-blowers. The operation of snow sweeping including friction measurement takes 30 to 45 minutes. The duty officer coordinates the operation with the ANSP. Taxiways: Vehicles are aligned diagonally. Trucks equipped with snow blade and sweeper-blower push the snow to the edge of the taxiway. Apron: Vehicles are aligned diagonally; Trucks equipped with snow blade and sweeper-blower push the snow from the edges to the center of the Apron, loaders load the snow on trucks which evacuate it to the designated location.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? After moderate snow, the "black top" of the RWY is usually achieved in 15 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. De-icers quantities use during winter season 2010-2011:
For RWY and TWY: Safeway KF Hot, 144,400 l. Safeway SF, 44,000 Kg.
For Aircraft: Glycol type 1, 430,021 l. Glycol type 2, 192,111 l. Glycol type 4, 448,527 l.
12.2 Comment on storage capabilities of the chemicals which you use. 75,000 liters of Safeway KF Hot in tank. 40 Tons of Safeway SF.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc. GA has reliable experience with solid de-icers or mixing ratios with liquids.
12.4 Have you experienced any corrosion problems with de-icers? GA has experienced some corrosion problems on de-icers.
12.5 Have you employed any special means to economise on chemical use? Since two seasons, the quantities of product applied are optimized according to the weather (temperature, humidity). Each sprayer is equipped with the Boschung Thermomat system that spreads the chemical after defined curve and the pavement temperature.
12.6 Do you have any other comments on experience with chemicals? "Safeway KF Hot" is used since 2010 and "Safeway SF" since 1999.
12.7 Do you use other chemicals or sand on operational areas? GA does not use sand.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems. We have sensors (active sensor to simulate freezing point and passive sensors for pavement temperature and humidity) that are installed on the Runway on 3 locations, coupled to 2 weather stations on each end of the runway. Those sensors and weather stations are reported to an airfield services supervisor which is also always informed about weather forecasts (meteosuisse) and levels of runway deicing fluids. The sensor and the weather station equipments are from Boschung Switzerland. We have also equipped one of our ASFT Friction Tester with two freezing point active sensors.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. No experience. Those new equipments will be used for the first time this winter, but we hope that the ice warning system will help us in order to better anticipate the de-icing of the runway.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. The Handling Agents carry out the aircraft anti/de-icing operations using special de-icing trucks.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We de-ice only on the parking area.
14.3 Is glycol recovered? If so, please state methods. Glycol is recovered by a truck which absorbs it on the apron. After use, glycol is put into a circuit where it is treated (no recycling).

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? 2 ASFT friction tester vehicles.
15.2 Have you any comments on the reliability of friction indexes? No comment is made on the reliability of GVA's friction index. The two ASFT friction testers are certified before each winter season and the service reports send to FOCA.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? Currently no major changes are planned in the airport's winter operations and procedures. We introduce the electronique Snowtam send directly from the friction Tester to the Airport AIS Unit (AAU).
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. GA has decided to buy 3 Boschung Jetbroom Sweeper blower with snow blade and 1 extra rotary snow plow .We also bought two GPS to guide the snow plow during the cleaning of the Runway and Runway edge lights.
16.4 Do you have any winter services equipment that you would like to sell? No winter equipment is currently for sale.

GOTHENBURG

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Göteborg Landvetter Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): TORA 3299m, WIDTH 45M/147,6ft, SHOULDER 2x7.5m, TOTAL APRON/RAMP AREA 275,100sqm.
2.2 Landing aids for each RWY (e.g. CAT II): CAT II - RWY03/21.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, a Safety Management System is clearly worded in the Airport Operations Manual – chapter nbr 6. Due implemention of IAPPRI, and via the forum - Flight Safety Group - Flygsakerhetsgruppen (4 meetings/year) with representation/members from airline pilots, ATS, mechanics, airport vehicle operators, airport authority etc. Identification and action on "hot spots" on airport manoeuvering area and, should the occasion arise, the apron area.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Airside safety introduction training and airside driver licence training.
b) Inspection by airline, airport, and airplane handling agency personnel: Due current audits.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Yes - regularly.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Yes, forum Ramp Safety Group at the airport, 4 meetings/year
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? SMR Surface Movement Radar.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Yes.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): New grade/version of SMR – Surface Movement Radar.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Integrated training at LVO/LVP situations, with occupational groups with missions at the manoeuvering area, including to identify "hot spots". Implementing of EAPPRI – European Action Plan for Prevention of Runway Incursions.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds.
6.1 Do your staff attend recognised bird control training courses? Yes.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Yes - a part of Airfield supervisor assignments. Hourly and less than hourly, according to need.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Recorded distress calls (mobile and fixed), laser (test), shotguns, warning-shots via gas cannon. Inflatable scarecrow called "the Hulk". Use of pyrotechnical equipments
6.4 Do you carry out a bird strike risk assessment? According to need. High activity, especially during early springtime, during bird migration.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes - regular documentation.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Hares, foxies and badgers from time to time - catch in traps.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 1x Scania – Swedcat, 2x Volvo F12 - 6x6 Water 9200 litre/Foam 540 litre /A-Triple F (93/95),






1x Dodge Tri Star - Water 1000 litre, 1x Tracked vehicle - Hagglunds / equipments carrier.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes - soon start a process to replace the old the Volvo F12 to new vehicles.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Not for the moment.
PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 15 October to 15 April.
8.2 Average annual days of snow: The days of snow was more than normal the last years, and average is approximately 50 days.
8.3 Average snow depth: 5cm.
8.4 Maximum snow in 24 hours: 40cm.
8.5 Annual number of days of de-icing activities: Approximately 60-70 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 10 (12).

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): Snow Clearance:TJS (Towed Jet Sweepers): 5x Schmidt -TJS 560 D, 2x PSB 4500 H – Vammas, 2x PSB 5500 H – Vammas. Snow Blower: 1x Rahtikone 381-S Schmidt - Supra 5001, 2x Overaasen – 430. De-icing: 2x Schmidt ASP – liquid, 1x Falkoping CL 5 - sand/granulte solid de-icing, 1x Epoke SH 3500 -sand/granulte solid de-icing.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Runway, roads for fire rescue, ILS area, taxiways, apron.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: 5 to 9 vehicles (gives one or two sweep(s) to clear the runway).
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 5 vehicles - 20 minutes / 9 vehicles - 10 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Formiate, Aviform L50. 490 m3. Good, but need more quantity of liquid.
12.2 Comment on storage capabilities of the chemicals which you use: No problems.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Mixed = faster and more effective.
12.4 Have you experienced any corrosion problems with de-icers? Yes.
12.5 Have you employed any special means to economise on chemical use? Not in use.
12.7 Do you use other chemicals or sand on operational areas? No other chemicals, but sometimes we use sand.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Vaisala Ice Warning and Prediction System.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Not for the moment.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Not always reliable.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No. External ground-handling companies provide aircraft anti/de-icing operations.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Gate/parking area de-icing.
14.3 Is glycol recovered? If so, please state methods: Airport use two vacuum-cleaner vehicles for soak up liquid - and deliver it into a new structure/house – and follow a system for reprocessing and cleaning.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? 2x SFH Surface Friction High Pressure.
15.2 Have you any comments on the reliability of friction indexes? They are in general credible.

16. FUTURE DEVELOPMENTS

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: New order of one snowblower and one wheel-loader.
16.4 Do you have any winter services equipment which you would like to sell? Not for the moment.

GRAZ

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Flughafen Graz

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Runway: Dimensions 3000 x 45 m (left and right 7.5m shoulders), (17C / 35C) with shoulders 3000 x 60 m, TORA 17C: 3000m, TODA 17C: 3060m, TORA 35C: 3000m, TODA 35C: 3000m, Grasrunway: 17L/35R and 17R/35L. Taxiways: A width 23m; B width 23m; D width 23m; X width 10m; Y width 15m. Gras Runway: S1, S2, S3, S4, G1, G2, G3. Aircraft Parking: 13 Positions for A/C Kat.C, other 4 Pos. Kat. D and 4 Pos. Kat. C. 2 Positions A/C Kat. E. 20 General Aviation Positions. 12 Positions for Kat. A. 6 Positions for Helicopter.
2.2 Landing aids for each RWY (e.g. CAT II): 35 C: Cat II/III ILS; 17 C: NInst.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No. We have for external Audit from the BMVIT (Austria) about the SMS.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc):
The control of FOD is done by the Deputy Operations Officer. He arranges the cleaning the runway and taxiways with airplast sweepers. The apron is cleaned by means of a cleansing mat.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? No.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Marks, stoppers, rolling hold.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): No.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Functions very well, very few incidents.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Training of airside users.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? ANSB Internal Occurrence Reporting system. SMS Safety Management System.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: We write announcements about birds or touches of other animals with airplanes and file this. We send them also to the authority.
6.1 Do your staff attend recognised bird control training courses? No.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Shot guns / pyrotechnik.
6.4 Do you carry out a bird strike risk assessment? No.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? No.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: ÖAF (6x6), 1993, Water: 9,000lt, Foam: 1,000lt. Panther (8x8), 2004, Water: 12,500lt, Foam: 2,000lt, Powder: 500kg. ÖAF (4x4), 1998, Water: 5,000lt, Foam: 500lt. ÖAF (4x4), 1990, Powder: 2000kg. Z8, 2010, Water: 13,500lt, Foam: 1,650lt, Powder: 500kg.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We have no fire training simulator.
PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From 1 October to 31 May.
8.2 Average annual days of snow:
12 days aircraft de-icing.
8.3 Average snow depth: 10cm.
8.4 Maximum snow in 24 hours: 30cm.
8.5 Annual number of days of de-icing activities: 90 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 8 airport-employed people and 3 sub-contracted people.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): 5 units airblast sweepers Bucher Schörling P17; 4 units airblast sweepers Överaasen RS 400; 1 unit snow blower Steyr TK 93 +Kahlbacher; 1 unit snow blower Bucher Guyer; 1 unit snow blower Grizzly Dt





52 + Kahlbacher; 3 units tractor with snow ploughs Steyr; 1 unit spreader for chemical de-icing Schmidt; 1 unit spreader for chemical de-icing Küpper Weisser.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 1. runway (17/35), 2. taxiway A,B,D, 3. Apron, 4. taxiway X,Y.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: 5 airblast sweepers for runs necessary for runway sweepers.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 12 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Runway de-icer: 60,000kg Harnstoff UREA, 7,000kg Safeway KA Hot (Fa. Clariant).
12.2 Comment on storage capabilities of the chemicals that you use: For Runway de-icer we have niroster tanks with 12,000lt. capacity. For aircraft de-icer we have niroster tanks with 24,000lt. capacity. Harnstoff (solid de-icer) 60 Tonnen.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Urea is effective to-6 °, under-6 ° and below it be mix with liquids (Safeway KA).
12.4 Have you experienced any corrosion problems with de-icers? UREA and the Safeway KA is very aggressive to metal parts.
12.6 Do you have any other comments on experience with chemicals? Ice warning system.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Typ: Boschung SCU 2002 and GFS 2000 with 4 Measuring action ions.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Ice warning system help to economy control use.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Yes. 1 unit aircraft de-icing vehicle Stalder Merceses 1820; 1 unit aircraft de-icing vehicle Stalder Merceses Atego 18; 1 unit aircraft de-icing vehicle Eisbär Steyr 19S24.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-ice on the parking area.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? 2 units Skidometer BV 11.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? Yes, we would change the airplast sweepers with large working with, so we need less time for the clearing of the runway.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes, we change the airplast sweepers (Buch Schörling P17) with 3 meters working width to airplast sweepers with 5.5m working width.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

HAMBURG

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Hamburg Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): RWY`s: 315,800sqm, (RWY 05/23 and RWY15/33), TWY`s: 320,600sqm, Aprons: 491,300sqm, RWY-Shoulders: 92,000sqm.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 05: ILS CAT I, PAPI, RWY 23: ILS CAT II/IIIb, PAPI, RWY 15: ILS CAT I, PAPI, RWY 33: LLZ / DME, PAPI..

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Mandatory basics for a Safety Management System according to ICAO, Annex 14 are established. Safety Manager nominated, Aerodrome Manual is available, Safety relevant processes have been identified and documented, Additional Runway Guard Lights have been installed at critical intersections, Additional Runway designator markings on floor at critical intersections. The following sub-committees are working for the Airport Safety Committee: Apron committee – regular meetings every month, Adverse weather conditions committee – regular meetings every 2 weeks during the winter period, Runway Safety Team - 4 times a year. Runway inspections carried out in opposite direction. All staff involved is using the phraseology agreed on by ADV - airports for ground vehicles operating on runway systems.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Part of regular training for all people designated to work on ramps before they start to work.
b) Inspection by airline, airport, and airplane handling agency personnel: Regular inspections are carried out as part of the mandatory ICAO airfield inspections at least four times a day. Inspections are carried out by the airport. Aircraft stands are inspected before and after each usage by airport and ground handling staff.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Routine maintenance on a daily basis and on special request using Sweepers and or Magnetic bars.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Coordination and information via AOC (Airlines Operators Committee), Airport Users Committee, the Airport Safety Committee (ASC) and bilateral.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Guidance by means of RT (Apron Control, ATM) - Traffic Supervisors/Follow Me vehicles.
5.2 Are any design or engineering changes being undertaken / required to eliminate perceived hazards? Installation of Runway Guard Lights, regular quality checks on signage and markings. Additional Runway Guard Lights have been installed at critical intersections.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): ASDE-X. A-SMGCS Level I and II incl. Sensor Techniques (Multilateration).
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Anything in addition to a single solution, e.g. A-SMGCS, is helpful but it should be kept in mind that cockpit crews must not be overburdened and should have a chance to realise and interpret signs, lights and markings during taxi. Hamburg Airport and the Deutsche Flugsicherung GmbH (DFS), ATM – provider for Germany, have signed a contract on establishing an A-SMGCS at Hamburg. The system is installed and fully operable since May 2010.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Regular awareness training for all employees acting as Traffic supervisors – basic training for all people working on ramp areas.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? All activities are based on the European Action Plan for the Prevention of Runway Incursion and carried out jointly with Deutsche Flugsicherung and pilots (Runway safety team Hamburg). Regular meetings (four times a year) take place. "Hot Spot" map published

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Keep the grass high where possible; avoid clusters of bushes or hedges; destroy nests of craws and other so called blackbirds, coverage of waste water reservoirs to water birds away, counting/statistical records every fortnight.
6.1 Do your staff attend recognised bird control training courses? Yes, every two years.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Pyrotechnics, shotguns.
6.4 Do you carry out a bird strike risk assessment? At least twice a year (spring and autumn); counting/statistical records every fortnight.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Wildlife such as rabbits, foxes and occasionally deer … same procedure as with birds.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 4 Ziegler Z8, 8x8, Water: 12.400l, Foam: 2x400l, engine: MAN classic 12cyl. year of manufacture: 2008, 2 Mercedes H.L.F M2000 (Water: 4000l, Foam: 400l)year of manufacture: 2006, 1 Rescue Staircase TECHÜNERT 7.1817-01/ HBG, M.A.N FE 27.410 Year of manufacture: 2005.
7.2 Future developments – are there plans to





purchase or dispose of any equipment? MAN HLF M2000 (Water: 4000l, Foam: 400l) in 2011.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? For training purposes the Fire Training Simulator is shifted from Frankfurt Airport to Hamburg Airport once a year for 8 days.
PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 01 November – 31 March.
8.2 Average annual days of snow: 20 – 25 days.
8.3 Average snow depth: 4-6cm.
8.4 Maximum snow in 24 hours: 12 – 15cm.
8.5 Annual number of days of de-icing activities: 30 – 35 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Duty roster is based on 16 persons per shift. Up to 25 additional persons subcontracted.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 11 snow ploughs, 11 air blast sweepers, 1 rotary snow ploughs, 3 Bucher Schoerling P25, 2 Bucher Schoerling P17, 2 Overrasen RS 400, 3 front loaders, 2 snowploughs with centre sweepers, 2 turbine snow loaders, 2 spreaders for solid substances, 3 spreaders for mixed substances (solid /liquid), 1 liquid de-icer.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: First: runways, Second: main taxiways according to runway in use, Third: apron, then all other areas.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Depending on current weather situation, wind direction and velocity up to 10 snows ploughs and sweepers will clear the RWY in one direction forming a diagonal line. Firstly the mainly used TWY`s connected to the RWY in use will be cleared in the same way. At the same time Taxi-lanes on the Aprons and A/C-stands are swept in sequence.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 25 – 30 minutes for each RWY.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Liquid: SAFEWAY KF Hot 250m3, solid: SAFEWAY SF 180t, sand 700m3. Good results at temperatures up to –15° C, 3 days in dry weather conditions.
12.2 Comment on storage capabilities of the chemicals which you use: Sand-silo: 160 m3, SAFEWAY KF Hot liquid: 50, 000 l, SAFEWAY KF solid: 30 "big bags" 750 kg each in store.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Good results were achieved by mixing SAFEWAY solid and liquid as well as sand and SAFEWAY liquid depending on temperature and fall-out.
12.4 Have you experienced any corrosion problems with de-icers? No, but aircraft manufacturers spoke about a suspect that the chemicals used might have a negative impact on carbon brakes
12.5 Have you employed any special means to economise on chemical use? Good results achieved using "multi de-icing vehicles". Spreading is not related to speed, no wasting.
12.6 Do you have any other comments on experience with chemicals? None.
12.7 Do you use other chemicals or sand on operational areas? No.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Yes. 8 units, manufacturer: "Vestergaard".
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-icing is permitted on the aprons only (on stand).
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? 2 VW SHARAN Friction Testers (ASFT).
15.2 Have you any comments on the reliability of friction indexes? Higher liability of ASFT compared to SFT.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.4 Do you have any winter services equipment which you would like to sell? NO

KATOWICE

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Katowice Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): RWY 09/27 (168,000sqm), Total RWY length - 2800m, TORA 2800, width - 60m, TWY "A" (4,048 m2), width – 20m, TWY " B" (4,928 m2), width – 28m, TWY "D" (2,288 m2), width – 13m, TWY " E1,2,3 (48,300 m2), E1, E2 width – 20m, E3 – 23m, TWY "F" (6,160 m2), width – 35m, TWY "S" (11,500 m2), width – 50m, TWY G1, G2, G3, G4, width – 15m, Total APRON area: 72, 536sqm – 33 parking positions.
2.2 Landing aids for each RWY (e.g. CAT II). CAT I lighting aids: RWY 09 - Simplified approach lighting system "cross" with axis length 420 m and bar 300 m from THR. LIH. RWY 27 - Precision approach category I lighting system (Calvert system). LIH radio aids: RWY 27 - ILS instrumental landing system and glide path, meteorological Vaisal's system.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, the risks and hazards reappraised by internal audits on 02-20Aug, certification audit from Civil Aviation Office on 14-17Sep and FERA audit on 20-21Oct have been considered to SMS changes by the Board, (new) Safety Manager and Safety Management Committee.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Every second year trained by Duty Officer.
b) Inspection by airline, airport, and airplane handling agency personnel: APRONS: Marshaller, Duty Officer, handling agency personnel. TWYs, RWY Marshaller, Duty Officer
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): We use sweepers and FOD containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Described in Airport Operational Instruction approved by Civil Aviation Office. Responsibility of co-ordination: Duty Officer.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): We do not have any software solutions. FOD control by using OLH-4500 "Madro"/runway sweeper and visual checks.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? The method we use is SMGCS & visual observation maneuvering area by TWR.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? A tight fence round the area of the airport, visual observation and cameras monitored by Airport Security, thermographic cameras.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): We do not have any safety devices yet.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: We use warnings by road signs, light signs and high-visibility vests.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? There are mandatory trainings about behavior and awareness in operation area.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes they have been incidents, which were reported to duty officer & Safety Manager. SM and internal Commission are responsible for investigation such cases.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: We reduce the attraction of the airfield to birds by many different devices like recorded distress calls, pyrotechnics, shotguns.
6.1 Do your staff attend recognised bird control training courses? We will attend in such bird control training coursers every year.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Operation team (Marshaller, Duty Officer & FALCONER) deal with this problem continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): At present we use: (SCARECROW BIO-ACOUSTIC SYSTEM, BIRD GARD SUPERPRO AFP, GAS CANNONS, PYROTECHNIC PISTOLS).
6.4 Do you carry out a bird strike risk assessment? We carry out a bird strike risk assessment every month and bird clearance every landing/take-off respectively second hour.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): The falconer reports daily bird control activities.





6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No, we do not have any significant problem with wildlife like deer or wild boars.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 1 Truck Barracuda GCBAPr 5,5/50/150 / year of manufactures: 1990, 1 Truck Barracuda GCBAPr 10/50/250 / year of manufactures: 1990,2 Truck Barracuda GCBAPr 12/54/250 / year of manufactures: 1994, 1 Truck Rosenbauer Panther GCBAPr 6/70/250 / year of manufactures: 2009, 1 Truck Rosenbauer Panther GCBAPr 12,5/70/250 / year of manufactures: 2009.
7.2 Future developments – are there plans to purchase or dispose of any equipment? We intend to buy 2 Barracuda trucks by Rosenbauer Company in 2011.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We do not have Fire Training Simulator. FTS is not available in Poland for training purposes.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? In our Airport period of winter readiness begin from 15 October until 15 April.
8.2 Average annual days of snow: 60/70 days.
8.3 Average snow depth: 6.45cm.
8.4 Maximum snow in 24 hours: 10-14cm.
8.5 Annual number of days of de-icing activities: 66 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? We have got 15 winter services personnel per shift.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): Runway snow plough 6m – 7 units, Runway snow plough 8m – 3 units, Road snow plough 3m – 2 units, Runway sweeper: a) OLH 4500 "Madro" 3,5m – 5 units, b) OLH 3850 Hydrog 3,5m – 2 units, c) OVERAASEN RS 400 5,5m – 3 units, Rotor snow blower (Boschung, Rolba 1000, Ził) – 3 units, Spreader – 1 unit, De-icing sprayer Daman FEA 24m, 6000L+4000kg – 1 unit, De-icing sprayer 18m, 7000L – 2 units, Excavator – 1unit , Agricultural Sprayer 15m , 1000L -1 unit, Agricultural tractors – 4 units.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Priority of snow clearance in order are: Runway 09/27, Taxiway "B", Taxiway "E3", Taxiway "A", Taxiway "E1 ,E2", Taxiway "F", APRON 1, APRON 2, APRON 3.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: At the end we enclosed charts and method runway clearance.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? After moderate snow , we are ready to achieve "black top" on the runway during 5-10min. After strong snow, we are ready to achieve "black top" on the runway during 25-30min.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: We use every year next de-icers chemicals: liquid – CLEARWAY 1, made by Brenntag- total used 94 000L, solid – CLEARWAY 6s – made by Brenntag total used 3 500kg, solid – Urea(carbamide) – total used 17,000kg. At very low temperatures we do not use chemicals. In range temperatures from 0 to -6 centigrade we use CLEARWAY 1 and then we spread CLEARWAY 6s.
12.2 Comment on storage capabilities of the chemicals which you use: Storage capability at Katowice Airport - liquid – 60 000L.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: None.
12.4 Have you experienced any corrosion problems with de-icers? We have not any corrosion problems with de-icers (CLEARWAY). Only Urea (carbamide) is the most aggressive and corrosion. Due to corrosion this chemical we used it only for inside area airport ex. parking, technical road etc.
12.5 Have you employed any special means to economise on chemical use? None.
12.6 Do you have any other comments on experience with chemicals? During strong freezing rain and drizzle the most efficient chemicals is liquid urea (carbamide) but only to temperature -4 centigrade. Due to aggressive and corrosions we do not apply for the runway and taxiways.
12.7 Do you use other chemicals or sand on operational areas? No, we do not use other chemicals or sand on operational areas.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: We do not have any ice warning system.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? We would like to purchase an ice warning system called "ICE ALERT" product by FINDLAY IRVINE
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: None.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Yes, our airport directly provides aircraft anti/de-icing operations. We use liquid chemical for aircraft anti/de-icing named CLARIANT SAFEWING MP II FLIGHT, Type II, CLARIANT SAFEWING MP I 1938 ECO, Type I. For anti/de-icing aircraft we use special vehicles: Kitokorii EFI 2000 – 2 units, Kiitokori EFI 4000 – 1 unit.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We have got special standings to anti/de-icing the aircrafts. Aircraft de-icing is carried out on Apron1 - stand no. 18 next to TWY "F" and also on Apron3.
14.3 Is glycol recovered? If so, please state methods: We do not recover glycol.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? We usually use two-three of friction tester: SAAB Friction Tester, BOWMONK AFM 2- Airfield Friction Tester, GRIPTESTER 210.
15.2 Have you any comments on the reliability of friction indexes? All our comments are included in each SOWTAM.

16. FUTURE DEVELOPMENTS

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Runway snow plough – 1unit, Runway sweeper – 1unit.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment which you would like to sell? No.

KAUNAS

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Kaunas Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 3250m – 45m, CAT – 4E; PCN 64F/B/X/T. RWY 26: TORA 3250m, TODA 3450m, ASDA 3250m, LDA 2950m. RWY 08: TORA 3250m, TODA 3450m, ASDA 3250m, LDA 2950m. DTHR 300m both sides. Apron area 111152m2, PCN 66F/B/X/T. 15 self maneuvering aircraft stands: 6 stands for B737-800, 6 stands for A310, 3 stands for SAAB 34 or ATR 42. Also there are two taxiing routes, special for B747.
2.2 Landing aids for each RWY (e.g. CAT II): RWY26 at the moment upgrading to CAT II. RWY08 – CAT I.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? In Kaunas aerodrome we have Safety management system manual, safety committee regular meetings and discussions about safety in the airfield.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Airfield technicians are trained to how prevent FOD
b) Inspection by airline, airport, and airplane handling agency personnel: Regular inspection from airport (airfield operations department), from airlines once a year
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Sweeping machines, magnetic bar on Schmidt and containers in the apron
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): No
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No, at the moment we don't have any software, but we agree that it is needed

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Only visual from the tower (ATC and airfield operations)
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Cinecamera with night vision are requested and looking for the possibility to have monitoring on the ground movements
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): None.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: On three entry roads to the rwy stopbars from chain with white/red plates are made and only with ATC permition can be opened. Also special procedures are made how to occupy/vacate runway.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? We have special procedures how to coordinate between all parties in the airport, also we have special plans






such as snow removal, WIP in the airfield, etc
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes, we're establishing investigations together with safety committee members and analyzing all bits in the incident and then deciding what measures we should take.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds:
6.1 Do your staff attend recognised bird control training courses? In our airport are well known species so where are no special trainings how to recognize them.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Yes, 24/7
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): We have Scarecrow Patrol Two and two of gas guns Gepaval Guardian 2 (which we found very effective).
6.4 Do you carry out a bird strike risk assessment? No, just we have audits from the CAA and air companies according to the records
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? We have insurance in those cases
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? At the moment no, but we have procedures how to prevent it (monitoring room, sensitive fence with sensors, maintenance of the fence, hunter if needed.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture:
1. KAMAZ 3x3, Water - 4000 t. Foam AFFF 6% - 250 L. Year 1988; 2. URAL 3x3, Water - 4000 t. Foam AFFF 6% - 220 L. Year 1983; 3. URAL 3x3, Water - 4000 t. Foam AFFF 6% - 220 L. Year 1983; 4. KRAZ 1x1, Water – 20000t. Foam AFFF 6% - 2000L. Year 1977; 5. KRAZ 1x1, Water – 20000t. Foam AFFF 6% - 2000L. Year 1977.
7.2 Future developments – are there plans to purchase or dispose of any equipment? The on-going purchase of a new airport fire fighting vehicle, 6x6 not less than CAT 7.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We do not have the Fire training simulator, for all firefighter's trainings we are going to Fire and Rescue Department under the Ministry of the Interior of the Republic of Lithuania, firefighter's training school.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 Nov till 1 Apr.
8.2 Average annual days of snow: About 90 days.
8.3 Average snow depth: About 70cm.
8.4 Maximum snow in 24 hours: About 30cm.
8.5 Annual number of days of de-icing activities: About 90cm.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 10 airport employed.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Towed jet sweeper TJS630 Schmidt, 1 unit (second is ordered), Compact jet sweeper CJS914 Schmidt, I unit, Compact jet sweeper BJB4000 Boshung, 1 unit, Runway sweepers DE224, 3 units, Runway deicer Kuperweiser, 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 1. Rwy and road to the fire station, 2.Twys, 3. ILS zones, 4. Apron, 5. other zones.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: All vehicles start their cleaning job from their garage in the fire station, then all goes to clean rwy, twy "A" and acf stand.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 10-20min (it depends from weather conditions).

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: We're using UREA, last season we used about 120t of it. We're preparing it as a liquid (50% water-50%UREA) and mixing with the solid UREA. It's effects up to -8/9 degrees C. But it is also very important how quickly and effectively you clean your rwy, in this case TJS630 helps a lot.
12.2 Comment on storage capabilities of the chemicals that you use: We have capability to store about 100t.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Mixing ratios and decision of it are very important; it depends from the temperature and strength of precipitation.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? We tried one of worldwide brands with freezing point up to -25C, but if you have freezing rain for one hour it doesn't help. And in minus 25 you'll not have any precipitations. The price differences are 3-4 times.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: We have 3 sensors in the rwy with info of surface temperature, contamination and thickness of cont.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Very effective. You have facts from the rwy, not the forecasts.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No, this is GHC responsibility.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We de-ice on the parking area.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Mu-Meter Mk6. (ADR-FM as a auxiliary).
15.2 Have you any comments on the reliability of friction indexes? Reliability is ok.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? In future plans we have remote deicing pads.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: ARFF 6x6 for CAT7 (not less), TJS630 – towed jet sweeper, Runway deicer (solid and liquid in wide of 22m).
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

KEFLAVIK

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Keflavik International Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas: RWY 02/20 length 3054m, RWY 11/29 length 3065m, both 60m wide. RESA 90 X 120 m for all RWYs. All approaches obstacle free. Terminal Apron 120,695sqm. East Apron 443,270sqm. Taxiways 475,198sqm.
2.2 Landing aids for each RWY: RWY 11 & 20 Cat II, RWY 02 & 29 Cat I.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, risk analysis and methodology in risk mitigation has caused minor changes in operational procedures to better allow acceptable level of safety to develop at KEF.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: All airside personnel receive mandatory safety training where FOD awareness is included. KEF Airfield Services operators are trained in FOD inspections as well as FOD removal procedures.
b) Inspection by airline, airport, and airplane handling agency personnel: Inspections are performed by KEF Airfield Services inspectors by regulation at least three times a day. In addition the most critical areas are inspected at the beginning of each shift, three times a day also.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Dedicated suction sweepers with magnetic bars are used for routine FOD cleaning but snow sweepers are also available for major clean-up. FOD containers are positioned in strategic places.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): By regulation all airport users are a part of the FOD prevention effort. All agencies are encouraged to implement a FOD conscious culture within their work force. Systematic "FOD walks" are used to motivate people.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): The Opscom Aerodrome Operations system is utilized for managing FOD control.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? All vehicle and aircraft movements are monitored visually by KEF ATC TWR, rules apply for use of yellow beacons and anti collision lights, radio contact and permission for movements are required from KEF ATC TWR.





5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Additional service roads around the airfield will reduce vehicular traffic on runways and taxiways.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): None of the above, but future plans include A-SMGCS.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Special emphasis on non-metallic signs, using quality computer print-outs placed on water resistant wooden hardboard as well as plastic.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Special training is a mandatory requirement for all individuals permitted to handle any movements on the ground. In order to gain access permit to the airport, all employees at the airport must pass a test following a localized safety and security training, including ICAO and EUROCONTROL stipulations and recommendations. The Keflavik Airport Aviation Safety Committee, with members representing the aviation community utilizing the aerodrome, meets quarterly. The committee was established in accordance with the recommendations of the European Action Plan for Prevention of Runway Incursions published in 2003 by EUROCONTROL. The role of the committee is to advise the appropriate management on potential aviation safety issues at KEF and recommend mitigation measures.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Yes, with the Opscom Aerodrome Operations system. Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Diverse measures are made to change and keep the habitat as to make it as unattractive to birds as possible. This includes landscaping, sowing of grass seed, planting of lupine, draining of water, covering water basins and closing of nearby garbage dump sites.
6.1 Do your staff attend recognised bird control training courses? An annual training is performed at the beginning of the bird migrating season in April. The course is locally developed and tailored to local circumstances.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously during April through September.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Our BASH team uses recorded distress calls (home made), pyrotechnics (crackers), shotguns and dogs. Lasers are being considered.
6.4 Do you carry out a bird strike risk assessment? A risk assessment model is a part of the BASH regulation. The assessment is carried out as often as dictated by circumstances, often many times a day. The process is audited twice a year.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? All activities are accounted for in daily log books and fed into the Opscom Aerodrome Operations system.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture 4 ea. Oshkosh TA-3000, 6x6, 1590 litres AFFF, 11,356 litres water, 2270 kilos Halon 1211. All vehicles are manufactured 1992.
7.2 Future developments – are there plans to purchase or dispose of any equipment? The purchase of three CFR vehicles is planned within the next four years.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? It is used by other airports in Iceland.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 October – 30 April.
8.2 Average annual days of snow: 80 days.
8.3 Average snow depth: 290 m (accumulated snow through one winter).
8.4 Maximum snow in 24 hours: 34cm.
8.5 Annual number of days of de-icing activities: 36 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Total 37 employees, 25 are on five 8 hours shifts (five men on each shift) and 12 on a regular day shift with stand-by responsibilities at nights and weekends. No personnel are sub-contracted.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): Snow sweeper, towed, Schmidt, TJS 560, 6 units; Snow sweeper, towed, Danline, 450, 4 units; Snow sweeper, towed, Schörling, P-17H, 2 units; Truck, towing, Scania, P400 with Schmidt MS 72.1 snowblade and Monroe SCPR 12ft underbody scraper, 6 units; Truck, towing, Oshkosh, P series with Schmidt MF 9.3 snowblades, 4 units; Snow blower ,Oshkosh, HB 2518-MP-3, 2 units; Snow blower, Oshkosh, H 2218, 1 unit; Snow blower, Rolba 3000, 1 unit; Front end loader, Hough, H-100-C, 3 units; Front end loader, John Deere,744/844, 2 units; Front end loader, Komatsu, 540, 1 unit; Front endloader, Case, W20C/W24C, 2 units; Front end loader, IHC, H-65-C, 1 unit; Snowploughs, Frink/Ramphog, 6.1 meters, 4 units; Snowploughs, Gjersrad, H.S.V. IV, 2 units; Runway de-icer, Batts, 2000 gal, 2 units; Sand/solid de-icer spreader, Nido Stratos, 4 units, Nido Traxos, spreader, 1 unit; Tractor, New Holland, T6060, 1 unit; Tractor, JCB, Sitemaster 4CX, 1 unit; Multi function snowblade, Gradmeko, VP-360, 2 units; Snowblade, Schmidt, M-33, 2 units; Truck, DAF, FASCF 75, 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Priority One: Runway in use, minimum 45 m wide and braking action 38 MU or better. Priority Two: Taxiways to and from the active runway from and to the main terminal. Priority Three: Apron and aircraft stands at the main terminal (Terminal Apron). Priority Four: The East Apron and associated taxiways. Priority Five: The runway not in use and remaining taxiways/aprons.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Runway: At least four and up to six "snowcombinations" (ploughs towing sweepers) in a tandem working out from the centerline if wind allows. One plough pushing snow from the edge lights and one or two blowers to blow windrows out on the shoulders. Taxiway: Same as on the runway with three snow combinations. Apron: Snow is cumulated in windrows with all available snow combinations and then pushed into piles in designated locations with ramp hogs. No truck transport of snow.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 20-30 min.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Clearway F1 (potassium formate) from Kemira. Average annual usage is 80.000 litres. Clearway SF3 (sodium formate, solid) from Kemira. Average annual usage is 80 tons. Clearway F1 is very effective at low temperatures as anti-icer and has a long holdover time if not diluted with perticipation. Clearway SF3 is a good de-icer with a very acceptable holdover time, even at low temperatures. Best results if pre-wetted with Clearway F1.
12.2 Comment on storage capabilities of the chemicals that you use. We have 280,000 litres storage capacity for liquids and a heated warehouse for the solids.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc. In most cases solid de-icers are very ineffective and slow acting if used dry. Therefore we prewet the Clearway SF3 with Clearway F1 in the ratio 25% liquid-75% solid. In this way the solid sticks better to the surface, the melting action begins earlier and is faster.
12.4 Have you experienced any corrosion problems with de-icers? Because of rumours we have checked this thoroughly, but haven't discovered any problems yet.
12.5 Have you employed any special means to economise on chemical use? Yes. 1. By using an ice warning system. 2. By maximizing mechanical methods. 3. By using black sand as much as possible where it is allowed.
12.6 Do you have any other comments on experience with chemicals? Fluid chemicals are effective anti-icers but poor de-icers. Solids are much better de-icers but very expensive. Therefore we are constantly experimenting in the use of these chemicals and their mixtures.
12.7 Do you use other chemicals or sand on operational areas? Yes, we use black sand, prewetted with de-icing fluid on taxiways and aprons.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: SCAN, system 16 EF from Surface Systems Inc. USA. 9 surface sensors and 2 atmospheric sensors.
13.2 Do you have plans to purchase further ice warning systems and if so which model(s)? No, not in the near future.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Such a system is a very vital part of our operations. It helps us to manage the use of de-icers and monitor the frequent weather changes in Iceland. No disadvances.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: The airport does not provide aircraft anti/de-icing.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We de-ice on the parking area.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? The MK6 MU Meter (2ea) and the KJ Law T6810 friction tester.
15.2 Do you have any comments on the reliability of






friction indexes? We have been using friction testers since the early seventies with very good results. As long as the equipment is well maintained, properly calibrated and the operators thoroughly trained the use of such tools is by far the best way to derive the friction characteristics of runways and taxiways.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? We are constantly trying to improve our methods in snow/ice control.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: 70% of our equipment is overage. Following a world-wide tender the airport authority has purchased six new "snow combinations" (a Scania P400 ploughing truck towing a Schmidt TJS 560 sweeper) and has the option to buy one more in 2012.
16.3 Do you currently have equipment or other products on order? No.
16.4 Do you have any winter services equipment which you would like to sell? No.

KENT

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Kent International Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 10: TORA 2752m, TODA 3169m, ASDA 2752m, LDA 2752m. RWY 28: TORA 2752m, TODA 3112m, ASDA 2752m, LDA 2752m.
2.2 Landing aids for each RWY (e.g. CAT II): CAT 1.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Manston Kent International Airport has an established SMS System in place – this is an ever changing and growing document - subject to an established internal audit system.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Included in Airports Induction briefing to both new staff and WIP Contractors Safety briefing – also supported by information in the Airports Tenants and User Manual – along with Safety Poster Campaign to both staff and airport users – targeting FOD awareness.
b) Inspection by airline, airport, and airplane handling agency personnel: The airports policies and procedures are subject to review from all based operators during each airlines audit schedule requirements. c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): FOD Bins on each handling Apron – FOD BOSS in regular use around the airfield accordlingly.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Included in Airports Induction briefing to both new staff and WIP Contractors Safety briefing – also supported by information in the Airports Tenants and User Manual.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): FOD BOSS -

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? All radio Communication and movement control takes place and the main ATC Frequency
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Stop bars are in place at both runway and taxiway holding points.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Runway Guard lighting, and Stop bar systems are in place at both main runway holds and taxiway holding points. MABS are in use at airports southern vehicle access points in LVP conditions with Glimm lighting to further complete a 'ring of red' Policy.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Airside Driving Permit Programme – training completed for an airside permit includes familiarisation with airport markings and runway hold locations – stop bars etc – inclusion of the use of these warning systems are included on both and theory and practical testing programme. These permits are reviewed after a set period – along with an incident recording system monitioring any possible problem drivers or departments – all closely monitored by Airfield Operations – any WIP airside is undertaken after a full airside safety brief to the contractor – with an escort provided at all times to any temporary pass issued agency requiring to work in airside area's.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? As per the SMS Policy – the airport has an established Runway Safety Team Meeting – that specifically monitors any reported runway related incidents –feeding in to the Airport Users Group accordingly. – MOR system utilised – internal incident reporting system also supports this.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds:
6.1 Do your staff attend recognised bird control training courses? Yes – and specially formatted internal training courses – relative to the local habitat and wildlife accordingly.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? A continuous approach to bird control is in place.
6.3 What specialist equipment do you employ for bird control? (Please stat state relevant supplier/manufacturer): Scarecrow BABs Unit / Bird Scaring state relevant supplier/manufacturer): Scarecrow BABs Unit / Bird Scaring Rockets – Sky Bird / Bird Scaring Cartridges – Sea Weathers – and Fire Arms
6.4 Do you carry out a bird strike risk assessment? Risk Assement – contained in Bird Control hazard Plan is reviewed annually.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? All BCU actions are logged throughout the Operational day – along with dynamic trends and strike analysis for any possible changes in wildlife hazard management approaches.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? The airport has experienced an increase in hare numbers this year – however this is being closely monitored by the Operations Team.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 3 x – Carmichaels Cobra 2 – 6 x 6 – Year of manufacture 2000 – Water Tank Capacity 10400L, Foam Tank Capacity 1500L, Dry Powder Monnex Trolley 50kg, Vehicle Mounted BCF Unit 135KG.
1 x – Dennis Sabre – Domestic Tender – Year of manufacture 1996 – Water Tank Capacity 1600L.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Not Currently.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We are currently in the process of developing a B747/200 as a training aid- however it is not yet available for external use.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? October to March
8.2 Average annual days of snow: 20 days.
8.3 Average snow depth: 15cm.
8.4 Maximum snow in 24 hours: 25cm.
8.5 Annual number of days of de-icing activities: approx 30 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Approx. 20 – with a call out system in place in times of extreme conditions.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): 1 X Schmitt De icer Unit, 1 x Everall De icer Unit 3 x Sicard Brushe Sets, 4 x Prime movers, 2 x John Deer 6930 Tractors fitted with 3m Hydraulic Ploughs, 1 x Tractor, 1 x Bedford Plough, 2 x Landrover ploughs for landside road way clearance duties.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Runway, Bravo Taxi way and Bravo Apron, Echo Taxiway and Echo Apron, Alpha Taxiway, TGA and Polar Aprons – FATO, Charlie and Delta Taxiway.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Dependent upon type and depth of contamination: Ploughs active in formation in consideration of wind direction in an outwards motion from the RCL. Followed by Sicard Brushes removing any loose wet snow from the surface. 2 x 12 m Boom De icer rigs either side of the centre line working outwards. After application has taken effect further brushing to remove any slush deposits to black top.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? We aim to achieve up to 30M in 4 -5 hours.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Safe Grip SF +, Safe Grip FR. Am monitoring the use of the SF+ and FR together this year to assess effectiveness: SF+ held to surface well and was effective in low temperatures.
12.2 Comment on storage capabilities of the chemicals that you use: 20, 000 Tank with additional Cube Storage also available.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: The Granules work well when wetted with De-icer to help hold in position – MSE is assessing further use of these two products together on the runway during various temperatures this season – granules are





effective for airside walkways using similar application – good visual reference for passengers using walkways.
12.4 Have you experienced any corrosion problems with de-icers? No
12.5 Have you employed any special means to economise on chemical use? Received training for staff on best use of the Safe Grip Products, how they work, chemical break down to further raise awareness and mitigate against any over application and possible was of fluid unnecessarily
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: VIASALA System.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Valuable system used in giving an accurate ground temperature – mobile around the whole airfield assisting with planning and best fluid application rates etc.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: FMC /Tempress –
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Preferred location Bravo Apron
14.3 Is glycol recovered? If so, please state methods: Interceptor tanks.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? MU METER Contracted.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods?
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: MABS on order to assist in LVP Conditions.

LEIPZIG

LEIPZIG·HALLE AIRPORT

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Leipzig/Halle Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): RWY 08L/26R: length 3600m, width 45m, TORA 3600m, TODA 3900m. RWY 08R/26L: length 3600m, width 60m, TORA 3600m, TODA 3900m. Shoulder width: 7.50m. Total Apron Area: Apron 1 – 194.000sqm. Apron 2 – 134.000sqm. Apron 4/5 – 603.000sqm.
2.2 Landing aids for each RWY (e.g. CAT II): CAT IIIb.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, we continuously improve our safety performance in our airport operations as a part of the SMS-change management process. Our improvements are the result of investigations of incidents and accidents as well as internal and external audits. One of our major activities is to reduce risks and hazards preventive and predictive.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Sensibilise the operating staff to avoid FOD and remove them in the case of locating FOD. It's a part of the FOD prevention program. This program involves all companies and Leipzig/Halle Airport's departments operating on the movement area.
b) Inspection by airline, airport, and airplane handling agency personnel: All parties operating on the movement area are responsible, per Airport Usage Regulations, for the prevention and removal of FOD.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Maintenance is done regularly with the use of sweeping when necessary.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Coordination via AOC (Airport Operations Committee), RST (Ramp Safety Team) and bilateral.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No special systems or software solutions in use for FOD Control.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual observations and radio instructions by ATC. An ASMR without Runway Incursion Monitor is active since 2011.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Runway Guard Lights, segmented taxiway centre lighting. On CAT II/III conditions by contact loops at stop bars for monitor entering/vacation RWY. Alert in case of unallowed crossing red stop bar.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): No specific.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: The use of warnings and guards (see 5.2) led to a reduction of runway incursions.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Specific trainings for people who work at the apron or at the manoeuvring areas. Access (on foot, by car) only after training course by authorized personnel. Additional, all people who work at the manoeuvring areas have to attend the runway incursion prevention/awareness course.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes, they have been. RWYsafety incidents are investigated and reported by the safety management system (non-punitive and no-penalty). Additional analyses are done with the ATC.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds.
6.1 Do your staff attend recognised bird control training courses? Bird control staff is trained regularly.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? The bird control staff is working on the airfield continuously. They initiate action when necessary.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer):Blank pistols (Weihrauch, Calibre 9mm) and shotguns.
6.4 Do you carry out a bird strike risk assessment? Yes. The bird strike risk management and the audit are realized by the Wildlife Manager and the Safety Manager within the SMS annually (in spring) and when a lot of bird strikes occur.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): All bird control activities are documented in detail.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Sometimes we have rabbits at the movement area. Consequently we check the airport fence regularly.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Rosenbauer Panther CA 7 (8x8), 4 axels, 12.500 litres, 2010, 2 units; Rosenbauer Panther AT (8x8), 4 axles, 12.500 litres, 1999, 2 units; Rosenbauer Panther GFK (8x8), 4 axles, 10.000 litres, 1993/1994, 3 units; Schmitz Gimaex "Pegasus", 4 axles, 12.500 litres, 2006, 1 unit; Schmitz Gimaex "Pazifik" 6x6 OS, 3 axles, 6.000 litres, 1993, 1 unit; MAN TGA 35.440 8x2-BL, 4 axles, 5.000 litres, 2008, 1 unit; MAN TGL 8.210, 2 axles, 1.000 litres, 2007, 1 unit; MAN TGL 8.210, 2 axles, 500 litres, 2007, 1 unit; MAN 19-372, 3 axles, 5.000 litres, 1995, 1 unit; Mercedes Benz Vito, 2 axles, 250 litres, 1999, 1 unit; plus several CFR vehicles and equipment for fire fighting and rescue (e.g. for emergency operations coordination).
7.2 Future developments – are there plans to purchase or dispose of any equipment? Currently no purchases are planned.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes, the new Fire Training Simulator (B747) is available to other airports for training purposes.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 01 November until 31 March (if necessary, until 18 April).
8.2 Average annual days of snow: 175 days
8.4 Maximum snow in 24 hours: 10 – 25cm.
8.5 Annual number of days of de-icing activities: 144 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 20 airport-employees and 60 sub-contracted winter services personnel are available per shift.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): Compact jet sweeper, Schmidt, TJS 630, TJS 420, 23 units; Liquid de-icer dispenser, 42/13, Dammann, 3 units; Snow Cutter, Supra 3000-5001, Schmidt, 6 units; tractors with snow ploughs and brushes (rear), Schmidt/Drucker, 14 units; tractors with spray attachment and brushes (front), Drucker/Schmidt; Surface Friction Tester, ASFT/ VW Sharan, 3 units; Portable Friction Tester, ASFT T2GO, 1 unit; winter operation control vehicles 4x4, 6 units; several small-sized equipment.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: (1) Runway(s) in use. (2) Taxiways serving runway(s) in use. (3) Aprons. (4) Other areas.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: The Runway clearing convoy consists of 12 TJS 630,






2 de-icers, 2 guidance vehicles (4x4) and a high performance snow cutter lined up diagonally. The Taxiway clearing convoy consists of 6 TJS 630, 1 de-icer and 1 guidance vehicle (4X4) lined up diagonally.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 15 minutes for RWY in use and TWYs serving RWY in use.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: We use Safeway KF hot (Clariant).
12.2 Comment on storage capabilities of the chemicals which you use: 175 m3 de-icing fluid for movement area; 300t de-icing salt; 569.000 litre deicing fluid for aircraft deicing.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: We use Safeway SF (30g/m2).
12.4 Have you experienced any corrosion problems with de-icers? Yes, corrosion problems on vehicles and equipment.
12.5 Have you employed any special means to economise on chemical use? No special.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? We use explanted shale for the blunting of surfaces – good experiences.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: GFS 2000, Boschung Mecatronic GmbH.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Ice warning systems are an effective opportunity to make decisions regarding the manner of surface de-icing operations (when, where and what extent).

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Yes, Leipzig/Halle Airport is directly providing aircraft anti/de-icing operations by PortGround GmbH (subsidiary of the Mitteldeutsche Airport Holding). 20 units Vestergaard Beta ; 3 units Vestergaard Beta 15.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We have dedicated de-icing positions.
14.3 Is glycol recovered? If so, please state methods: Yes, glycol is recovered. Glycol fluids are drained and filtered in the canal system of the movement area as well as stored for treatment meeting the environmental regulations.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? 3x surface friction tester (ASFT 3x VW SHARAN).
15.2 Have you any comments on the reliability of friction indexes? Calibration of surface friction tester is done regularly and documented by the technical staff.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? Currently no changes are planned.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Currently no purchases are planned.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

LIMOGES

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT INFORMATION: Limoges International Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): Descriptive of the track 1: Orientation: 034° 214°, Identification Number: 03 21, The track length: 2440 m & The track width: 45m, Track Type: Clothed more precisely "concrete bitumineux" to allow the execution of automatic landings. Descriptive of the track 2: Orientation: 034° 214°, Identification Number: 03 21, The track length: 800 m & The track width: 80m, Track Type: Her Be. Declared distance: Track 03: Distance of usable rumble to the take-off (TORA): 2440m, Distance usable to the take-off (TODA): 2800m, Distance usable for the acceleration stop (ASDA): 2440m, Distance usable to landing (LDA): 2440m. Track 21: Distance of usable rumble to the take-off (TORA0: 2440m, Distance Usable to the take-off (TODA): 2440m, Distance usable for acceleration stop (ASDA): 2440m, Distance usable to landing (LDA): 2440m.
2.2 Landing aids for each RWY (e.g. CAT II): The different assistance radioelectriques: LIZ (localizer) 21; Symbol: LG; Frequency: 110,1 MHz, GP 21 (glide path); Frequency: 334. 4 MHz, DME 21 = Frequency: Canal CH38X or OM (outer marker) or equivalent. The different meteorological assistance: three visibilimetres, pylonne anénométrique, telemetre to clouds. Other: radiogoniometre, plan of artificial ground, night and daytime beaconing.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome": The System of Management of the Security on the airport of Limoges is operational since June 30th, 2010.
3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No modification, the SGS again is not set up therefore it there had not audits internal/external.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Obligatory formation "Security on the traffic area" + formation SSLIA + Raising awareness(Sensitization) of the staff and the users of the platform to the SGS.
b) Inspection by airline, airport, and airplane handling agency personnel: Track inspection to the minimum 1 time a day by the SSLIA to look for the FOD.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Maintenance : use of sweeping, FOD containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Coordination between the SNA and the SSLIA the time of the visit of track, Coordination with the maintenance service in a second following time the FOD discover
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No specific systems/software. The SSLIA carries out inspections of tracks several times a day.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? The movement area is under the responsibility of the inspectors of the aerial navigation. Concerning the traffic area, this is the airport operations that checks and oversee through the future System of Management of the Security.
5.2 Are any design or engineering changes being underwent / required to eliminate perceived hazards? Current modification: Put in standard of the fence(close): barrier of 2m 04 with bottom-shutter(bottom-sector,stocking-shutter). The annual recycling of the persons authorized to stream the reserved zone; All the security measures were strengthened: compulsory accompaniment on the areas of laborer(operation), the limited(punctual) control by the agents of safety to verify the port(bearing) of the badge(swipe card), etc.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? For the staff of airport there is a radio training (formation) for the area of laborer(operation) and a training(formation) of driving(behavior) area of traffic which(who) are compulsory. There is an examination has to pass (theory + practice) zone.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? A procedure exists to go back up the incident / event by means of one Index card of Announcement of Event (FNE).

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds.
6.1Do your staff attend recognised bird control training courses? The agent SSLIA has a basic training for reconnaitre birds + a recycling.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? No specific team in Limoges, it is the SSLIA which is the SPPA. Since October 1st, 2009, the SPPA is active 10 minutes before the sunset until 10 minutes after the sunset
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): An anti Helmet rustles, Pistol CAPA(POSTGRADUATE LEGAL QUALIFICATION), A hunting gun, Effaroucheur Sonore, Light gun 9 mm, Crowbar(Pliers) to reptile, Boxes(Cashdesks) of transport of animals, Glove of capture, Fused by éffarouchement, Cartridges perpendicularly, Lasso.
6.4 Do you carry out a bird strike risk assessment? Last audit in December 2009.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): The effarouchement to the rifle is noted on the hand running SSLIA as well as the number of pulled cartridges.
6.6 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Beaten to the big animals (venison, wild boar…). The tower and the SSLIA organize the beaten with the representative of the regional Delegation of the Civil Aviation. Beaten to the big animals (the venison, The wild boar…). Only the persons (SSLIA) holding a hunt permit (validates) recognized by the civil aviation and the prefecture can participate beating. All movement will be signaled to the tower. The measures of security will be applied. Once the killed animal, It is retrieved to the SSLIA. The tower will be warned end by the SSLIA. The equarrisseur is warned by fax or by telephones to come to resume the animal. The go out of the weapons and the restitution will equally be written on the notebook.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stat-





ing: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Four vehicles of urgency: 4x4 MITSUBISHI put in service 1/09/2004; a power of 10 CH; category : VIS, Peugeot for the SPPA put in service 01/11/2010; A truck put in service 12/02/1990; mark : SIDES; category : VIM P6 1.8; a power of 26 CH, A truck put in service 25/04/2001; mark : SIDES; category : VIM P6 2.5; a power of 30 CH, A truck put in service 09/06/2008; mark : SIDES; category : VIM 90 P2.5; a power of 34 CH

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? The period is November to March.
8.2 Average annual days of snow: 10 days.
8.3 Average snow depth: 7-10cm.
8.4 Maximum snow in 24 hours: 10-20cm.
8.5 Annual number of days of deicing activities: 50 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or subcontracted winter services personnel are available per shift? 17 airport-employed. No employees under treating for this mission.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): Material of snow clearing: Vehicle 1: 1 tractor VALTRA of 200 CH and equipped of has blade of snow and of has rotary broom. The VALTRA will be equipped of year expander VICON. Vehicle 2: 1 tractor ZETOR of 56 CH and equipped of has blade E of snow and of has rotary broom. The ZETOR will be equipped of has tank of 2000 litters of product. Vehicle 3: 1 truck UNIMOG of 80 CH at equipped of has lateral turbine ROLBA Vehicle 4: 1 truck IVECO 4x4 of 180 CH and equipped of has blade a snows. 1 sleeps it off épandage of 2000 L of product déverglacant. 1 sleeps it off storage of 14000L of product déverglacant. Equipment used for the de-icing/anti-icing. A de-icer FMC type Tempest 2 ref: 0401 with 1 anti-icing tank of 1514lts capacity and 1 de-icing tank 75/25 of 6057lts capacity.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: The operations of snow clearance and of déverglaçage are divided in two sectors: Priority sectors: Track, Way of circulation taxiway “C”, Zone minimum of parking had, Zone release service SSLIA - zone heliport French police force, Zone deposit fuel, Zone shed n° 3. Non priority sectors: Public garbage collection, Garbage collection of service, Way of circulation taxiway 03, Entirety of the parking lot had, Entirety of the parking lot aéroclubs.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: a) Snow clearance on 30 meters minimum: For the snow clearance and after contact with the concerned airline companies, it suits to release a sufficient width of 30 meters minimum on the whole length of track. The snow pads (not compact and not frozen) will be removed and pushed out track (a snow pile becomes pad when his height attains 30 cm), while avoiding the critical zones (glide, PAPI…). Lateral fires of track It uses the lateral ROLBA of turbine to reject the snow ropes that could mask the fires. The sunk Fires. It will have to assure himself that the passage of the blades or ROLBA of lateral turbine on the sunk fires does not provoke any deterioration. If the need is, proceed to a new adjustability one blade. b) Order of principle of the interventions: Total ignition of lateral and axial beaconing to a limited intensity (in case of bad forecast for the nights of during the weekend to warn the electricians beaconing so that they assure themselves placement in road of beaconing if an intervention had to be foreseen). The vehicles of snow clearance go directly in line with the taxi way central and climb back up heading for the threshold 03. The vehicle body must work on either side of the axis of the taxi way central, in line, in order to avoid to every passage the systematic continuation of the layer of snow. Release the track rackets while pushing the snow towards the exterior one not to do accumulation of snow to the track extremities After the operation of snow clearance, he track state is checked by the SSLIA under the authority of the Civil Aviation (in expectation of the signature of the protocol between the SNA and exploiting it). c) Traffic areas: It is necessary to release the parking lot to assure the airplane departure in parking or allow moving them. Total release of the parking lot without blocking the aircraft. On the parking areas, the snow is repressed towards the exterior one: extremities, sides, way of the deposit of fuels. A storage zone is created to each of the extremities. It suits equally to release the access ways between the sheds, as well as the access ramps to the terminal basement. d) Road service and terminal pedestrian: The release is carried out according to the availability of equipment and after release of the priority zones, with if possible, the assistance of the other services (former: salting to the terminal approaches). Equipment: tractor ZETOR with blade to snows and rotary broom truck IVECO with blade to snows épandeur manual.
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? That depends on the quantity of snow on the track, the estimation is not evident!

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Year 2008/2009: SAFEGRIP (liquid): 4500 litres, CLEARWAY 1 (liquid): 1000 litres, CLEARWAY SF3 (solid): 1 tonne, CLEARWAY 6S (solid). Year 2007/2008: liquid de-icers SAFEGRIP 1000L, CLEARWAY 2000L.
Year 2006/2007: liquid de-icers SAFEGRIP 17800 L, Solid de-icers CLAERXAY 6S 4500 kg.
Year 2005/2006: liquid de-icers SAFEGRIP 18000 L, CLEARWAY 1S 2000L, Solid de-icers 4000kg.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: That depends on the conditions forecast.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Yes. 1 defroster FMC Tempest of a capacity of 6000 l of liquid de-icers and 1500 l of product antifreeze.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? The airplanes are defrosted on the parking area.
14.3 Is glycol recovered? If so, please state methods: There is not recuperation of product for the moment at Limoges.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Nil.
15.2 What are the typical intervals between friction tests? Every other year by a corporation with materiel STAC. The last test: June 2008 by ADP.
15.3 Have you any comments on the reliability of friction indexes? No

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? Airport is in the middle of the study in the law framework on water.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: This again is not determined.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: Nil.
16.5 Do you have any winter services equipment which you would like to sell? Nil.

LJUBLJANA

Aerodrom Ljubljana

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Airport Jozeta Pucnika Ljubljana

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Single RWY; 3300 x 45m, TORA 3300m, RWY strip 4320 x 300m.
2.2 Landing aids for each RWY (e.g. CAT II): RWY direction 31 ILS CAT II / III B; 125m RVR Landing minima. 100 m RVR Take off minima. RWY direction 13; Simple approach lighting system.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? In the process of implementing an SMS.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airportœs programme to control FOD in terms of:
a) Training: FOD training (awareness) for staff employed at the air-side.
b) Inspection by airline, airport, and airplane handling agency personnel: Airside FOD inspections are regular done and recorded.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): For mechanical airside pavement surface cleaning we use the vacuum sweepers and FOD boss carpets. Aircraft parking positions are equipped with special FOD containers (yellow coloured with black visible “FOD” sign).
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): There is coordination of the FOD related issues between multiple agencies.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Two way radio communications.
5.2 Are any design or engineering changes be-






ing undertaken/required to eliminate perceived hazards? Integrated inductive loops on the STOP bars. Intersection STOP bars H24.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): No special safety devices.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Paint signs at TWY / RWY intersections as required by ICAO Annex 14 and guard lights on TWY /RWY intersections.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Pilots, controllers, airport vehicle operators are obligated to act in accordance with the local standards and procedures. Special training (driving licence) is performed for vehicle operators that entering RWY.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the „non-punitiveoprinciples such as „"o-penaltyoreporting? Yes.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Airfield is cover with grass. A smaller part of airport area inside the airport fence is cover with forest. Around 8 Nm (SW) from the airport there is a river with two artificial lakes for power plant. As first step to find out the proper measures (probably long grass management) with aim to reducing the attraction of the airfield for common birds, we are in the process of airfield habitat and ecological study.
6.1 Do your staff attend recognised bird control training courses? Yes.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? The bird control staff working hourly. According the critical season of bird appearance they are working frequently even continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Pyrotechnics, Shot guns, Scare crow (Premier).
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? We have a few cases yearly that fox has been observed on the airfield with the help of the infrared cameras for night monitoring. Each such case has been eliminated by the help of contracted hunting organisation.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 1. Rosenbauer PANTHER – 8x8, year of manufacture: 1998/ 13.500 l water, 1.500 l foam, 500 kg dry powder, pump: Rosenbauer R 600, capacity 6000 l/min. 2. FAUN – 6x6, year of manufacture: 1981 / 9.000 l water, 1.000 l foam, pump: Rosenbauer R480-2N, capacity 5000 l/min. 3. Rosenbauer FALCON – 4x4, year of manufacture 1987 / 3000 l water, 200 l foam, pump: Rosenbauer R280 HN, capacity 3000 l/min. 4. Rosenbauer TLF3000/200 – 4x4, year of manufacture 2008 / 3000 l water, 200 l foam, 90 kg CO2 , pump: Rosenbauer NH30, capacity 3000 l/min. 5. Mercedes-Benz SPRINTER – 4x4, year of manufacture 2001 / 400 l water, 20 l foam, 50 kg dry powder, pump: Rosenbauer UHPS M 400, capacity 38 l/min at 100 bars. 6. Renault TRAFFIC, year of manufacture 2006 / 200 l water, 20 l foam, 20kg dry powder, pump: Rosenbauer UHPS M400, capacity 38 l/min at 100 bars.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? There is a Fire fighting training polygon at the airport. For now it is not intended for other airports.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From the Nov 1 until 30 Apr.
8.2 Average annual days of snow: 40 days.
8.3 Average snow depth: 25cm.
8.4 Maximum snow in 24 hours: 40cm.
8.5 Annual number of days of de-icing activities: 15 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 1. 4 to 6 employee for a/c de-anti / icing. 2. For snow cleaning (runway, taxiways, aprons, stands and service roads), there is three groups with 12 members in each. In case of heavy snow there is a deal for help with outsourced partner.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): 1. Snow cleaning - airside: 1x Friction tester SAAB, 1x Renault Cangoo with friction tester SARSYS, 4xBlower sweeper, Scherling P17 and P17B, 6m - 30km/h, 2x Blower Sweeper, Scherling P12, 6m - 30km, 1x Snow plough, Schmit, 5.4m, 7x Snow plough, Riko, 5.2m, 1x Snow plough, Schmit, 2.5m, 3x Truck Mercedes 2031, 3x Truck Mercedes 2032, 1x Truck Mercedes 2032 with combine spreader EPOKE SH 4520 (solid and fluid), 2x Truck TAM 260 TB, 1x Snow blower Mercedse UNIMOG 1200 with spreader for solid, 2x Snow blower BUCHER ROLBA 3000, 1x Spreader for solid. 2. Snow cleaning – landside: 1x Tractor Store with plough, 2x Tractor Ferguson with plough, 1x Tractor Ferguson with plough and spreader for solid, 1x Truck TAM 170 T14 with plough, 1x Truck TAM 170 T14 with plough and spreader for solid PITCH, 1x Snow blower UNIMOG SCHMIT.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 1. Runway 2. Emergency way for RWY 3. Taxiways 4. High speed intersection 5. Main apron 6. GA apron 7. Navigation systems 8. Service roads inside the airport perimeter 9. Other areas
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: 1. During the standby readiness: The number of vehicles and its formation during standby position is a part of snow management programme that is issued each year. 2. In the time of snow removal action on maneuvering areas: The snow removal coordinator is responsible for monitoring the MET conditions. He performs RWY frictions measurements that is reported to ATC and MET office. Removing of the snow from the manoeuvring areas is performed by 6 units. Each of them are consists of truck, snow plough and airstream unit. The snow from the RWY and TWY edge is removed by snow-blower. All operations on the manoeuvring areas are coordinated by snow coordinator on ground which is all the time in radio contact with ATC (TWR). 3. In the time of snow removal from main apron: Snow removal from the apron is performed with 2 units, consists with plough and airstream sweeper and special snow blower. However there are units from RWY available. All operations on the main apron area are coordinated by snow removal coordinator and GMC (TWR). 4. Roads & open parkings – land side Public roads and open parking are under treatment of the conventional road ploughs and snow blowers by sub-contracted partner.
11.3 After moderate snow, how quickly do you expect to achieve „black topoon the runway? 15 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Urea (solid) approximately 45 tons / effective till -5o C - hold over time depend of the weather condition (precipitations). Safeway KF (liquid acetate) approximately 1000 l / effective till – 25C.
12.2 Comment on storage capabilities of the chemicals that you use: Chemicals storage capabilities are suitable.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: The mixing ratio 10 – 15 % of Safeway with Urea is shown as the most.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? Urea (solid) / advantage: cost, spreading, storage / disadvantage: environment, the time of effect start, ineffective at lower temperature, blow factor. Safeway (liquid) / advantage: more effective for different winter conditions / disadvantage: high cost, storage
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: There is freezing point detector at RWY touchdown zone (ILS approach).
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? There is a plan for installing an advance ice warning system on RWY in future. The construction work for that has been prepared in the time of the last RWY re-construction.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: It offers the reliable information of RWY surface condition and what is essential on time warning for icing condition.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: 2x De-anti/ ICER, Vestergard, Elephant Beta, 1x De-anti/ ICER, TB 8000, 1x De-anti / ICER, Vestergard, Elephant Gama.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-anti icing is at most performed at the dedicated de-anti icing pad. In some circumstances the de-anti icing are performed at a/c stand.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Saab friction tester, SARSYS friction tester.
15.2 Have you any comments on the reliability of friction indexes? No comments.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment





or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

LONDON CITY

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: London City Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 27: TORA 1199m, TODA 1385m, ASDA 1319m, LDA 1319m. RWY 09: TORA 1199m, TODA 1319m, ASDA 1319m, LDA 1319m. Width: 30m.
2.2 Landing aids for each RWY (e.g. CAT II): Our runway is uncategorised.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: All airside personnel must attend an Airside Awareness course once every 12 months.
b) Inspection by airline, airport, and airplane handling agency personnel: FOD patrols are carried out each morning prior to operations by the Ground Services staff on the Apron area. Runway inspections are carried out prior to operations, at shift changeover and at dusk by Airfield Operations. Airfield Operations will carry out inspections following any suspected bird strike, aircraft incident or following any works.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): All movement areas are swept every two weeks by mechanical sweeper.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): FOD is discussed at the Airside Safety Committee meetings, held quarterly, and attended by all companies operating airside.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual observations by ATC.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): None.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: All signage and markings are in accordance with CAP168 requirements.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Airport Authority Chairs a Runway Safety Team consisting of representatives of all agencies that operate in the manoeuvring areas and a selection of pilots operating at the Airport. LCY also host a Pilot Forum twice a year.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? NATS operate a system of "Open reporting" in addition to MOR's.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Constant bird patrols. Management of the horticulture on the airfield. We also employ the services of an external consultant to audit our processes and procedures.
6.1 Do your staff attend recognised bird control training courses? Yes.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): "Scare Crow" recorded distress calls, pyrotechnics, shotguns, very pistol, lure, rockets.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Yes.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 1 x Kronenburg 4X4 Foam Tender carrying the following amounts of extinguishing media: 6000 litres of water and 720 litres of FFFP foam liquid, 35Kg Monnex Dry Powder trolley unit, 50Kg Halon 1211 B.C.F trolley unit. 3 x Sides VMA 112 6 x 6 Foam tender carrying the following amounts of extinguishing media: 10,000 litres of water and 1200litres of FFFP foam liquid, 75kg Monnex, 75kg Halon 1211 B.C.F. unit.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Not currently but could be.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? November to March.
8.2 Average annual days of snow: 4
8.3 Average snow depth: 5mm.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 18.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): 2 x Schmidt TJS560 Snow Sweeper (primary), 1 x Danline 2000 Snow Sweeper (secondary), 1 x Schorling Snow Sweeper (secondary), 1 x Danline E540 DM5009 Snow Sweeper (back up), 2 x Danline E540 SC (secondary), 3 x Gemsprayer de-icer units, 3 x Mini gemsprayer de-icer units.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Runway, taxiway, main parking stands, jet centre apron.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: 2 x Schmidt TJS560 Snow Sweeper (primary), 1 x Schorling Snow Sweeper (secondary) are deployed to clear snow from runway, in a three line stagger formation. 1 x Danline 2000 Snow Sweeper (secondary), 1 x Danline E540 DM5009 Snow Sweeper, are deployed to remove snow form the Taxiway, 2 x Danline E540 SC Snow Sweepers along with mini gem spayer units are used for stand clearance and Jet centre apron.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? Varies dependent upon situation, however desired time scale is as soon as possible.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Kilfrost runway, holdover time up to 3 days if there is no following precipitation
12.2 Comment on storage capabilities of the chemicals that you use: 1 x 25,000lt bunded tank.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? Kilfrost aircraft type 1 & 2 are utilised by the aircraft deicing team.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: None at present.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Yes – 4 deicing vehicles.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Aircraft de-icing is completed on stands.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Grip Tester.
15.2 Have you any comments on the reliability of friction indexes? Good.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.4 Do you have any winter services equipment that you would like to sell? 1 Schorling brush/blower towable unit.

LONDON GATWICK

YOUR LONDON AIRPORT Gatwick

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: London Gatwick Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 08R: Total Length / Width – 3316 x 46; TORA – 3159; TODA – 3311; ASDA – 3233; LDA – 2766.






RWY 26L: Total Length / Width – 3316 x 46; TORA – 3255; TODA – 3407; ASDA – 3316; LDA – 2831. RWY 08L: Total Length / Width – 2565 x 45; TORA – 2565; TODA – 3040; ASDA – 2565; LDA – 2243. RWY 26R: Total Length / Width – 2565 x 45; TORA – 2565; TODA – 2703; ASDA – 2565; LDA – 2148. Remarks: 26L has a 150m starter extension. The 26L landing threshold is displaced by 424m. The 08R landing threshold is displaced 393m. Paved shoulders extend 7.5m beyond each side of Runway 08L/26R. Paved shoulders extend 15m beyond each side of Runway 08R/26L. The 08L landing threshold is displaced by 322m. The 26R landing threshold is displaced 417m. A maximum weight limit of 562,000kg applies to landings and take-offs on Runways 08R/26L and 08L/26R. 1,900,000sqm of manoeuvring area.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 08R: CAT III. RWY 26L: CAT III. Runway 08L/26R is a non-instrument runway and will only be used when Runway 08R/26L is temporarily non-operational by reason of maintenance or incident.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? GAL has a well-developed Safety Management System. The GAL board oversees this through the Managing Corporate Responsibility Board (MCR). Each department operates a risk register. Risks are identified, mitigated and reviewed at departmental levels and at the Managing Corporate Responsibility Board. They are captured on a company standard risk register. The risk register is reviewed and updated quarterly: When there is a change in procedures/process (current and future). When new equipment or plant and or process are introduced. Incident review. High level risks reviewed monthly at the Managing Corporate Responsibility Board. A CAA Major Audit carried out in October 2010 found no issues with the Gatwick Airfield SMS.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Included as part of initial Induction Training for all staff required to work on the airfield. Also included in the airside driving syllabus. Specialist vehicle operative training for GAL staff involved in FOD removal.
b) Inspection by airline, airport, and airplane handling agency personnel: GAL require Handling Agent Dispatchers to carry out a FOD inspection of aircraft stands, prior to each aircraft arrival. GAL have an Airfield Operations team who continually monitor the airfield for FOD and carry out removal as required. GAL issue a number of Directives covering various airfield issues, one of which is FOD prevention and the responsibility of all airfield users to minimise FOD generation and ensure that any FOD is disposed of in the correct way. Three Tier inspection process by Airfield Operations. Routine, detailed and Senior Management audit.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): The GAL Airfield Support staff operate specialist sweeper vehicles, in addition to manual FOD removal. FOD bins are provided on aircraft stands for collection of small items. Strategically positioned FOD fences to catch wind blown debris. Airfield civils maintenance programme. Skips placed on the airfield must be issued with a permit and be covered with a lid. Airline cleaning contractors trailers must be totally enclosed. Airfield Projects work sites must conform with GAL fencing standards, which do not allow FOD to escape from the site. An Airport Directive requires all vehicle cabs to be free from FOD at all times.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Any FOD issues are raised at the quarterly Airside Safety Group meetings chaired by GAL and attended by third party airside companies. A programme of inspections of specific areas is undertaken by GAL Senior Airfield Management and Handling Agents. Some joint FOD walks have been undertaken by GAL and airside operators. GAL carry out a number of third party audits each year and those being audited are required to give details of their Company FOD policy. GAL require Handling Agent Dispatchers to carry out a FOD inspection of aircraft stands, prior to each aircraft arrival. Gatwick Airport Directive (GAD) – FOD. FOD awareness posters.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? RTF, A-SMGCS, RIMCAS. Airfield Operations vehicles are fitted with transponders for operating on the runway.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Possible introduction of RET safeguarding stop bars. LED lighting on taxiway and hold points.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A-SMGCS, RIMCAS, controllable runway guard bars.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Runway Ahead sign at holding point Bravo 1. All runway entry points are CAP 168 compliant. The use of shutters on "Start of Roll" boards when runway 08L/26R is not active. Threshold strobe lights installed on runway 08L/26R. Holding point Alpha has red and white barriers installed to prevent vehicle induced runway incursions.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Driver training course, specifically for those who are required to drive on the manoeuvring area plus regular refresher training. Specialist airfield driving maps, clearly showing the manoeuvring area (maps updated every 6 months). Maps must be carried in every vehicle. Pilot Forum hosted by NATS with GAL input, held twice per year. Flight Ops Performance Committee, hosted by GAL, every two months. Local Runway Safety Team, jointly hosted by GAL and NATS, every two months. NATS delivered a number of Airfield Resource Management courses.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Runway safety incidents are discussed jointly between GAL and NATS and shared with members of the Local Runway Safety Team, which also includes representation from Airlines, Handling Agents and the UK Flight Safety Committee. Those involved in a runway safety incident will be invited to complete a joint GAL/NATS Human Factors Questionnaire. The aim of any investigation is to promote and share learning and identify any contributory issues, ie. training, airfield infrastructure, procedures, which may need to be addressed to try and prevent a recurrence. All runway incursion investigations include playback of RTF comms and ground radar image and these are shared at the Local Runway Safety Team meetings.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Bird Hazard Management: The aim of bird hazard management at Gatwick is to maintain, as far as is reasonably practicable, a bird free airfield. An Airfield Duty Manager is nominated as the Bird Co-ordinator and bird hazard management duties are carried out by the Airfield Duty Team H24. GAL uses the standards below to control birds on and around the aerodrome in accordance with CAP 772. Birdstrike Hazard Map – A bird hazard safeguarding map is maintained. This is based on an Ordnance Survey map and highlights the assessed local hazards and also shows on a wider scale such sites as landfills, gravel extraction, and water bodies; Local Bird Calendar – Gatwick Airport have an aerodrome specific bird calendar. The calendar is based on statistical data and known bird activity over a number of years. The calendar is used on a monthly basis as a predictive tool during the year to assess any likely change to the bird strike hazard; UK CAA Birdstrike Committee – Gatwick Airport has representation on this Committee; All Airfield Operations personnel who carry out bird hazard management duties are trained and hold a firearms certificate which must be revalidated every 3 years; All staff attend an approved bird hazard management training course and to ensure competency, periodic refresher training is undertaken in the use of firearms, bird hazard management operations and local ornithology. Comprehensive records are kept of all bird control activities and firearms training and assessments; All vehicles involved in bird hazard management activities are suitably equipped and maintained; Bird Patrols are carried out to ensure that: a) the presence of birds on the airfield and in the surrounding area is minimised; b) an environment not conducive to the presence of birds is created; c) birds on the airfield are detected and dispersed; d)warning can be passed to aircraft and ATC about the presence of flocks of birds on the airfield; e) the formation of night roosts is prevented. Bird patrols are carried out across the active airfield. All areas are patrolled, with emphasis rather than concentration being on the active runway. Bird Hazard Assessment / Warning: Bird hazard assessment is carried out via the tactical bird patrols and strategic analysis by the Bird Co-ordinator and Operations Management. Air crew are warned whenever the presence of birds in large numbers is thought to constitute an immediate hazard. This is done by informing Operations or ATC by radio, this warning then being passed on to aircraft directly or via ATIS. In the event of a prolonged infestation of birds on or immediately adjacent to the airport NOTAM action may be taken to warn air crew of the hazard. This should only cover periods of short to medium duration and will be cancelled when the hazard ceases to exist. All wildlife strikes or suspected strikes are investigated and reported immediately by Airfield Operations or ATC. An electronic Wildlife Strike Occurrence Form (CAA Form 1282) is completed online via the CAA website by Airfield Operations on all occasions where there is a confirmed or unconfirmed strike.
6.1 Do your staff attend recognised bird control training courses? See above.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Davis Pistols, Hmr Bolt Action Rifle, Umarex Magazine loaded Air Rifle, BSA Break Action Rifle, Shotguns, Larson trap, Netting of open water, ie. ponds.
6.4 Do you carry out a bird strike risk assessment? YES – via FERA (The Food and Environment Research Agency).
6.5 Do your staff log all their bird control activities (to manage success in deal-





ing with the problem, and to use in defence in case of lawsuits)? Yes – use of Ultima.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Mitsubishi Shogun Fire 1; Kronenburg MAC 08 Fire 3: Water Capacity (Litres) – 6,000, Foam Capacity (Litres) – 840, BCF Capacity (Kg) – 50kg; Kronenburg MAC 11 Fire 4: Water Capacity (Litres) – 11,000, Foam Capacity (Litres) – 1,550; Kronenburg MAC 11 Fire 5: Water Capacity (Litres) – 11,000, Foam Capacity (Litres) – 1,550, BCF Capacity (Kg) – 50kg; Kronenburg MAC 11 Fire 6: Water Capacity (Litres) – 11,000, Foam Capacity (Litres) – 1,550; Kronenburg MAC 11 Fire 7: Water Capacity (Litres) – 11,000, Foam Capacity (Litres) – 1,550; Scania Hose Layer Fire 8.
7.2 Future developments – are there plans to purchase or dispose of any equipment? New fire appliances being purchased over the next 18 months.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 November to 31 March.
8.2 Average annual days of snow: November 2010 – 1. December 2010 – 5.
8.3 Average snow depth: Not known.
8.4 Maximum snow in 24 hours: Total Tonnage of snow cleared over four snowfall events = 252,000 tonnes.
8.5 Annual number of days of de-icing activities: November 2010 – 5, December 2010 – 17, February 2011 – 0, March 2011 – 1.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? DEPLOYMENT OF STAFF Runway & main Taxiways: Control – 2nd, Airfield Duty Manager, Staff Airfield Operations Support Team, Airport Fire Service. Aprons (Cul-de-sac & Aircraft Parking Stands): Control – 2nd Senior Airfield Operations Controller Staff Airfield Operations Support Team, Airfield Operations Controllers, Airfield Fire Service (Additional to Fire cover), Airfield Ground Lighting Technicians, Contractors, Polar Bear Volunteers. Passenger Walkways, Airside Roads and Airside Transfer Baggage areas: Control – Designated Airfield Operations Controller, Staff Stand Allocators (Additional to Stand Planning), Additional Staff from other Departments, Contractors Polar Bear Volunteers. Control Room/ Administration: Control - 1st Airfield Duty Manager,1st Airfield Senior Controller, Gatwick Airport Snow Plan, Winter 2010/2011, 16 Staff Airfield Operations Controller. Stand Planning: Control 1st Airfield Duty Manager (Ops 1), Staff Stand Allocator.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Schorling, sweeper / blower – 13; Overaasen, sweeper / blower – 9; Trailer, de-icer – 1; Scania, de-icer / spray bars – 1; Scania, de-icer / spinners – 1; Chafer trailer, de-icer / spray bars – 3; John Deere / Allman, de-icer / spray bars – 2; John Deere, sulky spreader – 2; John Deere, winch – 2; John Deere, de-icer – 2; John Deere, brush – 25; John Deere, ramphog plough – 10; Rolba 1000, snow cutter – 1; Vale, spreader – 2; John Deere, telehandler – 1; Kubota, spinner – 4; John Deere, Gator – 4; Oshkosh, snow cutter – 2; Multihog, sweepers – 12; Trackmaster, hand held blowers – 12.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility:
a) runway(s) in use, including rapid exits and starter strips;
b) all runway holding areas, taxiways and aprons that are to be used;
c) all other areas and roads.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: The method of clearing snow will vary in detail with the severity of the snow event. The principle will be to use the Runway Snow Sweepers in echelon formation using the wind direction and topography to help the sweeping operation. Ploughing on the runway(s) should be stopped short of the white edge marker lights and grass area with the resultant accumulations of snow being blown clear by use of a snow blower or other piece of selected equipment. Sweeping operations will where appropriate normally be followed up by a runway de-icer to apply a chemical anti-icing agent.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? Moderate snow – visible settling up to 3cm. Runway sweeping commences, requiring restricted runway operations and clearance on taxiways and stands. Significant delays are likely to occur and some flight cancellations will be required as a result of reduced ATC arrival and departure rates.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc:
CLEARWAY 3 – Liquid acetate chemical.
CLEARWAY 6S – Solid acetate chemical.
Brothertons Solid formate chemical.
KONSIN – Liquid Glycol chemical (Will only be used at the discretion of the Airfield Duty Manager in line with London Gatwick Airport – Airfield Operations – Konsin Usage Checklist.)
GRIT – Conforming to the latest published version of BS 812, 1973, Part 3.
12.2 Comment on storage capabilities of the chemicals that you use: We have six storage tanks each capable of storing 85,000 litres. Total storage capacity 510,000 litres. We also have mobile storage capacity of 90,000 litres.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Our solid de-icer we generally pre-wet with a liquid anti-icer because of the of the blow away factor. However, we find using it on stands that are unlikely to be used within an hour solid de-icer is great solid, as long as it is given time to work.
12.4 Have you experienced any corrosion problems with de-icers? No reported issues.
12.5 Have you employed any special means to economise on chemical use? We operate the Advance Surface Friction Tester, which has the ability to tell us when moisture is likely to freeze, this helps the decision making process as to how much chemical de-icer we use.
12.6 Do you have any other comments on experience with chemicals? None.
12.7 Do you use other chemicals or sand on operational areas? We use Grit on passenger walkways only.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Vaisala x 1.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? As part of the runway rehabilitation work we will be using more ice warning sensors on the runway. However, the ASFT will give us this information too and we use this as an additional monitoring device.
13.3 Comment on your experiences of the benefits/ disbenefits of ice warning systems: They are great as a tool, but still require the human decision making process to happen and I don't think that any measurement device should ever make the decision.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/ de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Aircraft anti / de-icing operations are carried out by third parties, ie. handling agents.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-icing is carried out on aircraft parking stands. For Winter 2011/2012 a dedicated area has been identified in the Snow Plan for airline operators to use.
14.3 Is glycol recovered? If so, please state methods: Yes – mechanical sweeping.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? ASFT Mark 4 Airfield Surface Friction Tester.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? A-CDM Implementation Programme. Release 1, 2 and 3 implemented. Release 4 and 5 – future development.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes – Fire Appliances.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: Fire Appliances – Rosenbauer Panthers x 3 – 2011 – an additional 3 in 2013.
16.4 Do you have any winter services equipment that you would like to sell? No.

LONDON STANSTED

London Stansted Go discover

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: BAA Stansted Airport Limited

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): Runway Specification: Width = 46m, Shoulder width = 7.6m, Area = 140,208m², (not incl shoulder), Area = 186,538m² (incl shoulders); Runway 04 - PCN = 86/R/C/W/T, TORA = 3046m, TODA = 3338m, LDA = 2748m; Runway 22 as Runway 04 TORA = 3049m, TODA = 3316m, LDA = 3049m. Taxiway Specification: Foxtrot – Width: 23m, Surface: Asphalt, Strength: 80/R/D/W/T; Golf – Width: 27m, Surface: Asphalt, Strength: 67/R/D/W/T, Hotel: Width: 23m, Surface: Concrete, Strength: 78/R/C/W/T; Juliet – Width: 23m, Surface: Concrete, Strength: 78/R/C/W/T (data extracted from UK AIP AD 2 EGSS).
2.2 Landing aids for each RWY (e.g. CAT II): Runway 04 / 22 - Full ILS system to CAT III comprising: Glidepath & Localiser aerials, DME (distance measuring






equipment), IRVR (Instrumented runway visual range equipment), Full CAT III ground lighting incl: SALS (supplementary approach lighting system), Full 5-bar Calvert Approach Lighting (Rwy 22) / 5 bar abbreviated 780m system for Rwy 04, Full Runway lighting to meet CAT III requirements, Controllable taxiway lighting to meet CAT III requirements, Ground Movement Radar together with the RIMCAS (Runway Incursion Monitoring & Collision Avoidance System), ASMGCS (Advanced Surface Movement Guidance Control System), 24hr Runway Guard Bars at each runway entry point.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? In accordance with the requirements laid out by ICAO, Stansted Airport Limited operates a Safety Management System for the aerodrome.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: The AOA (Airport Operator's Association) driver training programme which all staff across the airport complete in order to drive airside includes specific training around FOD hazards and local management procedures. Each airside company have environmental responsibilities in accordance with our own DN's (Director's Notices).
b) Inspection by airline, airport, and airplane handling agency personnel: All airlines and their associated agents have responsibilities for the management of FOD within their common user areas and have procedures and systems in place for the management of apron surface inspections and FOD removal.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): STAL (Stansted Airport Ltd) provide personnel and facilities for the sweeping of the hardstanding surfaces (airside) including specialist equipment specifically for this purpose. This facility is provided on a 24 hour basis and the team are internal to the organisation. FOD bins, general waste compactors, oil can disposal bins and waste oil containers are provided and managed between STAL and a contracted waste management company for all common areas.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): The Environmental Team in association with our principle waste management contractor have developed and implemented a system to engage all airport companies in the management of FOD issues.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): There are no specific systems or software solutions in place for the management of FOD at this time over and above the current management processes.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Positive control through the Air Traffic Services provider (NATS) via radiotelephony procedures including the use of the Surface Movement Radar, RIMCAS (Runway Incursion Monitoring and Collision Avoidance System) and ASMGCS (Advanced Surface Movement Guidance Control System). Recently installed 24hr Runway Guard Bars.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? We continue to review incursion risks through a formal review processand following any actual event investigations.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): The Surface Movement Detection system in use at STAL is a Nova 9004 system which has been upgraded with a Parkair RIMCAS surveillance system. During this year, 2010 we have had ASMGCS installed by NATS. This provides an improved control of all vehicles and aircraft on the manoeuvring areas.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Other than the standard signs and markings we do not have any specific innovative warnings or guards, another than additional signage in known hot spots.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? NATS (National Air Traffic Services) in conjunction with STAL have held a number of formal forums and drop-in briefings around runway incursion awareness. The target audience has been pilots, handling agents, controllers and the like. This process is set to continue as new learning comes from the statistical data and any local incident reviews. There is also a quarterly Manoeuvring Area Safety Team chaired by STAL and NATS representatives. Beyond these forums, the driver training packages now contain content around incursion awareness for staff who operate on the manoeuvring areas. 'Runway' driving permits are only issued if the need is legitimate. All staff nominated to attend these specific driving courses are chosen after careful selection and sign-off process.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? STAL have engaged a number of key airport companies in the area of runway incursion preventative measures and reporting. We have developed an incident review process whereby we share the high level details of all airside incidents with the airport community. The key objective of this process is that we all work towards introducing key learning points to reduce the probability of re-occurrences. We have for many years instilled a no-blame culture amongst the airport community and see that a shared and open learning ethos improves reporting quality.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: STAL has a comprehensive Bird Hazard Management Plan (policy). Part of this plan includes our 'Habitat Management Policy' in accordance with the BAA Airfield Grass Management Policy and CAP 772 (Civil Aviation Publication 772 – Aerodrome Bird Control) requirements. The BAA policy supports all of the recommended best practises in relation to the reduction of bird attractants by controlled methods i.e. herbicide and insecticide treatment together with the grass management process.
6.1 Do your staff attend recognised bird control training courses? All operational staff who have the responsibility for the control of bird and wildlife activities attend CAA approved courses, in areas of operations or management as part of their initial competency requirements and every 3 years thereafter in accordance with CAP 700 (Civil Aviation Publication 700 – Operational Safety Competencies) and BAA's own requirements. Further to this all staff are required to hold Shotgun & Firearms licences issued by the Police Authority for the use of the pistols and shotguns which are owned by STAL and undertake an on-Airport bird competency check.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? A bird controller is available continuously on a 24/7 basis. This is further supplemented by additional personnel from the Airside Team who have shared responsibilities.
6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer.
STAL currently utilise the following resources for the control of birds: 'Scarecrow' digital bird distress call units installed in all operations vehicles (6 units), 2 x 12 bore Beretta double barrelled shotguns, 1 x 0.410" calibre 'Hush Power' silenced single barrelled shotgun, 1 x 0.22" calibre Single shot air rifle with scope, 4 x 1.5" calibre 'Apsley' Flare pistols with 12 bore adaptors.
6.4 Do you carry out a bird strike risk assessment? STAL are audited annually by FERA (Food, Environment Research Agency). Part of this process includes a review of the on-going bird risk analysis and any specific actions relating to the risk factors identified. Further to this, the STAL Bird Coordinator will review the risk as required and will make adjustments to the daily operational control practises to mediate the changing situation.
6.5 Do your staff log all their bird control activities (in case of lawsuits)? All bird control duties are routinely logged by the operators in accordance with the requirements of the CAP 772 recommended practise.
6.6 Does your airport have problems with other wildlife (sheep/deer, for example) and if so, how are these issues being addressed? Although we have had periodic sightings of other wildlife i.e. rabbits, hares and foxes the risk factors have not yet required a specific management policy or formal action plan to be initiated. Close surveillance methods and the use of the existing controls have been deemed as adequate based on the current risks.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Landrover Discovery 4X4 2 Axles 01/02, Landrover Discovery 4X4 2 Axles 08/09, Scania Domestic 4x4 2 Axles 01/02, Scania Domestic 4x4 2 Axles 09/10, Scania Hoselayer 4x4 2 Axles 00/01, Scania ALP (Aerial Ladder Platform) 6X4 3 Axles, Kronenburg Mac 08 4X4 2 Axles 95, 2 x Kronenburg Mac 11 6x6 3 Axles 95, Kronenburg Mac 11 6x6 3 Axles 96, Kronenburg Mac 11 6x6 3 Axles 96.
7.2 Future developments – are there plans to purchase or dispose of any equipment? We are currently looking to replace the Kronenburg fleet over the next 3 years.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Our Fire Training Simulator, is not presently available to other airports for training purposes.
PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? Winter readiness period is 1 November to 31 April (inclusive).
8.2 Average annual days of snow: Average 3 to 5 days over past 5 years.
8.3 Average snow depth: Average 2 to 5 cm snow depth per event.
8.4 Maximum snow in 24 hours: Maximum 20cm snow fall in 24 hours.
8.5 Annual number of days of de-icing activities: Throughout the winter readiness period we have on average 60 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-con-





tracted winter services personnel are available per shift? 24 to 32 on average per shift.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Anti/de-icing: Scania Articulated liquid de-icer Schmidt, Scania Articulated liquid de-icer, Schmidt, DAF 2300 Articulated liquid de-icer Kupper Weisser, DAF 2300 Articulated liquid de-icer Kupper Weisser Leyland Rigid liquid de-icer Kupper Weisser, 3 x Trailer liquid de-icer Billericay Farm Services. Snow clearance: 4 x Scania 114c Articulated plough / brush / blower unit Overaarsen RS200, 2 x Scania 114c Articulated plough / brush / blower unit Danline DA2000, DAF 2700 Articulated plough / brush / blower unit Danline DA2000, Leyland Roadtrain Articulated plough / brush / blower unit Overaarsen SB90, 2 x SMI Specialist Snow Blower unit, Schmidt Specialist Snow Blower unit Supra 50001, 3 x John Deere – 6800 Front mounted cylinder brush, 5 x John Deere – 6810 Front mounted cylinder brush. Confined space snow clearance: 3 x Antonio Carraro Front mounted cylinder brush, 6 x John Deere – 6800 Front mounted cylinder brush, 6 x John Deere Front mounted hog (pushing) blade.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Subject to conducting a dynamic risk assessment on the day the normal operational priorities are as follows: a) Runway and associated entry and exit points and either end of runway, b) An agreed taxiway route network to support the runway in use and current and projected air traffic requirements, c) Main aircraft parking stands, d) Remote aircraft parking stands, e) Remaining taxiway routes not previously cleared, f) Common use areas associated with Leased parking areas.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: In general and from the winter inventory list (Q10) the following equipment groups are employed for the associated areas as follows: a) Runway and taxiway areas - Prime Movers and Snow Blowers, b) Taxilane areas – Prime Movers, Brushes and Blades, c) Apron areas – Brushes, Blades and Walkway Brushes.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? Dependant on the climatic conditions and traffic levels we would normally expect to be able to achieve blacktop conditions in around 45 to 60 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: The pavement de-icers used at STAL are: Isomex 3 Liquid, Konsin Liquid. The quantities used last season (2010/11) at an application rate of 20g/m^2 or 40g/ m^2 was 350,000 litres Isomex 3 and 45,000 litres of Konsin.
12.2 Comment on storage capabilities of the chemicals that you use: The existing storage capabilities used for the storage of de-icing products at STAL are fit-for-purpose and meet with our business requirements in all regards. All bulk tanks are fully-bunded and the delivery systems for transferring media to the vehicle tanks are of good quality and reliability. We have increased the capacity by 150,000 litres for Winter 2011/12
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Solid de-icer not used.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No, however we are using technological solutions when with the new vehicles, which automatically switches off the spray bar when going over an area already treated, using GPS.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? We use graded grit for airside roads and passenger walkway routes.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: We use a 'Vaisala' system, this is linked directly to our Meteorological service provider's network.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No plans.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Provided that the data outputs are within their calibrated limits the data has always been of great benefit to the management of winter conditions, particularly when you have access to up-to-date weather forecasting data.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No, STAL provide aircraft anti-icing services for the infrastructure only.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? The majority of de-icing activities are conducted on the aircraft parking stands.
14.3 Is glycol recovered? If so, please state methods: At present there are no Glycol recovery systems in use at STAL.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? We currently use the Mu Meter Mk6 CFME device as manufactured by Douglas-Tugmaster in the UK.
15.2Have you any comments on the reliability of friction indexes? Although the concept of an internationally agreed friction index is a positive step forward, it is clear that there are significant differences between the dynamics of aircraft braking performance when compared to the use of any CFME equipment. For this reason it is understandable that such an index has not been ratified through ICAO and meeting the approval of IATA and other international bodies.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? (snow clearing vehicle formations, for example): No, although the snow plan is reviewed annually.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No – we have purchased 2 x new de-icers, 1 x snow blower, 1 x runway sweeper and 8 x tractors/brushes for Winter 2011/12.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.5 Do you have any winter services equipment that you would like to sell? No.

MADEIRA

Madeira Airports

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Aeroporto de Madeira

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY Length 2781mts, RWY 05 TORA 2631mts (Including 150m of pavement before Threshold), RWY 23 TORA 2631mts (Including 150m of pavement before Threshold), RWY Width 45mts, shoulder widths 3mts, total apron area 82.487,00 m2, ramp area 110.809,00sqm.
2.2 Landing aids for each RWY (e.g. CAT II): Visual approach for both RWY´s only. RWY 05 PAPI system with 3 degrees glide-scope on both sides of the RWY and RWY23 PAPI system with 3 degrees glide-scope on left side of RWY.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? It was made an adjustment of risk levels initially defined and implemented a risk acceptability table.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: It is mandatory to have training about this issue before starting to operate in the manoeuvring area.
b) Inspection by airline, airport, and airplane handling agency personnel: Airport duty manager does inspections to the runways and aprons in accordance to Doc.9137
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Airport uses FOD containers at all aircraft stand position and sweepers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Coordination and reporting is done by airport duty manager (24h).
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No special software in use for FOD control.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Aircraft and vehicle movements are controlled and coordinated by local ATS (TWR).
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? The measures taken were effective until 2010 and, until now, no need to take other measures.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Aircraft movement control is accomplished by a taxiway lighting/marking guidance system followed by apron lighting and marking guidance system with intermediate holding position markings/lights and stop bars.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Markings and lighting installed in accordance with ICAO annex 14. RWY guard lights are installed.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Training sessions and meetings are done in accordance with SMS Comities (apron, runway and emergency).
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard






the 'non-punitive' principles such as 'no-penalty' reporting? Yes, reporting procedures were set up jointly with other parties active in this process

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: The new technologies implemented in order to reduce the attraction of the airfield to birds, however, was recently awarded the realization of a new study (Birds Life), lasting three years, to understand the reason of the increase of birds and act appropriately and preventive to prevent the risk.
6.1 Do your staff attend recognised bird control training courses? Staff is concerned with the matter and aware of the risks. There no specific course but briefings are made by airport operations and safety office.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Yes. All bird control staff is employed by the airport. They are familiar with the intervention area and airport procedures. They have 8 hour shifts during the day.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Shotguns, Pyrotechnics, gas cannons and scarecrow distress call system
6.4 Do you carry out a bird strike risk assessment? Every Three-month and it is an audited process.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes. Every bird control activity is recorded and sent to the responsible bird strike manager (safety manager).
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Vehicle Oshkosh P 19 (4x4) /1989 – Water 3.850 Lts, Foam 492 Lts, Powder 227 Kgs, Hallon 68 Kgs. Vehicle Oshkosh T 1500 (6x6) /1991 – Water 6.000 Lts, Foam 776 Lts, Powder 317 Kgs, Hallon 68 Kgs. Vehicle Oshkosh T 3000 (6x6) /1999 – Water 11.356 Lts, Foam 1.590 Lts, Powder 227 Kgs, NAF. P 100 Kgs. Vehicle Oshkosh T 12 (6x6) /1982 – Water 12.000 Lts, Foam 1.552 Lts.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Fleet Renewal (Oshkosh T 12) – Purchase in 2012
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Madeira airport doesn't have training Camp.

PART 2: WINTER SERVICES QUESTIONNAIRE

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? The friction test is done by the company "NORVIA" and for determining the coefficient of friction were performed continuously at an average speed of 65km/h, at night time, with dry weather, and using the equipment GRIPTESTER MARK II. This unit defines the limits in Grip Number (GN) whose results are represented in the diagram called FRICTION MAP.
15.2 Have you any comments on the reliability of friction indexes? In the overall results of the evaluation of friction coefficient July 2011, the analysis by sections does not point to the need for intervention.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No changes intended for now.

MADRID-BARAJAS

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Madrid-Barajas Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Four runways, all of them 60m width: 15R/33L, 15L/33R, 18R/36L and 18L/36R. RWY 15R: TORA 3988m, TODA 4210m, ASDA 3988m, LDA UN. RWY 33L: TORA NU, TODA NU, ASDA NU, LDA 3060m. RWY 15L: TORA 3500m, TODA 3800m, ASDA 3500m, LDA UN. RWY 33R: TORA NU, TODA NU, ASDA NU, LDA 3000m. RWY 18L: TORA NU, TODA NU, ASDA NU, LDA 3000m. RWY 36R: TORA 3500m, TODA 3800m, ASDA 3500m, LDA UN. RWY 18R: TORA NU, TODA NU, ASDA NU, LDA 3365m. RWY 36L: TORA 4179m, TODA 4609m, ASDA 4179m, LDA NU.
2.2 Landing aids for each RWY (e.g. CAT II): ILS CAT III + DME at four runways: 18R, 18L, 33R and 33L. Approach: Precision CAT II/III, 900 m. LIH at four runways: 18R, 18L, 33R and 33L. DVOR/DME aid as alternative non precision approach.
3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Madrid/Barajas Airport obtained their Airport Certification from the Spanish Civil Aviation Authority on March 2011. The fulfillment of ICAO SARPS was checked, a correction timetable was established and some aeronautical studies to analyze the non-compliances were produced.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION .

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Annual refreshing of operational procedures to Marshallers.
b) Inspection by airline, airport, and airplane handling agency personnel: Four inspections a day per runway made by airport Marshallers. Continuous inspection of stands made by Airline / Handling Agent (one per each stand use) and airport Marshallers.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Sweeping & vacuum cleaning whenever needed.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Quarterly meetings with airlines and handling agents to coordinate FOD prevention.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): N/A

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? A-SGMCS based on mode-S transponders on board, both vehicles and aircrafts.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? There are plans to improve the whole movement area signaling of the airport.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A-SGMCS.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Use of paint, signs and lighting as stated and recommended in Annex 14, (ICAO certified airport).
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? We have established an Runway Safety Committee, as stated in EAPPRI, where all relevant issues are discussed among air companies / ramp handling agents, airport vehicle operators and air traffic control authority.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Of course, we have two reporting procedures based in SMS, safeguarding non-punitive principles; one is Airport Authority SMS, and the other one is Air Navigation Safety Agency SMS.

6. BIRD AND WILDLIFE CONTROL.

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds:
6.1 Do your staff attend recognised bird control training courses? Yes, as it is included in the Manual of the Airport.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? They are working on the airfield continuously during daylight hours, from sunrise to sunset, 365 days/year.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Over 100 birds of prey to establish danger conditions to keep birds away from hazardous areas like runways and others; gas cannons to throw out perched birds at the sides of the runways; alarm calls (sirens) and devices to output electric sounds set up over Wildlife Control Service's 4x4 vehicles; nets and cages to capture large birds; pyrotechnics to dissuade large birds.
6.4 Do you carry out a bird strike risk assessment? In 2010, an exhaustive study was conducted of the risks that the presences of birds represent to air navigation in Madrid-Barajas Airport. This study incorporated a working session that involving various air operators, Spanish's Aviations Safety Agency (AESA), pilots and aircraft and engine manufacturers and expert staff from AENA and SENASA. The results of this risk analysis were compiled in a tolerance matrix that classifies the risk to air navigation. From this point, the risk analysis is evaluated annually and the tolerance matrix revised. In order to reduce these risks, several mitigations measures were defined and implemented, in addition to measures already in place.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)?All bird control activities and all incidents are logged in a database. This database contains information about sightings, strikes, removal of bird remains, reported birds strikes and other wildlife-related incidents.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No, the airport doesn't have any important problems with other wildlife.

7. CRASH FIRE RESCUE.

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Two (2) MAN Panther HRET; 8x8; 12.000 water litres; year 2010. Two (2) IVECO Magirus; 6x6; 10.000 water litres; year 2009. Four (4) MAN Panther; 8x8; 13.500 water litres; year 2006. Four (4) MAN Protect Fire; 6x6; 10.000 water litres; year 1998. Two (2) SAVAL-KRONENBURG Mac-11; 6x6; 10.000 water litres; year 1992.
7.2 Future developments – are there plans to purchase or dispose of any equip-





ment? Continuous fleet renewal policy.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We have a Fire Training Simulator, but until now it is used just for Madrid-Barajas training.
PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From 15-11 until 15-03
8.2 Average annual days of snow: 3.
8.3 Average snow depth: 0-2 cm.
8.5 Annual number of days of de-icing activities: 54.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 91 airside, 25 groundside,Total: 116

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Plough OVERASEEN EP9 15 units, Sweeper (tráiler) OVERASEEN RS400Mk III 15 units, Liquid spreader GILETTA SCLA-BU 2 units, Blower Schmidt Supra 400l 2 units, Greader Volvo L 180 2 units, Greader Volvo L 120 10 units, Greader BOBCAT S300E 25 units, Plough GILETTA MC60 10 units, Plough GILETTA MC35 3 units, Plough GILETTA MC45 4 units, Spreader GILETTA U4000 17 units.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Route 1: RWY 18R-36L, Terminal area T4S2 y RWY 18L-36R. Route 2: RWY 15R-33L, Terminal area T4S1 y RWY 15L-33R. Route 3 (North and South configuration): TWY A, M, B y N in T4-T4S and Terminal area T4 North. Route 4 (North and South configuration): TWY A y M in T123 y Terminal area T123 North. Route 5: Terminal areas T123 South and T4 South.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Guidance vehicle. Provides guidance and communication support with ATC to the other vehicles of their team. RWY operative vehicle team. 3 snowploughs, 1 spreading liquid de-icer truck and 1 snow cutter blower. TWY operative vehicle team. 3 compact jet sweeper, 1 spreading liquid de-icer truck.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? The first two RWY are cleaned in 45 min. The three terminal areas are cleaned in 93 min. The whole RWY system (four RWY) are cleaned in 142 min.

12. EXPERIENCE WITH CHEMICALS

12.2 Comment on storage capabilities of the chemicals that you use: 150,000 Kg urea. 266.000 l potassium formiate. 25.000 Kg sodium formiate.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: As temperatures are not low enough, there has been no need to use sodium formiate, which is the solid de-icer, up to now
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We have dedicated de-icing positions.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SFT.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? Every year during summer period we review the plan implementation during the past winter season and based on the data we include new improvement or even new infrastructures. There is nothing new planned currently.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No, we don't.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No, we don't.
16.4 Do you have any winter services equipment that you would like to sell? No, we don't.

MALLORCA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Palma de Mallorca Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 06L: 3270x45m, TORA 3270m, TODA 3330m, ASDA 3270m, LDA 3270m. RWY 24R: 3270x45m, TORA 3270m, TODA 3330m, ASDA 3270m, LDA 3200m. RWY 06R: 3000x45m, TORA 3000m, TODA 3060m, ASDA 3000m, LDA 2590m. RWY 24L: 3000x45m, TORA 2590m, TODA 2590m, ASDA 3000m, LDA 3000m.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 06L: Precision Cat I, RWY 24R: Precision Cat 1, RWY 06R: Threshold identification lights, RWY 24L: Precision Cat II/III.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? The airport is carrying out internal audits about the level of compliance of infrastructure and operational procedures, with IACO SARPS, as part of the certification process. The airport is taking the appropriate measures in the SMS to take into account the results of these audits.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Operational safety courses for all airport staff involved.
b) Inspection by airline, airport, and airplane handling agency personnel: Regular surveillance by marshallers and inspections by handling agent previous to the aircraft entering the stand.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Magnetics bars.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): We have a database to register all FOD´s found and any other incident inside the airfield.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? The airport is installing an A-SMGCS to monitor aircrafts and vehicles. The system is not operative by now.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Works to comply with all pertinent ICAO SARPS, in all airfield elements are being carried out.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): In near future, A-SMGCS.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: We are installing stop bars in intermediate holding points in order to create sections to achieve the optimal separation of aircrafts in LVP conditions.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Local Runway Safety Team.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Any accident / incident reporting procedure is coordinated with all entities involved in airside operations. Non-punitive principle has been implemented in the occurrence reporting procedures.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds:
6.1 Do your staff attend recognised bird control training courses? We work with a specialized company in wildlife control. Airport staff receive internal courses regarding this item.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? From dawn to sunset.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Falcons and sonic bird deterrents.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No, we have problems only with birds.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 2 x NISSAN NAVARA 350-L 20-L 21-L min a 250- Bares; 3 x MAN PROTEC-FIRE 10,000-L 1.200-L 6.000-L min; 2 x MAN PANTHER 13,500-L 1600 7,000-L min; 2 x MARTIN M-TEC 10,000-L 1,200-L 6,000-L min; MERCEDES ZIEGLER 3,500-L 375-L 3,400-L min; MAC-11 KONEMBERG 10,000-L 1,200-L 6,000-L min.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? The airport has a fire training area with real fire. It is also used by Spanish Force Air Base next to the airport.
PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From November 1 to April 15.
8.2 Average annual days of snow: 0.5 days/year.
8.5 Annual number of days of de-icing activities: 3 – 4 days / year.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift?






Sub-contracted Winter services company.
10. WINTER EQUIPMENT INVENTOR
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): 3 Sweepers blowers (2 of them with s, now ploughs), 1 Truck, 3 Tractors (one with snow plough and 2 with spreaders), 1 Surface Friction Tester vehicle. External means: 2 graders (removal of snow equivalent to sweeper with snow removal blade), 2 Wheel loaders, 3 Trucks 6x6 (for snow transport).

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Snow clearance: No risk of apron collapse: Arrivals runway, emergency access roads, Exit taxiways, Taxiways to aprons, Apron areas for taxiway of aircrafts, Departure runway, Taxiway from apron to departure runway, Aprons, Other areas. Apron collapse risk: Departure runway, emergency access roads, Taxiway from apron to departure runway, Apron areas for taxiway of aircrafts, Arrivals runway, Exit taxiways, Taxiways to aprons, Aprons, Other areas.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: The airport uses the methods of clearance recommended by ICAO doc 9137, part 2.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 30 to 60 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Urea.
12.2 Comment on storage capabilities of the chemicals that you use: 8000kg.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Urea is quite effective in our airport as frosts are intermittent and the temperature is not very low.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No, the airport uses few amount of urea.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Warnings from MET office.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? The airport has no plans.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Airport doesn´t have experience.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: The service is provided by a handling agent with their own de-icing vehicle.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? At parking stand.
14.3 Is glycol recovered? If so, please state methods: Yes.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SAAB.
15.2 Have you any comments on the reliability of friction indexes? From our experience, they are reliable

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

MALTA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Malta International Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 31: TORA 3355m, RWY 13: TORA 3544m, RWY 23: TORA 2377m, RWY 05: TORA 2377m.
2.2 Landing aids for each RWY (e.g. CAT II): CAT I ILS available on runways 31 and 13, Visual Landing Aids – PAPI all runway thresholds.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes Safety assessments identify mitigating action which is transposed in existing procedures.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: All ramp drivers are trained on the risk that can be created by FODs
b) Inspection by airline, airport, and airplane handling agency personnel: At least 4 daily scheduled inspections are carried out on the aircraft manoeuvring / movement areas.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Sweeping programme is in place.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Regular meetings take place between the airport and other airside users. In addition an internal notification system is in place advising all agencies of any changes or new procedures.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): FOD findings are recorded and major findings are forwarded to the Civil Aviation Directorate.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? All vehicles are registered with the airport operator (MIA) with particular registration numbers provided to each vehicle and equipment. Aircraft ground movements are monitored by the Ground Movement Control which is managed by Malta Air Traffic Services.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? The crossing of runways by vehicles has been restricted to one runway only. There is planned upgrade to the technical infrastructure for physical barriers, while procedures continuously seek to eliminate runway incursion events.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): None of the above – otherwise all infrastructure is compliant with ICAO Annex 14.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Currently, the crossing of one runway is regulated through low lying traffic lights which have recently been enhanced for better identification and light intensity. All holding points are provided with 'Runway Ahead' markings. Plans for improvements are scheduled to include traffic barriers.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All personnel driving on the airside are periodically trained prior to the renewal of their Airfield Driving Permits and also a safety awareness programme is in place for those working around aircraft.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Breaches are reported by the Aerodrome Operator and Air Traffic Control. Persons involved in driving breaches appear in-front of a specific board. The main objective of the Board is not to punish individuals but to further educate and address any short comings from the individual.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: The cutting of the grass at a certain height plays an important role in reducing the attraction of birds. Other active measures include: Regular patrols during peak bird activity. Elimination of bird attractants (trees, water ponding and involvement in local area planning). Data collection and analysis.
6.1 Do your staff attend recognised bird control training courses? Yes – organised by the company (in-house).
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Acoustic Measure (Scarecrow UK), Firing of Blanks, Culling.
6.4 Do you carry out a bird strike risk assessment? Bird activity and bird-strike reports especially during migratory season are closely monitored and electronic reporting systems are implemented.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Bird surveillance/scaring is recorded on an internal online system.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Other rare wildlife issues (eg dogs) are addressed by fencing specific areas and close coordination with the local animal welfare authority.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 3 x Rosenbauers with the followign specifications: Chassis type : FL 33.600, Engine: Detroit Diesel DD series 60 DDEC IV, Engine Performance: 441KW at 2300 rpm, Power take off (PTO): Twin Disc power divider 8 MLW-1755, PTO performance: 227 KW at 1800 rpm, PTO torque: 945 Nm. Vehicle Gross weight - 33000kg, Powered axle: 6x6, Permissible weight: 11000kg each axle, Year of manufacture : 2001. Water capacity 12,000 l each, Foam capacity 1,500





l each, Dry Powder 125 kg each, Pump performance: 6,000 l/min at 10 bar. Roof Turret Full output - 5,000 l/min Range with foam pipe: 75 m full Elevation: -15 to 70 degrees Rotation 270 degrees. Bumper Turret output - 1,000 l/min, Range 42 m, Elevation: -30 to 70 degrees, Rotation 180 degrees. 2 x Rapid intervention Hose reels: 200l/min, 2 unrestricetd and 2 normal deliveries, 25 m collapsible hose with pistol for Dry Powder. Fiat Ducato Rescue Van - Qty 1
7.2 Future developments – are there plans to purchase or dispose of any equipment? MIA is currently in the early stages of purchasing a new 4x4 chassis and we are gathering relative information from Fire Truck manufacturers.

MARSEILLE

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Marseille Provence Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 13L: 3500x45m, TORA 3500m, TODA 3500m, ASDA 3500m, LDA 3160m. RWY 31R: 3500x45m, TORA 3500m, TODA 3500m, ASDA 3500m, LDA 2840m. RWY 13R: 2370x45m, TORA 2370m, TODA 2370m, ASDA 2370m, LDA 2370m. RWY 31L 2370x45m, TORA 2370m, TODA 2670m, ASDA 2370m, LDA 2265m. Apron surface: 500,000sqm (approximately)
2.2 Landing aids for each RWY (e.g. CAT II): RWY 13L Cat II-III 420m, RWY 31R Cat I, RWY 13R Cat I.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Civil Aviation Authority carried out a SMS audit on October 2011.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Airfield, runways and taxiways inspection are performed by firemen twice a day (soon in the morning and in the afternoon) and a third time for runway and taxiways around 12:00, use of a tool for location of deteriorations. They produce a report including what they have seen (FOD, deterioration of runways or taxiways …) and its localization. If it needs, the surface identified is cleaned (oil…).

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Each vehicle and aircraft in the movement area (runways / taxiways) are in contact with navigation controller which is in charge of the separation. In 2012 or 2013, a ground radar will be installed to improve the monitoring (installation in progress).
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? All markings and lighting follow ICAO recommendations to help pilots on the airport. Hot Spots are published to alert pilots on the specific points at MRS airport.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: In some places, signs are painted on the ground in order to show that old "taxiway" is closed.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? A specific license is mandatory to drive a vehicle in the airfield of the airport. This license requires training, each 3 years for apron, each year for movement area.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? A runway Safety team has been implemented by Civil Aviation Authority with airport manager, airline pilot and other users of the airport. The purpose is to check if drivers / pilots have special difficulties on the airfield and find solutions. There is a coordination protocol between ATC operator and airport operator, in order to analyse together incidents on airfield.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: One person from the SSLIA (Rescue Service and the Fight against aircraft fire) dependent of the fireman's battalion looks after bird control in the restricted areas. Also, the National Office for Hunting and Wildlife takes care of all controls and samples. In public area: every 15 days and in restricted area: every 15 days too.
6.1 Does your staff attend recognised bird control training courses? The staff has a special training approved by the Technical Service of General Aviation (STAC).
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? The inspection is -½ an hour before sunrise and +½ an hour after unset.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): The bird control vehicle is equipped with movable scare bird with sound effects (made by Sterella) lasers, shotguns, explosive cartridge pistols and CAPA. 7 bird scarers had been installed in airfield between the two runways.
6.4 Do you carry out a bird strike risk assessment? The process is audited by Civil Aviation Authority every 18 months.
6.5 Does your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes, results of bird strike or runways reports are made and analysed monthly.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No, there are only problems with birds.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 2 x Camion incendie Sides Thomas VIM 90 VMA 105, Camion incendie Sides VMA 108, Camion incendie Sides Thomas VMA 102, Camion incendie Sides Thomas VIM 2B VMA 105, Vedette de sauvetage Durance, Vedette de sauvetage Bolmon, Renault Trafic fourgon, Renault Master ambulance, Renault Kangoo 1.2 16v, Mitsubishi pick-up L200, Renault Kangoo 1.2 16v Flyco 2, Renault Kangoo 1.5 Dci 85 Flyco 5, Dacia Duster dCi 110, Nissan Navara 2,5dCi, Toyota Land Cruiser 90, Renault Kangoo D65 1,9l, Renault Clio 1.2 16v.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Only for the change plan.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From November 15 to March 15.
8.2 Average annual days of snow: 1 day every 2 years
8.5 Annual number of days of de-icing activities: Between 0 and 20

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Airport-employed: 6 drivers, Sub-contracted: between 5 and 14 (depending on the snow depth)

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Snow Clearing: 3 trucks mounted clearance blade, 3 levellers, 1 sweeper equipped with a blade, 1 loader (+2 if necessary), 5 trucks (+4 if necessary),1 sweeper equipped with a broom for snow. Surface ice/black ice clearing: 1 tanker truck 1000 l, 1 spreader with a capacity of 5000 l, 1 spreader with a capacity of 6000 l, total de-icing agent reserves: 100,000.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Priority of clearance: main RWY 13L/31R over its entire length of 3500 m and width of 40 m and the taxiways connecting its ends to the main parking area and the taxiways to the ends of the secondary RWY 13R/31L, secondary RWY 13R/31L over its entire length of 3500 m and width of 40 m and the associated taxiways, taxiways associated to the main runway 13L/31R, immediate local parking areas, outlying main parking areas, other parkings (North of the airport).

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: No de-icing of runways and taxiways last year. Cf. point 10, use of 1 spreader with a capacity of 6000 l
12.2 Comment on storage capabilities of the chemicals that you use: Cf. point 10: total de-icing agent reserves: 100 000 l.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? Not really necessary, de-icing is not very often performed in Marseille Airport

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Meteo alert messages are published by Meteo France.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Aircraft de-icing are performed by handling agent.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Some parkings (1 parking by handling agent) are used in winter for de-icing positions.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Friction tests are performed by the airport (this is a new task for the airport, it has just began, before, this task was performed by Civil Aviation Authority). Equipment is: Model "MK3" built TES Limited






MILAN LINATE

AEROPORTI DI MILANO LINATE E MALPENSA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Milan Linate Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Runway 18-36, 256,000 sqm; Taxiway+holding bay 134,000 sqm; North Apron 322,000 sqm; West Apron 65,000 sqm; TORA: 2.442m.

2.2 Landing aids for each RWY (e.g. CAT II): RWY 36 CAT IIIb.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:

a) Training: An awareness campaign for the staff working at the airport has been carried out using posters focusing on safety issues. Information is also available on the "Airport Circulation and Safety Manual" which is at all airport operatorsodisposal.

b) Inspection by airline, airport, and airplane handling agency personnel: Once a week, in the presence of one representative of the airlines operating at LIN Airport, a SEA qualified agent inspects one stand and the FOD for that stand is collected.

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Maintenance is performed using airport-sweeping equipments that operate over 16 working hours. Moreover, FOD bins have been placed on the apron.

d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): The personnel are airport staff. In the monthly Safety Committees, all representatives of agencies using airport are informed about problems and priorities concerning FOD.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): A software is used for statistical purposes to check the stored recorded values.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Surface movement radar SMR.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? A better setting of microwaves anti-intrusion system.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Microwaves anti-intrusion system.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Lighting red bars together with microwaves anti-intrusion systems are used. There are sign markings like Runway Head and No Entry in additional of anti-intrusion system (microwave) for each Taxiway serving Runway. Besides, a lighting system for pilots is under investigation.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? For airport operators a special driving license is issued by Airport Authority after training and examination.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? There is a Runway Safety team in charge of evaluating events/hazards. Monthly, during the Safety Committee, the reports on runway safety events are discussed with the airport operators involved. These procedures are managed by ATS.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Recurrent grass cutting, native vegetation management, use of sustainable products to minimize the presence of midges. Agreements have been defined with territorial public bodies for bird and wildlife monitoring and control.

6.1 Do your staff attend recognised bird control training courses? A dedicated unit called Bird Control Unit has been created to ensure the bird control and exclusion in the airport. The BCU is composed by a group of professional figures (biologist). The training activity refers to birdsobiology and attitudes, the procedures to be carried out in order to avoid the presence of birds in airport and on the monitoring data collection. The training activity refers also on procedures of airport circulation and safety manual. Since 1 August 2010, SEA has been commissioning Bird Control Italy srl (BCI), Italyos leader in the field, for the monitoring and bloodless removal of birds and mammals from inside the airport.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): (Spacemaster) fixed dissuasion system with 2,5 kHz to 20 kHz sounds, 2000 W power; shotguns, distress call, L-RAD.

6.4 Do you carry out a bird strike risk assessment? Yes.

6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Wild rabbits, hares, foxes and nutrias. Bloodless capture.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Poseidon Autohydrofoam MAN 6x6, Dragon X 6 Autohydrofoam/Powder IVECO 6x6, Dragon X 6 Autohydrofoam IVECO 6x6, Superdragon Autohydrofoam/Powder IVECO 8x8, Rampini Sirmac 4x4, ASA Rescue Vehicle IVECO 4x4, APS Autopump IVECO, APS NBCR Vehicle BAI, Actros Support Tanker Mercedes 4x4.

7.2 Future developments – are there plans to purchase or dispose of any equipment? No.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 Nov – 31 Mar.

8.2 Average annual days of snow: 5-7 days.

8.3 Average snow depth: 7-10cm.

8.4 Maximum snow in 24 hours: about 20-25cm.

8.5 Annual number of days of deicing activities: about 70 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or subcontracted winter services personnel are available per shift? About 182.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): SEA supplies: n. 2 snow type fresia f.90 st n. 3 turbo-tillers rolba 1000r n.3 Fresia elf-propelled polishing machines, n. 1 spreader on land rover - defender n. 1 spreader omer on iveco 35 f.8 n. 1 crawlers prinoth t.3 (snowmobile) n. 2 de-icing sprayers track schmidt giletti, n. 2 Saab skiddometer n. Schmidt 2 sweepers sweeping, Total : 19. Third parties supplies n. polishing machines for tow trucks 3 / blowers n. 11 trucks for knife attack m. 4,5 n. 20 loading trucks for snow n. mechanical shovels 10 hp 70/100 n. 21 tractors with blade m. 3.2 and 2.5 n. 3 tractors with brush front m. 2,5 n. 1 brush truck with front m. 4,5 n. 2 door mount towing lamaper lame m. 2,5 n. 8 mini excavators n. 2 trucks for loading and snow removal n. 1 truck spreader.,Total: 82. Blades & brushes n. 10 lame rolba ar 450 n. 16 lame rolba sl.25 n. 9 lame 3.2 n. 2 lame 2 rv n. 2 polishing machines towed rolba viking n. 1 brush front Fresia n. 4 front brush Schmidt n. 3 blades "v",Total: 47

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Priority one: Runway 18-36, Taxiway "T", "G", "H, "J", "K", "N" and North Apron. Priority two: West Apron. Priority three: Land side and Air Side.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Operations on runways and taxiways are performed with sweepers, snow blowers and liquid spreaders. Operations on Aprons are performed with blades. Snow is amassed and removed; afterwards pavement is treated with glycol liquid.

11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? About 20 mins.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Safety KA; Safety SD. Safety KA has been used to prevent deposit of snow on pavement. Safeway SD has been used in case of pavement with ice and subsequently treated with liquid.

12.2 Comment on storage capabilities of the chemicals that you use: Safeway KA, 100.000 litres; Safeway SD, 10.000 KG.

12.4 Have you experienced any corrosion problems with de-icers? No problems occurred with chemical use.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: De-Icer Elephant Vesterrgaard, 6; De-Icer Struwer, 2.

14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Yes, we have dedicated de-icing positions.

14.3 Is glycol recovered? If so, please state methods: The glycol is recovered in underground metal containers.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Runway friction tester vehicle SAAB SFT9000, 2 units.

15.2 Have you any comments on the reliability of friction indexes? No comment. Once a year, SEA performs a calibration check with ASFT technical support.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No changing in the short term.





MILAN MALPENSA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Milan Malpensa Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Runway 17L-35R, 235.000 smq; Runway 17R-35L, 235.000 smq; Taxiway, 552.000 smq; Apron T1, 1.150.000 smq; Apron T2, 319.000 smq; TORA: 3.920m.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 35 R/L CAT III b, RWY 17 L CAT I.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits?

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: An awareness campaign for the staff working at the airport has been carried out using posters focusing on safety issues. Information is also available on the "Airport Circulation and Safety Manual" which is at all airport operatorsodisposal.
b) Inspection by airline, airport, and airplane handling agency personnel: Monthly check-up with ENAC, airlines and Handlers. Periodic inspections by airport personnel.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Airport sweepers are used. Moreover, FOD bins have been placed on the apron. One FOD BOSS sweeper has been purchased in order to remove FOD from apron in order to be analysed.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): The personnel are airport staff. In the monthly Safety Committees, all representatives of agencies using airport are informed about problems and priorities concerning FOD.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): A software is used for statistical purposes to check the stored recorded values.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Surface movement radar SMR.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? A better setting of microwaves anti-intrusion system.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Microwaves anti-intrusion system. Implementation of the A-SMGCS system.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Lighting red bars together with microwaves anti-intrusion systems are used. There are sign markings like Runway Head and No Entry in additional of anti-intrusion system (microwave) for each Taxiway serving Runway. Besides, a lighting system for pilots has been testing.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? For airport operators a special driving license is issued by Airport Authority after training and examination.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? There is a Runway Safety team in charge of evaluating events/hazards. Monthly, during the Safety Committee, the reports on runway safety events are discussed with the airport operators involved. These procedures are managed by ATS.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Recurrent grass cutting, native vegetation management, use of sustainable products to minimize the presence of midges. Agreements have been defined with territorial public bodies for bird and wildlife monitoring and control.
6.1 Do your staff attend recognised bird control training courses? A dedicated unit called Bird Control Unit has been created to ensure the bird control and exclusion in the airport. The BCU is composed by a group of professional figures (biologist). The training activity refers to birdsobiology and attitudes, the procedures to be carried out in order to avoid the presence of birds in airport and on the monitoring data collection. The training activity refers also on procedures of airport circulation and safety manual. Since 1 August 2010, SEA has been commissioning Bird Control Italy srl (BCI), Italyos leader in the field, for the monitoring and bloodless removal of birds and mammals from inside the airport.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): (Spacemaster) fixed dissuasion system with 2,5 kHz to 20 kHz sounds, 2000 W power; shotguns, distress call, L-RAD. The use of propane cannons is under investigation.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Wild rabbits, hares and foxes. Bloodless capture.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 10x Superdragon Autohydro foam/powder IVECO 8x8, Dragon X 6 Autohydrofoam IVECO 6x6, 3x Rampini Quick intervention Sirmac 4x4, Actros Support tanker Mercedes 6x4.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 Nov – Mar 31.
8.2 Average annual days of snow: 4-5 days.
8.3 Average snow depth: 7-10cm.
8.4 Maximum snow in 24 hours: About 30cm.
8.5 Annual number of days of deicing activities: About 90 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? About 393.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): SEA supplies. n.7 Turbo cutters Fresia n.3 Turbo cutters Schmidt n.1 self-propelled sweeper blower Schmidt n.2 snow Compactors n.1 blower driven sweeper n.2 Friction Tester n.4 Multi Spreaders de-icing n.7 self-propelled sweepers blowers n.3 suction sweepers with front roller n.30 Tractor blades with support n.2 tractor with rotary brush 2 m, Total: 62. Third parties supplies: n.10 Truck blade m. 4 n.12 trucks blades m. 6 n.53 Dumpers n.10 Farm Tractor w / trailer not exceeding 35 cubic n.35 Wheel loader m n.8 tractor with blade n.10 mini-tractors with blade, Total: 138. Landside area n. 21Tractor with blade n.15 Farm Tractor dump from n.10. Wheel c / cubic capacity n. 7mini-tractors with a blade n.4 min Tractors scatter liquid, Total: 57.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Priority one: Runway 17R-35L, Taxiway "B", Taxiway "M", part of Taxiway "A", Taxiway "C" pertaining to Apron Terminal 2, Link 7, stands area "D" and De-icing area "Z" of apron Terminal 2, Area "D" Apron Terminal 2, Taxiway "W" and "K" to the intersection with Taxiway "U"; Taxiway "U" Taxiway "Y", Taxiway "G west", Taxiway "P", Taxiway "R", Taxiway "S", Taxiway "T", Taxiway "X" and De-icing area; Link 0, 1, 2, 3, 4, 5; Stands area "A", "B", "G", "H" and "F" "X" of Apron Terminal 1; Priority two, Runway 17L-35R ; Taxiway "E", Taxiway "D" and "DA", Taxiway "C" from Link 7 to intersection Taxiway "D", Taxiway "CB", Taxiway "CA", Taxiway "G east", Taxiway "WB", Taxiway "V" and remaining Taxiway "W" e "Y", Link 6; Stands area "C" and remaining areas "A" and "B" of Apron Terminal 1; Remaining Taxiway "A", Taxiway "AA", Taxiway "AB", stands area "E" of Apron Terminal 2; Priority three; Remaining Taxiway "C", Taxiway "DB", Taxiway "CF", Taxiway "F" and Taxiway "BA" .
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Operations on runways and taxiways are performed with sweepers, snow blowers and liquid spreaders. Operations on Aprons are performed with blades. Snow is amassed and removed; afterwards pavement is treated with glycol liquid.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? Less than 30 mins.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Safety KA, 157.000 litres; Safety SD, 19.000 kg. Safety KA has been used to prevent deposit of snow on pavement. Safeway SD has been used in case of pavement with ice and subsequently treated with liquid.
12.2 Comment on storage capabilities of the chemicals that you use: Safeway KA, 220.000 litres; Safeway SD, 34.000 kg.
12.4 Have you experienced any corrosion problems with de-icers? No problems occurred with chemical use.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: 2; De-Icer Elephant Vesterrgaard, 14; De-Icer Struwer, 4.
14.2. Are you required to have dedicated de-icing






positions or do you de-ice on the parking area? Yes, we have dedicated de-icing positions.
14.3 Is glycol recovered? If so, please state methods: The glycol is recovered in underground metal containers.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Runway friction tester vehicle SAAB SFT9000, 1 unit (1999) – Volkswagen SFT Sharan 2008, 1 unit (1998) .
15.2 Have you any comments on the reliability of friction indexes? No comment. Once a year, SEA performs a calibration check with ASFT technical support.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No changing in the short term.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Airside Operations Department is continuously looking at new vehicles and equipment.

OSLO

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Oslo Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): Runway 01L/19R length 3600 m, TORA 3600 m, Width 45 m + shoulders 7,5 m, Asphalt 216,000 m2, taxiways asphalt 266,000 m2. Runway 01R/19L length 2950 m, TORA 2950 m, Width 45 m + shoulders 7,5 m, asphalt 174,000 m2, taxiways asphalt 206,800 m2. Apron 498,000 m2 , other 256,000 m2
2.2 Landing aids for each RWY (e.g. CAT II): RWY 01L: CAT I, RWY 19R: CAT IIIB, RWY 01R: CAT IIIB, RWY 19L: CAT I.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? OSL have practised a Safety Management System for the Aerodrome since the opening Oct. 8, 1998, as an integrated part of the company operations manual and Quality System. The Safety Management System has continuously been developed and improved. Last year there has been developed further Risk Assessment procedures and plans for the future.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: This is a part of the training program for airport personnel on elementary and advance level.
b) Inspection by airline, airport, and airplane handling agency personnel: FOD inspection is done by airfield services personnel. It is also stressed that FOD is a responsibility for every person at the airside, like handlings agents that operate on aircraft stands.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): We have a sweeping magnetic bar and there is FOD bins at every aircraft stand
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): An airside forum with representatives from airport and handling agents has FOD as a part of the regular agenda.
4.2 General: Are there any special systems or software solutions you employ for FOD control (Please specify product name and add any comments)? None at the moment.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? A ground radar system is used by local ATC for monitoring the vehicle and aircraft movements. MLAT (Multilateration).
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? None at the moment.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): We have an improved surface surveillance system, using Mode-S Multilateration.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: We have painted signs like RWY AHEAD in combination with stop bars and RWY guard lights.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All personnel that have access to the airside must have an airside safety course. Personnel that are allowed to enter the manouvring area must have an additional radio communication course.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: The problem with birds is relatively small at OSL. No large open Water bodies within or close to the airport. We have a long grass policy along the runway and taxiways.
6.1 Do your staff attend recognised bird control training courses? Yes.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Bird control is a part of the responsibility of Airport Patrol which perform continuously inspections of the airfield.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): We use shot guns, pyrotechnics and traps for catching birds.
6.4 Do you carry out a bird strike risk assessment? We carry out a bird strike assessment if/when we observe a change of the bird situation at the airport Our procedures regarding bird strike/wildlife management are/may be audited as a part of a CAA audition of airfield services or by an airline audition.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No. We have fences around the airport that are continuously inspected by Airport Patrol.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: The CFR vehicle inventory at OSL is: 4 Panther Rosenbauer with MAN chassis 8 x 8, capacity 13000 l/1000 l foam AAAF, 1998. 3 Buffalo Rosenbauer with MAN chassis 6 x 6, capacity 8300 l/500 l foam AAAF, 1991/92. 1 Panther FLF Rosenbauer 6x6, capacity 12500l/1500 l foam AAAF, 2009. 1 Fire and Rescue vehicle with Scandia chassis 4 x 2, 3600 /250 l foam AAAF, 2003. 1 Bronto Skylift (37 m) Volvo Chassis 6 x 4, 1998.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We have a Fire training Simulator produced by IFTE that is also used by other airports in Norway.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 15 October until 15 April.
8.2 Average annual days of snow: Between 60 – 70 days of snow.
8.3 Average snow depth: About 80cm.
8.4 Maximum snow in 24 hours: About 35cm.
8.5 Annual number of days of de-icing activities: About 170 days of deicing.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 27 employee's pr shift that do the snow cleaning of the runways and taxiways. In addition up to 20 persons from a sub-contractor for cleaning the aircraft stands.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): Compact runway sweepers: Øveraasen RSC 200, 3 units; Runway sweepers towed behind trucks: Øveraasen RS 400, 14 units; Snowblowers, self propelled: Øveraasen TV 2000, 2 units, Øveraasen TV 1260, 1 unit, Kodiak CF6DE,1 unit, Kodiak CF 8 DE, 1 unit. Snow blowers mounted on wheel loaders: Øveraasen UTV 400, 2 units. Wheel loaders with snowplough: Caterpillar 966, 3 units, Komatsu WA 470, 2 units, Volvo L 70F, 2 units, Volvo L150, 2 units. Runway de-icing liquid spreaders: Nido – Schmidt ASP, 2 units, Kupper-Weisser 28 m, 1 unit. Runway de-icing granulates/liquid spreaders: Kupper Weisser 24 m, 2 units. Sand spreaders: Nido, 5 units, Fallkøping, 1 unit. Glycol Sweepers: Frimokar, 2 units, Bucher Schørling 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Group 1 cleans the first runway between the edge lights while group 2 cleans the taxiways connected to the runway before the two groups joins together for cleaning the apron/central area and then splits again for cleaning the second runway/taxiways. Which runway to be cleaned first depends on traffic and weather condition. Group 3 cleans the GA area. A contractor cleans the Apron/aircraft stands.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Group 1, runways: 8 jumbo-sized sweepers, 1 big snow blower, 1 edge light cleaning machine, 2 sprayers or sand spreaders. Group 2, exits and taxiways: 5 jumbo-sized sweepers, 1 snow blower, 1 sprayer or sand spreader, 2 wheel-loaders. Group 3 are equipped with 2 compact sweepers, 1 wheel loader and 1 snow blower. Apron clearance is made by contractor with his own equipment, wheel-loaders with front brushes/ploughs.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? We clean a runway for snow and prepare to black top within max 15 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on





effectiveness of chemicals at low temperatures and achieved holdover times etc: We use Aviform L 50 and Aviform S- Solid , about 500.000 l / 46 000 kg last season. We have good results on effectiveness of the chemical within the temperature ranges we have experienced so far since the opening of the airport. However, chemicals keep the runway wet for a long time in low temperature. This may cause problems, because snow then will stick to the surface and more chemicals are needed to get a black top again. We avoid using chemicals if it starts snowing on a cold and dry runway.
12.2 Comment on storage capabilities of the chemicals that you use: We have 4 * 30 m3 tank storage capacity at the airport. This lasts about a quarter of a normal season, depending of weather conditions. We also have a good support from the producer of the chemicals.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: We have experienced good results with a mix of Aviform liquid and solid de-icers. It is important that the liquid and solid are mixed before spreading.
12.4 Have you experienced any corrosion problems with de-icers? We have experienced some corrosion on electrical wires and components on winter services equipment, especially galvanized metal.
12.5 Have you employed any special means to economise on chemical use? We use a preventive tactic together with a strict system for registration of use of chemicals related to a daily and monthly"chemical budget".
12.6 Do you have any other comments on experience with chemicals? We have reason to believe that runway de-icing chemicals have a negative effect on bitumen, which may result in shortened lifetime for the asphalt pavement.
12.7 Do you use other chemicals or sand on operational areas? In addition to chemicals we use sand on runways and taxiways.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: We have a Vaisala system with 3 sensors each runway in addition with weather radar that covers the southern part of Norway.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No plans for further ice warning systems for the moment.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems:Together with ordinary met services, ice warning systems gives valuable information for deciding when to use chemicals in order to prevent ice.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: The airport does not provide aircraft anti/de-icing operations. It is taken care of by handling operators
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We have dedicated de-icing platforms at each RWY.
14.3 Is glycol recovered? If so, please state methods: Deicingplatforms and taxiways exits have dedicated storm water collection to provide the collection of the spent de-icing fluids. In this way about 75% of the glycol is recovered. About 60 – 75 % of recovered glycol is used as a substitute for ethanol in municipal sewage treatment plants.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? 3 units SARSYS SAAB 9-5 friction tester.
15.2 Have you any comments on the reliability of friction indexes? There is a concern of the overall reliability of friction indexes due to the many parameters that influences the result and that reproducing the result within a certain limit even given the same conditions is difficult. Due to this, we don't report measured friction values, but a parameter from 1 to 5 to pilots.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? We will not have any major changes in our methods for winter services for the coming season.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: The airport is working with a project that will expand the terminal, increase the numbers of aircraft stands and the size of the maneuvering area. This will also demand more of all types of winter equipment.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? 1 ASFT SAAB 9-5 friction tester.

OSTRAVA

Leos Janacek Ostrava Airport

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Ostrava Mošnov

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): RWY 04/22, ICAO CAT II, RWY dimensions: 3500x63M, bituminous shoulders on both sides of RWY and all TWY 5.5M. Declared distances: RWY 04: TORA 3500, TODA 3800, ASDA 3500, LDA 3500, RWY 22: TORA 3500, TODA 3800, ASDA 3500, LDA 3500. Total apron area: 130,000sqm. ACFT stands: APN CENTRAL 5xCAT C, 2x CAT D, APN SOUTH 3x CAT C, 2x CAT E (or 1CAT F), APN GA 9xCAT A or 3x CAT B, APN LETs FLY 3x CAT A. Other APN and RAMP: Hangar APN NORTH 1, SERVICE APN NORTH 2.
2.2 Landing aids for each RWY (e.g. CAT II). RWY ICAO CAT II, ILS CAT II/IIIA.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Training is defined by airport guidelines, personnel are trained according to these guidelines.
b) Inspection by airline, airport, and airplane handling agency personnel: Inspections are done 4 times per day by airport operation dispatcher.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): 4 x Jetbroom - sweepers available.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Cooperation with bird-protection service provider.
4.2 General: Are there any special systems or software solutions you employ for FOD control? No SW in use.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? ATCO, Ground FREQ, ADS-B.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? For implementation of ICAO CAT III/A operation Local authorities (CAA) demands introduction of Ground surveillance system.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Special procedures under LVO are applied. (1 vehicle or one ACFT on movement area at the same time).
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: RWY guard markings on every TWY. RWY guard lights on every TWY. Stop bars and elevated stop bars on TWYs. Crossing service roads equipped with elevated stop bars, markings and stop signs.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Airport staff is trained every two year. Rules are defined in airport guideline. Every third month RWY safety team take place. Meeting with local aircraft operators, airport and ATC representatives.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Safety boxes are installed at airport. Non-punitive principles are applied.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Bird and wildlife control is provided by external provider. Control is done continuously, specialist guard in the vicinity of RWY.
The provider uses trained birds, firearms, dogs.
6.1 Do your staff attend recognised bird control training courses? Outsourced service.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? From 5:00 till 21:00 continuously, then on ATCO request.
6.4 Do you carry out a bird strike risk assessment? When increased concentration of birds occurs notification is received.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Provider produces detailed statistic review. On its web site publishes statistics, alerts and general information on actual bird situation at major airports in the country.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Used to have 2-3 years ago, with accomplishment of the new security fence, problems with wild life almost ceased.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 2 x Rosenbauer PANTHER 6x6, 12500l water, 1500l foam, 250kg powder, 2010
2 x Mercedes ACTROS BUFFALO 3 and 4, 6x6, 6000l water, 800l foam, 250kg powder, 2008; 1 x MB ACTROS, 6x4, container transporter, 2009; 1 x Bronto Skylift F32 RLX, withdrawable platform, 2009; 1x MB SPRINTER – chemical protection, 2009; 1 x MB SPRINTER – transport vehicle, 2009; 1x Nissan PATROL - rescue car 2006; 1x Peugeot PARTNER Teepee, technical support, 2009; 1 x Ambulance FORD, 1999; 1 x Mitshubishi L20; 1 x Recovery container with inflatable bags.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other air-






ports for training purposes? No simulator.
PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 Oct – 30 Apr.
8.2 Average annual days of snow: 120.
8.3 Average snow depth: 10cm.
8.4 Maximum snow in 24 hours: 25cm.
8.5 Annual number of days of de-icing activities: 45.

9. WINTER ORGANISATION

9.1 How many airport-employed or subcontracted winter services personnel are available per shift? 7 persons per shift (12h).

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 1 x compact plough – jet sweeper , MB Actros, Schmidt 560, 3 x plough truck TATRA 815 + jet broom Schorling P15, 1 x plough truck LIAZ 111, 1x plough truck TATRA 148, 1 x plough, snow tank, SPL55, 1 x MB UNIMOG, plough and sander-gritter, 1 x snow cutter Rolba R1000, 1 x snow cutter ZETOR, 3 x plough tractors ZETOR.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 1. RWY 04/22 2. TWY`s 3. APN CENTRAL 4. APN SOUTH, NORTH 5.Other surfaces.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Four plough trucks with jet brooms enters the RWY via APN CENTRAL and TWY C. The snow banks are pulled sides of RWY and then snow cutter moves them of of RWY. The same procedure is applied on TWY`s and APN.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 50 minutes takes clearing of RWY at full length and width.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: 1 x MB UNIMOG, plough and sander-gritter
1 x tractor ZETOR sander gritter. Nitric acid amide(carbamide) is used for chemical treatment of pavements. Effective use at temperature range 0 to – 8°C.
12.2 Comment on storage capabilities of the chemicals which you use: Storage in local hangar.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Carbamide mixed with water is used to defrost solid ice layer.
12.4 Have you experienced any corrosion problems with de-icers? No experience.
12.5 Have you employed any special means to economise on chemical use? Chemical treatment responds to actual weather forecast to minimise excessive use.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: No ice warning system at the moment.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Do not intent purchase of ice warning system.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: 2x MD GLOBAL 8000 DEAP.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Yes, de-icing is provided at APN CENTRAL stand No.1 and APN SOUTH at dedicated stand.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? ADR-FM (SFL) and SARSYS VOLVO (SVFT).
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? Going to purchase new jetsweepers, snow cutters, pushback tractors, handling equipment.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: We plan to purchase and introduce new equipment stated above in next 1-2 years. Selection procedure has already started.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment which you would like to sell? No.

PARIS-ORLY

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Paris-Orly Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 02-20: 2400x60m, TORA/TODA/ASDA/LDA 2400m; RWY 08-26: 3320x45m, TORA 3320, TODA 3320m (QFU08) 3640m (QFU26) ASDA 3320m, LDA 3320m (QFU08) 2885m (QFU26); RWY 06-24 3650x45m, TORA 3650m, TODA 3710m, ASDA 3650m, LDA 3350m (QFU06) 3650m (QFU24).
2.2 Landing aids for each RWY (e.g. CAT II): RWY 02-20: 02 Cat I – 420m, 20 Non precision approach; RWY 08-26: 08 Non precision approach, 26 Cat III; RWY 06-24: 06 Cat III – 720m, 24 Cat I – 420m.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No changes recently.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: There is a FOD control training for every person that has to work on the manoeuvring area and a specific area inspection training. In each activity where FOD can be produced on the airside, staff is made aware of hazards FOD can cause and specific procedures are published. FOD prevention is also enforced after infrastructure works, when mowing the grass on the runway or taxiway strips… by sweeping the area or collecting the grass for instance. Analyses are performed in order to launch prevention measures. The airport operator increases the awareness of platform users thanks to communication aids (posters, flyers…) and monthly SGS meetings, bringing together these users (airlines, handling, airport operator, air police …)
b) Inspection by airline, airport, and airplane handling agency personnel: 3 runway inspections for each runway are mandatory per day, and 2/day for the rest of the manoeuvring area. These inspections are carried out by the airport operator. Apart from that, if a platform user notices a FOD, he needs to call the control tower.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Stainers and sweeping machines are used for FOD control. FOD are then put in regular containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Apart from scheduled inspections, when a platform user notices a FOD, he calls the control tower, which will then call the airport operator cell in charge of maintaining the movement area. If a FOD is suspected to come from an aircraft, the BEA is called.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? At Orly Airport, two systems coexist: S-Mode (for planes) and CAPRICORN (for vehicles, based on GPS). These two are then synthesized by AVISO to be used by the Ground Control.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? On Orly Airport, not too many runway incursions are identified. Efficient stop bars prevent this kind of hazards and bring the number of incursions to maximum 1-3 per year only. Consequently, no changes are planned for the time being. Yearly LRST meetings are held. They gather all impacted units and discuss identified aeronautical issues. After these meetings, corrective actions are launched.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): On Orly Airport, RIMCAS is used (Runway Incursion Monitoring and Collision Avoidance System). RIMCAS is a software module designed to monitor movements on the aerodrome surface, using data from a surveillance system, in order to predict and identify possible conflict situations within the surveillance area. It is a system that includes ADS and Mode-S multilateration, and is adapted to permit more advanced safety logic.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: At the crossing of runway 08/26 (one of the main runways) and 02/20, a specific line (white and green) has been marked on runway 02/20 at the edge of runway 08/26 strips to help vehicles to locate 08/26 strips when circulating on 02/20 for service needs.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All vehicle drivers that passed the "M" licence are conscious of the runway incursion hazard thanks to the corresponding training, that is 100% focussed on this issue. To obtain their licenses, they are specifically trained (theoretical and practical training). This training has to be done every 3 year to obtain the apron driving license and every 2 year for the manoeuvring area driving license. During this training they learn the meaning on each aeronautical lighting and painting and to drive on the manoeuvring area a specific training is also provided about the phraseology. No particular training is organised for pilots nor controllers.
5.6 Have the reporting procedures for runway safety





incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? The runway incursion reporting procedure is enabled by the help of any worker on the platform (pilots, handling, airport operators, civil aviation services...). This is part of a wider system called SGS (Système de Gestion de la Sécurité, i.e. Safety Management System). The SGS is a non punitive system. FNE (form for events notifications) are filled by any worker that noticed something that could cause a safety hazard or when somebody (or oneself) behave in such a way that safety has been at risk. Runway incursions is one of the reasons why a FNE has to be filled. Then the SGS does a reporting on safety hazards thanks to the FNE received and in particular on runway incursions.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Different procedures are carried out on the platform on three levels (shelters, food&water and non- nesting): For 10 years now, each shrubby area and waste land have been destroyed, and there is no more tree on the airport movement area, To comply with DGAC regulations, grass are cut up to 20 to 45 cm all around the platform, Every plantation that is to be made on the platform is checked (a list of forbidden species exists), Each lake and pond on the platform is protected by a net, to prevent birds from resting there, Each ditch on the platform is filled with ballast in order to avoid humid zones and impoundment, Every planted species are mowed before their seeds are ripe, A counting of vegetal and animal species is conducted and animals which represent a hazard for aircraft or airport equipment, such as foxes and rabbits, are regulated.
6.1 Do your staff attend recognised bird control training courses? Yes, an extern company is in charge of providing this course. Each member of the team also attend bird recognition course upon arrival within the team. This course is renewed every three years (bird type, variety, reproduction, diet, flight identification...). The regulation imposes a four hour theoretical training course dedicated to ornithology, followed by seven hour session on site, a final training course assessment and attendance to a continuous retraining program.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? The regulation requires the bird control team (fourteen persons) to be on duty from 30' before the sun rises to 30' after it sets. Then because the two runways are more than 1km away, one agent per runway is mandatory. As a consequence, vacations of two employees (1 per runway) are carried according to the following pattern: Summer: Vacation1 – 4h45-15h15, Vacation 2 – 12h45-23h45. Winter: Vacation 1 – 6h00-16h30, Vacation 2 – 10h00-20h30.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Hunting weapons: - Trap guns, 12th calibre and n°4 to 8 cartridges [BROWNING] - 400m range "CAPA" pistols ("CAPA" means bird control cartridges) - 9mm revolvers (150m range) with crackling/explosive cartridges, Bird deterrent systems: fixed or on-board [STERELA], Portable lasers: for night use [LEM50].
6.4 Do you carry out a bird strike risk assessment? / 6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Assessments are done all day long by the different employees on duty. They are real-time surveys. Bird scare activities assessment can be provided on the employee's initiative, or at the request of the control tower. An assessment of bird strike can be done as well, based on both suspected and confirmed bird strikes (depending on whether remains of bird(s) have been found). Regarding the legal point, the bird strike team has to ensure a certain level of means but no results in particular. In that case, to prevent any lawsuit, employee attendance is recorded as well as the good quality of the equipments.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No big game on the airport. Foxes are protected (10 to 15 wanted) in order to naturally regulate wildlife on the platform. Our staff has been trained and equipped to deal with wandering pets: isolate it thanks to fixed pens and then catch it. If they cannot handle it, specialists are called to catch it.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 2 Rosenbauer PANTHER 8x8 CA7 SWB (short wheel base) ARFF vehicles: 45T, 12m long, 8 driving wheels, 4 axles, 2 engines of 6 cylinders each and 1 250 HP. Regarding the capacities: 12000L of water capacity and 250kg of foam. Year of manufacture: 2011, 3 6x6 vehicles of 15000L of water and 250kg of foam. Years of manufacture: 2003-2004-2005, 1 6x6 vehicle of 14000L of water and 250kg of foam. Year of manufacture: 1996, 3 vehicles of 2500L of water and 250kg of foam. Year of manufacture: 1996.
7.2 Future developments – are there plans to purchase or dispose of any equipment? One more PANTHER 8x8 to be received in December 2011.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Fire & Rescue teams use an old A300 as a training site, but no other airport uses it.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? A dedicated "winter viability" team is working all year long to get ready for the winter period. When winter approaches (around September), future on-call teams are trained. Winter period runs from 15th of October to the 15th of March.
8.2 Average annual days of snow: 14days/year (average calculated on the 1950-2010 period).
8.3 Average snow depth: 3cm.
8.4 Maximum snow in 24 hours: 17 cm on the 20/12/2010.
8.5 Annual number of days of de-icing activities: On average, there is 48 days of icing conditions in Orly.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? All year long, 4 persons work on the winter viability team. 300 persons are trained on the airport to deal with winter activities (snow removal...), including 70-80 sub-contractors. For each shift, around 70 persons are on duty.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Here are the equipments own by Aéroports de Paris / Orly: Maneuvering: 2 x Frontal sweeper [SCHMIDT], 14 x Blowing compact snowplow [SCHMIDT + BOSCHUNG + SCHORLING], 10 x Large width compact snowplow, 6 x Snow cutting drill [ROLBA], 6 x Liquid spreader, 2 x Road dual spreader. Traffic: 9 x Compact spreader-snowplow CJSIII [SCHMIDT], 2 x 1000L tractor spreader, 2 + 1 spare x 2500L tractor spreader, 3 x Blade/spreader chuck (Reform), 8 x Multifunction chuck (Multi-purpose vehicle Pony) [BOSCHUNG], 1 x Tractor + 1 semi of Glycol, 1 x Tractor + 1 semi of Formate. On Paris-Orly Airport, Aéroports de Paris doesn't organize the aircraft's deincing. Air France, Samsic, Alysia and WFS take care of these operations and each of them own machines: 6 for AF, 2 for Samsic, 3 for Alyzia and 4 for WFS.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: No order of priority is set; it will depend on the configuration of platform operations of the day. Nevertheless, CATIII has priority all year long.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: For vehicles, see 10.1. Training phases are organized when the winter period approaches. Each member of the on call winter team is trained as regard to his role in the team (team manager, snowplow driver...). Then the head of the PCN (named RPN) will organise the team and equipments. A mechanical treatment is done in the first place: use of snowplow to remove the biggest part of contaminant. Then the chemical phase begins with the use of de-icers.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? Approximately 30 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Regarding pavement de-icers, we use potassium formate. This chemical is mostly efficient when the contaminant layer is slim or as a preventive method. Quantities of formiate have been: 831,000L used for 2009-2010 including 361000 for January 2010, 891,000L used for 2010-2011 including 780000 for December 2010
12.2 Comment on storage capabilities of the chemicals that you use: 520000L of Glycol (150000L of Glycol I and 370000L of Glycol II), 460000L of Formiate.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: For the 2011-2012 winter, solid de-icers will be tested on Paris-Orly platform: 40T of Sodium Formate has been bought. (No experience so far).
12.4 Have you experienced any corrosion problems with de-icers? No
12.5 Have you employed any special means to economise on chemical use? No
12.6 Do you have any other comments on experience with chemicals? We can mention the difficulty with which these chemicals are carried out: storage, supply and cleanup are tricky.
12.7 Do you use other chemicals or sand on operational areas? "Aeronautical" sand can be used to create grip for a pushback vehicle or an aircraft around a stand, or on a passenger course to/from terminals. The issue of this method is that cleanup is necessary afterwards.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: To deal with ice on the platform, the on-call winter team works with METEO FRANCE, which is the French national meteorological service. They provide a specific weather forecast (real time air & ground temperatures...), that enables the RPN to make his decisions. 4 Boschung ice probes are also installed: 2 per runway. They give temperature tendencies and warnings on runways freezing point. A third probe will be installed on each runway (opposite thresholds).
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? Paris-Orly and the French national meteorological service Météo France are going to work on a pavement temperature forecasting model. Its goal






will be to supplement the forecasting capacity of Boschung probes and increase their reliability.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: One of the greatest functionality of such systems is the tendency data, which will really enables the team to work anticipatory by organising preventive treatments.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No, see: 10.1.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No (de-icing on the parking area).
14.3 Is glycol recovered? If so, please state methods: No (Glycol is treated as part of rain waters).

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Two models are used: IMAG and ASFT. 2 devices are owned now (one for each system), and 2 more will be added.
15.2 Have you any comments on the reliability of friction indexes? Good reliability.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No
16.2 Do you plan to purchase new equipment or vehicles? / 16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No, vehicles have already been bought for the 2011-2012 winter: 45% of the fleet has been renewed (new snowploughs, new Boschung pony...).
16.4 Do you have any winter services equipment that you would like to sell? Yes, the constant modernization of the fleets means to regularly sell equipment.

PODGORICA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Airport Podgorica

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Dimensions of runway 2500m x 45m, Strip dimensions 2620m x 300m. RWY 18: TORA 2500m, TODA 2500m, ASDA 2500m, LDA 2500m; RWY 18 (take-off from intersection with TWY 8): TORA 2005m, TODA 2005m, ASDA 2005m; RWY 36: TORA 2500m, TODA 2500m, ASDA 2500m, LDA 2500m; RWY 36 (take-off from intersection with TWY E: TORA 2007m, TODA 2007m, ASDA 2007m. Apron area 28000sqm, Apron area for general aviation 5220sqm.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 18 – Non-instrument approach (approach light unique system). RWY 36 – CAT I (ALPA ATA).

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Drafting of Safety Management Manual is in process.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: The staff engaged for the purpose of the operating areas maintenance is subject to training pursuant to the applicable training program.
b) Inspection by airline, airport, and airplane handling agency personnel: Regular inspection by authorized airline employer once a year.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Every employed person who notice foreign object is obliged to remove it, or by using sweeper and carpet.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Procedures for movements on the operating areas are in place. Further, there is visual supervision of movements on the ground by air traffic control staff, Fire & Rescue staff (observation tower) and ramp supervisor.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No design or engineering changes are undertaken.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): None mentioned safety devices from the list.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: None.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Adequate Program within the Center for professional staff training of Public Enterprise Airports of Montenegro.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes, mainly with the terminal air traffic control with a view to the condition of the operating areas. After each inspection, person responsible for control of the operating areas reports to terminal air traffic control in writing. In case of identifying any irregularity/non-compliance with the procedure on aircraft and vehicle movement on the ground, the person who identified it writes a statement of claim and submits it to the airport operator manager. Such a case is considered at the session of Airport Security Committee, on which occasion the respective course of activities is defined.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Procedure for technical and physical security ref. QP 2.09.
6.1 Do your staff attend recognised bird control training courses? No recognised courses attended, however we try to attend all conferences and events related to the bird control issue.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Sirens mounted vehicles and shotguns.
6.4 Do you carry out a bird strike risk assessment? No data available.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? According to doc9137-AN/898 report is delivered to CAA.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? According to local procedure the problem of wild dogs is solved.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Year of manufacture – 2004 Type – Rosenbauer Chassis – MAN Axle – 6x6 Capacity – water – 12.000 litres of water, foam – 1500 litres.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Towing vehicle for airport equipment, service stairs with the possibility of changing height, terrain vehicle for towing friction tester.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We do not possess a fire training simulator, but we do practical exercises/drills.
PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From 1 Dec – 1 Mar.
8.2 Average annual days of snow:
2 days a year (last 3 years).
8.3 Average snow depth: No data available.
8.4 Maximum snow in 24 hours: No data available.
8.5 Annual number of days of de-icing activities: No data available.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 20 employed persons.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): According to subcontracted equipment list.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Priorities for cleaning movement areas are the following: RWY; Taxiways N & B; Apron; Taxiways A, G & M; GA apron; Taxiways J & P, and Technical apron.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: As for Guideline QP3.30.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? No data available.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Friction tester (Airport Surface Friction Tester – ASFT) type Continuous Friction Measuring Equipment – CFME

PRAGUE

Prague Airport

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Prague Ruzyne Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): RWY 06/24: 3,715x45m, Shoulder: 2x7.5m, TORA 3,715m. RWY 13/31: 3,250x45m, Shoulder 2x7.5m, TORA 3250m. Total Apron Area: 253,000sqm, Total Pavement Area: 1,717,800sqm.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 24 ILS CAT III, RWY 06 ILS CAT I (ALS CAT I shortened to 480 m), RWY 31 ILS CAT I, RWY 13 ILS CAT I.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish





a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No. Prague Airport has SMS in compliance with ICAO Doc. 9859 without any significant changes.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: General FOD training is the part of periodical Security and Safety training, which is mandatory for all personnel with permission to enter the SRA zone.
b) Inspection by airline, airport, and airplane handling agency personnel: Airport: FOD check of whole airport is one part of serviceability check provided by specialized department at least every four hours at the Movement area and every two hours at the Apron. Handling: According the Airport rules, the Handling agent is responsible for FOD check at the stand before the arrival of aircraft and after its departure.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc):There are two vacuum cleaners dedicated for sweeping of the Apron. There are FOD containers at all stands.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Co-ordination of FOD prevention is a business of Apron Safety Team. The representative of all Handling, Cargo and Refuelling companies providing services at the airport as well as the representatives of the main airlines and AOC are the members of this team.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? A-SMGCS at the Movement area (all vehicles are equipped with Mode S responder) and CCTV at the Apron.
5.2 Are any design or engineering changes being undertaken / required to eliminate perceived hazards? Yes, but nothing serious.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A-SMGCS level 2.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: 1. RWY guard lights (WIG-WAG) at all RWY holding positions in use. 2.Large white inscriptions "RWY AHEAD" on the red background behind all the last RWY holding positions marking.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All drivers permitted to drive a car on the movement area have to have a special training providing by ATC training centre and they have to pass an examination. After that, they get a special licence valid for three years.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes, there is a common reporting system for Runway Safety Incidents.The system (web reporting) is able to safeguard the identity of reporting persons.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: According a national law a special protective zone is established around the airport. It is forbidden to build any object or to perform activities which would be attractive for birds. According the same law, the airport operator and CAA is a juristic person at constructions control. The CAA has power to enjoin such constructions or activities.
6.1 Do your staff attend recognised bird control training courses? Employees from the Bird control department must be the regular members of the Hunting Union and as a certified hunter they have to pass a special examination. The reason why is described in 6.3.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously, from sunrise to sunset.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): The main method of bird control is falconry. The airport has employed a group of falconers who protect the movement area with specially trained falcons, hawks and eagles. The method is based not only on the fact that the falconers hunt the wild birds but also on the fact that the birds feel threatened and choose not to remain in the airport area.
6.4 Do you carry out a bird strike risk assessment? No, but we analyse the bird strike trends on monthly bases.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Volkswagen Transporter 4x4 2003 200l 20, Merceses Benz Atego 4x2 2000 2,500l 200, Scania 4x4 2002 2,500l 200, Merceses Benz Buffalo 6x6 1998 8,000l 1,000, Merceses Benz Buffalo 6x6 1998 8,000l 1,000, Panther Rosenbauer 6x6 2003 12,000l 1,500, Panther Rosenbauer 6x6 2004 12,000l 1,500, Panther II Rosenbauer 6x6 2008 12,500l 1,500, Panther II Rosenbauer HRET 6x6 2009 12,500 1,500.
7.2 Future developments – are there plans to purchase or dispose of any equipment? We plan to replace MB Atego with a new RIV vehicle with 4x4 and crew cab design in 2012 and both of the MB Buffalo's with one new 6x6 heavy truck (the category of Panther) equipped with HRET in 2012.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? There is no fire training MOCK-UP in Prague Airport/Ruzyne neither in the whole Czech Republic. We are providing ICAO training abroad.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 01 Nov – 31 Mar.
8.2 Average annual days of snow: 29 days (during last 10 years; 35 days last winter).
8.3 Average snow depth: 87.9 cm (during last 10 years; 122.8cm last winter).
8.4 Maximum snow in 24 hours: 35cm (W06/07).
8.5 Annual number of days of de-icing activities: 25(during last 16 years).

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Operational dispatcher – 3; Operational coordinators (Foreman) – 2; Drivers – 16 internal + 12 external.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units) Snow and ice cleaning: compact jet sweeper Boschung Jetbroom Runway, 4 units; jet sweeper Bucher Schörling P-17, 4 units; compact jet sweeper Bucher Schörling Compact P-17C, 4 units; compact jet sweeper Bucher Schörling Compact P-21C, 4 units; compact jet sweeper Boschung Jetbroom BJB 8000, 1 unit; snowblower Kahlbacher KFS 170 M2, 2 units; snowblower Rolba 4000, 1 unit; snowblower Schmidt 5000, 1 unit; snowblower Schmidt 1500, 2 units; airport sprayer EPOKE, 1 unit; airport sprayer Schmidt, 1 unit; airport twin disc sprayer Schmidt, 1 unit; airport twin disc spreader Schmidt, 1 unit; airport disc sprayer Kobit, 2 units; tractor with "Y-plough", 4 units; UNIMOG 300 with plough and spreader, 1 unit; container spreader Mercedes, 1 unit; small plough and spreader MAGMA, 1 unit; small plough and spreader LADOG, 1 unit; small sweeper Bucher CityCat, 2 units; tractor sweeper, 9 units; jet-blower, 3 units. Snow removal: truck, 4 units; loader, 3 units; tractor platform trailer, 4 units; subcontracted truck and loaders.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons, etc.) stating identity of each facility: 1. RWY in use + RWY exits + TWY parallel to RWY in use, Apron North (number of stands covering the real traffic) + access to Fire Fighting Stations, access to meteorological and radio navigation aids relating to RWY in use. 2. Access to aircraft parking position and Hangars (priority on request). 3. Second RWY + RWY exits, parallel TWY and access to meteorological and radio navigation aids relating to this RWY (according to actual meteorological situation). 4. Aprons East and South (necessary parts). 5. Rest of the Apron North. 6. Rest of the Aprons South and North. 7. Rest of the movement area and manipulation areas (priority on request).
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Airside Working Group (AWG) is responsible for cleaning of whole Manoeuvring area. Runways and Taxiways. Snow co-ordinator coordinates the cleaning with TWR Controller. The whole AWG moves to the RWY threshold and starts cleaning of the RWY and parallel TWY. When the RWY and parallel TWY are cleaned, the AWG divides into two smaller groups and cleans the rest of the important entries and exits TWYs. If it is necessary, the snow banks are removed by snow cutters. Aprons: Snow is pushed from the terminal building across the APRON to the grass, if it is possible, or it is loaded and removed. Surface De-icing: Acetates are used for de-icing on runways, taxiways and aprons. Urea can be used only on roads near to APRON. Salt can be used on Landside only
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 30 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Acetate based de-icing fluid, usage approx. 900.000 litres (930.000 in W10/11). Effectiveness is good.
12.2 Comment on storage capabilities of the chemicals which you use: Storage for 200.000 litres directly at the airport.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor", etc: Experiences with solid de-icers are not good.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or






sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: BOSCHUNG MECATRONIC, 8 stations.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Not yet.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: The ice warning system is a very good tool for monitoring of the pavement condition. It also helps us with alarms of bad condition on the runway. Its function to store historical data is very useful.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No. Aircraft anti/de icing is provided by handling agents.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? At dedicated de-icing pads.
14.3 Is glycol recovered? If so, please state methods: No. It drains directly into the water treatment station.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SARSYS Friction Tester, 2 units.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes. We have an action plan for replacement of existing units and increasing capacity and capability of winter services for the future.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

PULA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Pula Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY:2946x45m, TORA: 2946m, TWY WIDTH: 23m, SHOULDERS: NONE, RAMP: approx. 64.200 square meters.
2.2 Landing aids for each RWY (e.g. CAT II): RWY09 - CAT I Simple Approach Lighting System, RWY27 - CAT I Simple Approach Lighting System.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, it has.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: We have internal procedures for ensuring the control of FOD and yearly safety refreshment trainings are being conducted along with licensees extension trainings.
b) Inspection by airline, airport, and airplane handling agency personnel: Airport employees are conducting inspections of FOD on operating areas several times a day. Airport procedures for controlling FOD are presented to the airlines and handling agencies during audits.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): We use FOD containers and sweeping methods.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Coordination with ATC, there is no other multiple agencies.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Our employees use a special software ("NIKO"-"Galiot") in order to log all daily inspections of operating areas in the terms of FOD's control.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Monitoring is ensured through DCS system, video surveillance (video records) and personnel observations.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No, there are not.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Above mentioned devices currently are not employed.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Use of these technologies can be very useful and successful, especially on airports with one runway and a few number of taxiways.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Airport staff are participating safety refreshment trainings.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? The reporting procedures for safety incidents has been already set up jointly with other parties active in these processes and 'no-penalty' principles are ensured.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: The attraction of birds to the airfield is reduced by careful planning of herb cutter on the airfield and on surrounding areas.
6.1 Do your staff attend recognised bird control training courses? Yes, they did.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Yes, continuously in shifts.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Pula Airport employees use pyrotechnics, alarm shotguns and dogs.
6.4 Do you carry out a bird strike risk assessment? Not yet.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): They log all their bird control activities through our bird control programme software which indicates every single bird control prevention activity (for example: time and place of using alarm shotguns and dogs).
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No, we do not have problems with other wildlife.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Pula Airport vehicles: 1. PANTHER I, 6x6, Rosenbauer, 2009, Water tank: 12000l, Foam tank: 1500l, Powder tank: 250kg; 2. PANTHER II, 6x6, Rosenbauer, 2007; Water tank: 12000l, Foam tank: 1500l, Powder tank: 250kg; 3. PANTHER III, 6x6, Rosenbauer, 2005. Water tank: 12000l, Foam tank: 1500l ; 4. FAUN, 6x6, Rosenbauer, 1984, Water tank: 9000l, Foam tank: 1000l; 5. MAZDA, 4x4, B2500 TD, Mazda, 2004.
7.2 Future developments – are there plans to purchase or dispose of any equipment? At this moment, there are no plans.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Construction of a Fire Training Simulator is in process.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 01 Nov – 15 Apr.
8.2 Average annual days of snow: 1-2.
8.3 Average snow depth: 5-20cm.
8.4 Maximum snow in 24 hours: Approx. 30cm
8.5 Annual number of days of de-icing activities: 3-5 on A319, 17-25 on DashQ400.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Pula Airport does not have a special winter service. In the case of severe meteorological conditions, winter service is formed from maintenance personnel and technical service personnel. The number of available personnel per shift would be min. 12-15.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 1. Anti/de-icing truck, Man-Sroder, 18.232 F-Automatic, 1 unit; 2. Pavement sweeper, FMS, 1 unit; 3. De-icers spreader, 1 unit; 4. Other sub-contracted vehicles and equipment.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 1. Runway, 2.Taxiways C, F and then A and others, 3. Apron.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: The clearing starts after 15-20mm of wet snow or 50mm of dry snow. It is performed with our and sub-contracted sweepers. After sweeping, the de-icers spreader, sprinkles the de-icer chemicals.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? It is hard to estimate because there was no often moderate snow on Pula Airport in the last 3 or 4 years. It happened only once and the "black top" was achieved during the night.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: We use "UREA" pavement de-icer and last 2 or 3 seasons we did not have to use it at all. "UREA" de-icer has enough effectiveness for our meteorological conditions.
12.2 Comment on storage capabilities of the chemicals which you use: We have 1,250 kg of "UREA" in our storage and more than1,250kg in a sub-contracted storage.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: "UREA" is a solid de-icer.





12.4 Have you experienced any corrosion problems with de-icers? No, until now we did not.
12.5 Have you employed any special means to economise on chemical use? No, we did not.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: We do not have ice warning system because meteorological conditions at Pula Airport are very good. At this moment, monitoring it is performed by personnel observations.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? At this moment, we do not have plans to purchase an ice warning system due to mentioned meteorological conditions.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Anti/de-icing truck, Man-Sroder, 18.232 F-Automatic, 1 unit
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We are performing de-icing on the parking area.
14.3 Is glycol recovered? If so, please state methods: No, it is not.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Saab, SFH Friction tester.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No, at this moment we will not change any of airport methods.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: At this moment, we do not have plans to purchase new equipment or vehicles.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No, we do not have equipment or other products on order.
16.4 Do you have any winter services equipment which you would like to sell? No, we do not have any winter services equipment which we would like to sell.

RIGA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Riga Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas: Total RWY 18/36 length – 3200m, Take Off Run Available [TORA] – 3200m, RWY width – 45m, shoulder widths – 7.5m, total apron area – 373200m2,
number of stands – 52. From April 15, 2012 until October 25, 2012 large scale reconstruction works will take place, including RWY resurfacing. RWY will be closed nightly 00:00 – 06:00 (local), From May 31, 2012 the THR RWY 18 will be displaced with remaining RWY length 2370m.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 18 – CAT I, RWY 36 – equipped for CATII but certified for CAT I.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? SMS has been established in September 2005 and last reviewed in November 2010. SMS manual is accessible for all staff. Runway safety team is operational. Incident reporting system and apron safety training is constantly being improved. Hazard identification and risk assessment for all aerodrome processes will be done by end of 2011.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: FOD topics are integrated in several training modules such as Ramp Safety Basic and Refresher courses, Airside driving, Marshalling, Follow-me, etc.
b) Inspection by airline, airport, and airplane handling agency personnel: The main inspection responsibility lies upon Airfield Maintenance Unit but generally anyone working on apron is trained to be responsible.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Regular sweeping of aprons, regular checks on RWY and TWYs, FOD containers on most-used stands.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): The common Ramp Safety training module for all agents operating airside provides coordinated action.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comment): None at the moment, FOD radar is expected in future.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? A-SMGCS controlled by ATC.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Guardlights and stopbars installed on RTHPs, signs for vehicles entering manoeuvring area and ILS critical area are installed, upgrade of ground team radio equipment to a certified system is in progress.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A-SMGCS.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Special marking is in place where apron borders Manoeuvring area.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Runway/apron safety bulletins issued occasionally. Special Driving rules and training programme for driving in the Manoeuvring Area.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? All incursions are communicated between ATC and Airport Authority and investigated by Safety management team. Anonymous reporting option is available. All safety information is also relayed to the CAA.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. No food sources; open water bodies fitted with criss-cross wires and bright pieces of ribbon; tall grass; all bush and small trees cut; hangar door always-closed policy; chemical bird repellent on aerodrome signs, rooftops and edges; and removal of nests.
6.1 Do your staff attend recognised bird control training courses? In MAY2009 a week-long on-site training was commenced by MJ Airports, 2010 – ACI course.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? At least every hour.
6.3 What specialist equipment do you employ for bird control? Please state relevant supplier/manufacturer: Scarecrow handhelds and mobile units; Merlin bird radar by deTect (since spring 2011), to be connected to ATC in 2012;
Pyrotechnics
6.4 Do you carry out a bird strike risk assessment? Yes, annually.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes, by means of Scarecrow Ultima.
6.6 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Foxes, dogs, and cats occasionally observed. Beavers cause a lot of trouble but they operate outside the fence. Most of fence is buried at least 30cm under surface. Trees are cut to create a 6m wide clear buffer behind the fence.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: 1x Scania 4x4 2500 litres type A 2009, 1x Scania 6x6 8000 litres type A 2009, 2x SIDES VMA 6x6 9500 litres type A 1999, 1x VOLVO FCT 4x4 9000 litres type A 1973, 1x VOLVO CCT 4x4 4000 litres type A 1973.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No.
PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? October 30 – March 25.
8.2 Average annual days of snow:
40-45 days with snowfall.
8.3 Average snow depth: 10-15cm.
8.4 Maximum snow in 24 hours: 30cm.
8.5 Annual number of days of de-icing activities: 150 days of aircraft de-icing,
60 days of pavement de-icing.

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? 2 aerodrome duty engineers, 2 workers and 13 drivers.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units: Universal aerodrome vehicle BOSCHUNG JETBROOM 6 units, Aerodrome sweeper/snow plough MOAZ DE-224 4 units, Frontloader CASE and Liebherr 2 units, Tractor Various 6 units, Snowblower DE-226 2 units, Snowblower Ovaraasen UTV630 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Runway, operational taxiways, RFFS, apron 1, apron 2, apron 3, apron 4, service roads, non-operational taxiways.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Centre-line-to-edges method when no significant crosswinds present. 4 vehicles on the runway, 2 – on taxiways. After two full-length runs on runway, 2 of the vehicles move to taxiways, the other 2 remain on runway to "fine-clean" the corners and edges.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 13-15 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: In 2012 Kemira Clearway (liquid 120t, solid 180t per winter). Previous winter Kemira liquid and Meltway solid.
12.2 Comment on storage capabilities of the chemicals which you use: Solid agent is very well stored in the original plastic bags. 50m3






fibreglass storage tank for liquid agent.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: We do not mix. Blow-away is much dependent on granular shape. We normally choose irregular granules.
12.4 Have you experienced any corrosion problems with de-icers? Minimal. Issues are mostly reported when galvanized steel parts get in contact with vaporized agent or the solid agent sticks to some parts of trucks where it does not get washed away immediately.
12.5 Have you employed any special means to economise on chemical use? Substitute with sand on remote service roads.
12.6 Do you have any other comments on experience with chemicals? Spherical granules are not very good on ice or any other hard/smooth surface because they simply "roll away" from the desired spreading area.
12.7 Do you use other chemicals or sand on operational areas? Sand is sometimes used as temporary solution on service roads with compacted snow or ice.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning system: None.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.

14. AIRCRAFT DE-ICING

14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Currently de-icing takes place on apron.
14.3 Is glycol recovered? If so, please state methods: The new de-icing pads incorporate glycol recovery system, to be operational in winter 2013/2014.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Sarsys Saab 9-5 (main), Bowmonk AFM2 Mk3 (back up).
15.2 Have you any comments on the reliability of friction indexes? This issue should be cleared globally.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? The existing model works well.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Probably another high-speed snow blower.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: Overaasen UTV630 attachable snow blower to be delivered by Christmas 2011.
16.4 Do you have any winter services equipment which you would like to sell? None.

ROME

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Roma-Fiumicino

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): RWY 07: TORA 3307m, TODA 3367m, ASDA 3307m, LDA 2892m, Width 45m, Shoulder 15 x 15m; RWY 25: TORA 3307m, TODA 3367m, ASDA 3307m, LDA 3307m, Width 45m, Shoulders 15 x 15m; RWY 16C: TORA 3602m, TODA 3802m, ASDA 3802m, LDA 3002m, Width 45m, Shoulders 7.5 x 7.5m; RWY 34C: TORA 3002m, TODA 3062m, ASDA 3602m, LDA 3002m, Width 45m, Shoulders 7.5 x 7.5m; RWY 16L: TORA 3902m, TODA 3962m, ASDA 3902m, LDA 3902m, Width 60m, Shoulders 20 x 20m; RWY 34R: TORA 3902m, TODA 3962m, ASDA 3902m, LDA 3902m, Width 60m, Shoulders 20 x 20m; RWY 16R: TORA 3902m, TODA 3962m, ASDA 3902m, LDA 3902m, Width 60m, Shoulders 15 x 15m; RWY 34L: TORA 3902m, TODA 3962m, ASDA 3904m, LDA 3902m, Width 60m, Shoulders 15 x 15m.Total Apron Area: 1,477,101.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 07: SALS, 420m; RWY 25: CAT I, 900m; RWY 16C: CAT I, 420m; RWY 34C: CAT I, 420m; RWY 16L: CAT II/III, 900m; RWY 34R: CAT II/III, 900m; RWY 16R: CAT II/III, 900m; RWY 34L: ALS, 578m.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Our SMS is following the ENAC (Italian Civil Aviation Authority) requirements stated by the circular APT-22. We haven't had recent changes but our policy depends mainly on results of: Reporting System; Audits findings; Risk Assessments on the main airport risk factor. We carry out actions according to results of investigation and analysis of occurrences Safety Action and Recommendations; Safety Information and Safety Campaign.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: General and recurrent training every year.
b) Inspection by airline, airport, and airplane handling agency personnel: Any stand must be inspected by handling or airline agent before the aircraft entrance (ramp agents). Airside Safety agents inspect 5 times a day.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Sweeping, FOD containers and Fod Boss.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Local Rules Publication.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): FOD events Data Base with multi-variate risk coefficients (own system with own algorithm).

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? SMR.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? ICAO/EC Action Plan statements.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A-SMGCS Level 1. Level 2 is expected before 2013.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Rwy Incursion Alert System, Rwy Id, Rwy ahead markings, no entry signs and markings.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Special driving license and recurrent training.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes, with ANSP and Italian CAA.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Long grass policy.
6.1 Do your staff attend recognised bird control training courses? Yes every year.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Digital Bird Dispersal System" (distress-call) devices operating on the vehicles of the B.C.U. - N. 2; N. 2 static "Digital Bird Dispersal System" present along runways 16R/34L and 07/25; N. 2 static "High Frequencies Sound System" devices along runways 07/25 and 16R/34L; N. 110 remote-controlled propane gas cannons along runways 07/25, 16L/34R and 16R/34L; Distress-call L-RAD; Guns; Remote-controlled video cameras' system operating H24.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): Yes both inspection results and impacts.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No, only occasionally.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: CFR is done by Fire Brigade which is managed by Italian Internal Affairs Ministery. Their equipment is fully compliant for Cat.10 as stated by ICAO.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? There is a small training simulator not for aeronautical specific training.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? December – April.
8.5 Annual number of days of de-icing activities: Less than 1 average day.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 35 for shift.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 5 Snow plow; 3 Snow blower; 6 Sweeper-blower; 2 anti-icing liquid spreader; 27,000 liters runway anti-icing fluid.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY 16R-34L; TWY Alfa and Adjacent links; Apron West; RWY 07-25; TWY Bravo and Adjacent links; Apron East.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Oblique Scheme.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 30 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Glycol Kilfrost abc 3.
12.2 Comment on storage capabilities of the chemicals which you use: 27.000lt.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: N/A.
13.2 Have you plans to purchase further ice warn-





ing systems and if so which model(s)? Yes.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: N/A

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Yes.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Parking area.
14.3 Is glycol recovered? If so, please state methods: Yes.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SAAB Friction Tester.
15.2 Have you any comments on the reliability of friction indexes? Yes they are realiable.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes every vehicle/equipment have his own renewal plan.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment which you would like to sell? No.

SKOPJE

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Skopje Alexander the Great Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): RWY 34 length 2.950m=TORA/TODA/ASDA/ RWY 34 LDA = 2.450m, RWY width 45m, shoulder 7.5m, total apron area 75.660m, ramp area 84.485m
2.2 Landing aids for each RWY (e.g. CAT II): ILS CAT I RWY 34 (LLZ, GP, OM, MM, VOR/DME and visual aids: HIALS & runway lights CAT II, PAPI) and RWY 16 only visual approach.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Implementation in progress.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: included in ramp safety training.
b) Inspection by airline, airport, and airplane handling agency personnel: By airport staff.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Use of sweeping and FOD containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Airport ramp dispatcher.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visually by ATC tower.
5.2 Are any design or engineering changes being undertaken /required to eliminate perceived hazards? Not required.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): None of this, only stop-bar lights.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Markings and signs for runway holding points.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Airside safety training only for airport vehicle operators.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Grass mowing, cutting trees etc.
6.1Do your staff attend recognised bird control training courses? Yes ACI course.
6.2Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Bird guard pro super.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)?: Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Rosenbauer Rapid Intervention Vehicle; Mercedes Benz Atego 1225 4x4; 2.400/300/250 fix mix; 2002; Rosenbauer Universal FF truck MB Actross 3343/6x6/ 6.500/800/250 ULF foamatic/2002; Rosenbauer FF truck MB Actross 3343/6x6/9.000/1.000/250 FLF/2002.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness: 15 Oct – 01 Apr.
8.2 Average annual days of snow: 6 days.
8.3 Average snow depth: 14.1cm.
8.4 Maximum snow in 24 hours: 50cm.
8.5 Annual number of days of de-icing activities: 71 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 20.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): Compact Jet Sweeper CJS 914 Super II x 5 units/Solid and liquid spreader with snow plough Mercedes-Schmidt SST-50 x 1 unit/Liquid sprayer Mercedes-Schmidt ASP 25 m span x 1 unit/snow blower Rolba R 3000 x 1 unit/Snow blower Schmidt Supra 3000 x 1 unit/ Snow plough Mercedes-Schmidt 4 m width x 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Runway 34/16, TWY A & H, apron.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Centre line to edges.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 20 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Clariant SAFEWAY KA; POLIDE ICE, 43.800 l.
12.2 Comment on storage capabilities of the chemicals which you use.: 60 m3.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Only urea is used.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: FMC LMD 2000, 2 pcs.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No/on parking area.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SAAB SFT 340 i.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment which you would like to sell? No.

SOFIA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Sofia Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY length 09/27:3600m, RWY width 09/27: 45m, RWY shoulder widths: 2 x 7.5m, RWY Strength (PCN): 70 / F / B / X / T. RWY 27: TORA: 3600m, ASDA: 3600m, TODA: 3600m, LDA: 3600m. RYW 09: TORA: 3600m, ASDA: 3600m, TODA: 3600m, LDA: 3300m.






2.2 Landing aids for each RWY (e.g. CAT II): A. Radio aids: LS: RWY 09 - CAT I, RWY 27 – CAT IIIA, DME, DVOR. B. Lighting aids: Precision approach lighting system for each RWY, RWY edge lights for each RWY, RWY threshold lights for each RWY, RWY end lights for each RWY, RWY centre line lights for each RWY, RWY TDZ lights: for RWY 27 – Yes, for RWY 09 – No, Visual approach slope indicator systems: PAPI for each RWY. C. Marking: according ICAO Annex 14, figure 5-5 (B)

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? SMS was introduced at Sofia Airport during the period from 2007 to 2009. According the SMS Manual the system should be updated every two years on the basis of the safety analysis and risks and hazards assessments. The Airport Operator is planning for the Budget 2012 to order an SMS specialized software.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: FOD prevention programme is opart of the Safety Management courses, which are obligatory for all staff working at the airport territory.
b) Sweeper, Boshung Jet Broom BJB 800, 1 unit, Sweeper, Bucher City Cat 2020, 1 unit, Single FOD BOSS Assembly, FOD containers are installed at the apron.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Airlines, handling operators, cargo operators and other airport users.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No, at this time there are not any software solutions in use for FOD control.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? All vehicles are equipped with radio communication devices to contact whit ATC Sofia Tower. Aircraft movements are monitored by ATC Sofia Tower. All movement area is monitored by ground radar.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? All marking, signs and lighting system are designed according ICAO Annex 14.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Currently no safety devices are employed.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Reflective marking, illuminated signs and AGL System.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Safety operations courses, including ICAO phraseology, are obligatory for the all ground personnel working at the airport territory. Training and practice on Ground Movement Local Rules and Regulations.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? The reporting system is an integral part of airport SMS.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Bird deterrent System is installed and operating at Sofia Airport. Daily inspections by Sofia Airport Bird strike & wildlife prevention Sector – within the structure of Operations Department of Sofia Airport. Bird-strike prevention Manual is adopted and implemented at the airport.
6.1 Do your staff attend recognised bird control training courses? Yes, they do.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Bird control staff is working continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Bird deterrent system: Phoenix Wailer Mk III.
6.4 Do you carry out a bird strike risk assessment? Yes, of course. It is a part of Annual Safety Report.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes, the records are put in the Report Book.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Rabbits, dogs and foxes appear accidentally at the airfield. Bird & Wildlife Control Unit deals with prevention of accidents connected with other wildlife.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Mercedes UNIMOG, 4x4, 1000/100 l, 1 unit, Mercedes SAURUS AS 12+250, 6x6, 10000/1200 l, 2 units, Tatra CAS 815, 6x6, 8000/800 , 2 units, Mercedes truck with tank of 22000/700 l, equipped with an installation for runway foaming, 1 unit.
7.2 Future developments – are there plans to purchase or dispose of any equipment? There are plans for order of Fire Fighting Vehicle and of Emergency Vehicle.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? November – March.
8.2 Average annual days of snow: 35
8.3 Average snow depth: Dec: 4cm, Jan: 10.4cm, Feb: 9.2cm.
8.4 Maximum snow in 24 hours: Nov: 3cm, Dec: 30cm, Jan: 60cm, Feb: 43cm, Mar: 16cm.
8.5 Annual number of days of deicing activities: 55 - 68 Days.

9. WINTER ORGANISATION

9.1 How many airport-employed or subcontracted winter services personnel are available per shift? Five employed per shift.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units):Truck-trailer, Tatra, 9 units, Rotor sweeper, Ural, 2 units, Rotor sweeper, Rolba Bucher, 2 units, Brush blower, Overasen, 6 units, Brush blower with plough, Boshung, 2 units, Brush blower with plough, Fresia, 2 units, Specialized snow cleaning combined machine, Boshung, 1 unit, Specialized snow cleaning combined machine, Bucher, 2 units, Spreader, IFA, 1 unit, De-icing machine, Boshung, 1 unit, Plough, Schmidt, 11 units.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Runway, Taxiways, Apron.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: General method is: 1. Push out snow with ploughs and brushing. 2. Throw out snow with rotor sweeper. 3. Use spreader / if necessary. 4 Friction testing.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? For 15 – 45 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Carbamid (urea), 160 t.
12.2 Comment on storage capabilities of the chemicals that you use: 170 t.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Use only solid de-icers, treatment from wind direction.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

Runway of Sofia Airport is not equipped with ice-warning system.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Yes, Sofia Airport provides directly de/anti-icing operations. The following vehicles are in use: Ford 1800TM – 2 units, FMC TEMPEST II – 2 units, Liquid – Safewing MP II 1951,manufacture: Clariant.
14.2 PAD "EAST" is dedicated for 1 /one/ aircraft ICAO code E PAD "WEST" is dedicated for simultaneously treatment of 2 /two/ aircraft ICAO code C or 1 /one/ aircraft ICAO code D, E
14.3 Is glycol recovered? If so, please state methods:No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Airport has in operation 2 surface friction testers: Saab 9000 SFT, Saab 95 SARSYS.
15.2 Have you any comments on the reliability of friction indexes? No, we have not.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.





SPLIT

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Split Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY length-05/23-2550x45m; TORA-05/23-2550m; TODA-05/23-2550m; ASDA-05-2800m; ASDA-23-2500m.
2.2 Landing aids for each RWY (e.g. CAT II): CAT I.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits?Yes.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Training is done through SMS trainings.
b) Inspection by airline, airport, and airplane handling agency personnel: Regular audits and daily FOD inspection.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): FOD-boss is used on Split Airport. Twice a day our workers do "walking checks" , looking for FODs. We have FOD boss containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): There are no multiple agencies using airport.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Split Airport has an own software solution called "Galiot". Every FOD that was found needs to be filled in "Galiot". On that way we collect more information about FOD and we do analysis.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Movements on the ground are regulated by the Airport local rules.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards?Yes.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment):There are no safety devices in place.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies:We have warning signs.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All participants shall follow procedures stated in Airport Manual.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting?We have been set up jointly with other parties. We respect "non-punitive" principles.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds:
6.1 Do your staff attend recognised bird control training courses?Yes.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly?Our bird control staff are checking airfield continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Fire sirens,rocket gun, MEGA BLASTER PRO.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Our staff log all activities through the own system "Galiot".
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture:1 Heavy fire fighting vehicle MAN 6x6 8.500L/1000L; 1 Heavy fire fighting vehicle MERCEDES 9000L/1000L; 1 Heavy fire fighting vehicle MERCEDES 8500L/1000L; 1 Commander vehicle Jeep Cherokee 2,8 CRD; 1 Commander vehicle Jeep Cherokee 2.5 TD; 1 Trailer Zigler with medical equipment 2,5 t.
7.2 Future developments – are there plans to purchase or dispose of any equipment?Yes.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Split Airport doesn't have Fire training simulator.
PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness?01.11 – 31.03.
8.2 Average annual days of snow: One to two times per year.
8.3 Average snow depth: Few centimetres (to 2cm).
8.5 Annual number of days of de-icing activities: 2-3 .

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 4-6.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units):De-icing vehicle –Stadler. Type IV- Clariant.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: 1 de-icing vehicle – Stadler.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? On parking area.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Vehicle SAAB 900
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods?Yes.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes. We plan to purchase more FOD-bosses, electrical equipment and IT solutions.

TALLINN

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Lennart Meri Tallinn

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 08: 3070x45m, TORA 3070m, TODA 3370m, ASDA 3130m, LDA 2820m. RWY 26: 3070x45m, TORA 3070m, TODA 3130m, ASDA 3130m, LDA 3070m. RWY shoulders widths 7.5m. Apron A- 256 510sqm; Apron B- 5 814sqm; Apron C- 8 941sqm.
2.2 Landing aids for each RWY (e.g. CAT II): ILS CAT I.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, SMS elements are regularly reviewed and risks assessed, followed by action plans.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Training carried out for all personnel airside area.
b) Inspection by airline, airport, and airplane handling agency personnel: Inspection by safety, airport maintenance and ground handling personnel.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Maintenance using sweeping; magnetic bars and on every stand special FOD containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Co-ordination of multiple agencies using airport (handling agents and operators).
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? A-SMGCS; by TWR; camera system.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? A-SMGCS.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A-SMGCS
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Stop-bars; guard lights and marking most effective warnings.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Manouvering area driving training program.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Do not make airfield attractive for birds.
6.1 Do your staff attend recognised bird






control training courses? Yes.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? 24/7.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Audio systems, Guns, Pyrotechnic.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: LJ 11 Scania 113h 6x6 1996. Reg.nr 136AIR, Rosenbauer, water 9000 l, foam 1000l, renovated in 2011. Pump 6000 l/m, LJ21 Scania 113h 6x6 1996.reg.nr 132AIR, Rosenbauer, water 9000l, foam 1000l, renovated in 2011. Pump 6000 l/m, LJ31 Scania 480R 6x6 2009, reg nr. 137BCE, Wawrzaszek, water 9000l, foam 1000l, pump 6000 l/m.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Heavy rescue container has been purchased, all resources are reviewed yearly according to budget.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes, it is available to other airports.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 15 October 15 April.
8.2 Average annual days of snow: 65.
8.3 Average snow depth: 28cm.
8.4 Maximum snow in 24 hours: approx. 50cm.
8.5 Annual number of days of de-icing activities: 35.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 12.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Schmidt CJS 914– 2 units; Vammas SB 4500H- 9units; Vammas Trucks: MAN 4X4 - 5 units; MB Actros 6X4 -7 units; Shmidt SCL and Vammas PS 3500 snow cleaning appliance for runway and taxiway lighting; Snow Cutter-Blowers: Vammas B 400- 2 unit; De-icer equipment: spreader for solid and liquid Schmidt Stratos 3 units; Friction tester: ACE skiddometer BV-11 –3units; Tractors: Valtra with several equipment –4 units, Bobcat –1 unit, Wille 455-1unit, Case 821C with plough and bucket 4 units; Airport Sweepers: Bucher Schörling 3000; Shmidt 990; CityCat 2020.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY 8/26, TWY B, exit road from the fire station and ILS critical areas; 2. 1-15 ACFT stands on the Apron A; 3. TWY A and TWY C,D,E,F 4. Apron B and C; 5. Other ACFT stands, apron A;
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: RWY: 5-11 vehicles along centreline from TWY B and from RWY 08 to 26 and back. TWY and Aprons cleaning system is same: from centre to shoulder.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? "Black top" on the runway achieved in 10-15 min.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Urea 200 tons. Clearway / Nordway 150 tons.
Urea is effective to –4. Nordway is effective and reacts very quickly. No experience with using below –10c
12.2 Comment on storage capabilities of the chemicals that you use: We store approximately 30-60 tons of urea and 30-50 tons of Nordway.
12.4 Have you experienced any corrosion problems with de-icers? Yes.
12.5 Have you employed any special means to economise on chemical use? Yes, very good information about weather and experiences.
12.6 Do you have any other comments on experience with chemicals? Trying to vary (to use more environment friendly chemicals).
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Runway temperature sensors (6 sensors on RWY by Vaisala).
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Have been beneficial.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Airport is not providing aircraft anti/de-icing service directly, Tallinn Airport GH is providing these services.
14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Anti/de-icing is performed on the parking stands.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? ACE skiddometer BV-11 –3units.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? Yes, we upgrade them every year.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

TIVAT

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Tivat Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY length x width: 2500m x 45m, TORA: 2500m, Total Apron area: 46,212sqm, Commercial aviation apron: 450m x 76m, General aviation apron: 156m x 77m, ICAO Category: 4D.
2.2 Landing aids for each RWY (e.g. CAT II): Approach and Runway lighting: RWY14: PAPI Both/3°, THR LGT colour WBAR green, RWY32: CAT I 900 M, PAPI Both/3.2°, THR LGT colour WBAR green.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? SMS is not available at Tivat airport, neither as part of Aerodrome (Certification) Manual nor as a standalone publication.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: FOD training is provided by Airports of Montenegro Training Centre through either safety awareness training for all airside personnel or/and specific courses (Ramp agent training, GSE operator training…).
b) Inspection by airline, airport, and airplane handling agency personnel: Once a year, at least, inspections and/or audits are performed by airlines (This year quality audit was performed by Thomas Cook Airlines Belgium).
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Airfield Sweeper "FOD BOSS".
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Maintenance of movement and manoeuvring area is responsibility of airport operator i.e. Tivat airport (Airports of Montenegro).

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: "Tivat airport Bird strike and Wildlife hazard Management and Prevention Programme" is in place at Tivat airport.
6.1 Do your staff attend recognised bird control training courses? No .
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): ARFFS trucks horns (ROSENBAUER PANTHER 6X6) and start gun/shotgun.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Type: Rosenbauer – Panther, 2 units, Chassis: MAN, Axle: 6x6, Capacity: water/12,000 lit; foam/1,500 lit, Year of manufacture: 2004.

PART 2: WINTER SERVICES QUESTIONNAIRE

Part 2 Remark (besides No 15): Airside Winter Operations Programme/Procedure is not applicable nor available at Tivat airport. Winter conditions (snow, ice etc.,) are extremely rare.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Friction tester model: ASFT – T10.

VIENNA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Vienna Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 11/29





3.500m x 45m + 7,5m shoulders TORA 3.500m, RWY 16/34 3.600m x 45m + 7,5m shoulders TORA 3.600m, Apron Total app. 1,000.000 m•, TWY app. 22.000m x 23m.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 11 CAT I, RWY 16 CAT IIIb, RWY 29 CAT IIIb, RWY 34 CAT I.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: FOD prevention is part of airside regulations training (initial and recurrent), Flyers and Handouts for the prevention of FOD.
b) Inspection by airline, airport, and airplane handling agency personnel: FOD inspections are performed by airport operations on manoeuvring areas and by handling agents before aircraft entering the parking stand.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Continuous sweeping from 6 am to 3 am 57 FOD Pins are installed.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Ramp Safety Committee.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Eye contact, Surface Movement Radar.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Cars on the maneuvering areas are equipped with transponders to become visible on the Advanced Surface Movement Guidance and Control System.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A-SMGCS – ASTOS – AVIBIT.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Chains and signs.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Recurrent training of vehicle operators (maneuvering area). Short time works only under supervision of trained staff.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Incidents and safety relevant matters can be reported non punitive (Safety Report).

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds:
6.1 Do your staff attend recognised bird control training courses? Internal Training.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Recorded distress calls, pyrotechnics.
6.4 Do you carry out a bird strike risk assessment? Part of SMS.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Several vehicles fulfill ICAO CAT 9 requirements for both RWY's.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes – it's used by all Austrian Airports.
PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? Oct 15 to Mar 31.
8.3 Average snow depth: 63 m average over the last 10 years.
8.4 Maximum snow in 24 hours: Season 2010/2011 21cm.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 254 airport employees in total app. 65 airport employees and 30 sub-contracted per shift.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, deicing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Jetbroom Runway, Boschung, 10; Jetbroom BJB8000, Boschung, 6; Snowblower, Kahlbacher, 7; Snowplough, Mercedes Unimog, 8; Tractor with Snowplough, Steyr, 8; Liquid Deicer, Küpper Weisser, 20000l, 3; Multi Deicer, solid wet, Schmidt-Nido, 1; Small Multifunction Deicer with plough or brush, Boschung Pony, 6, Pfau/Schmidt, 3.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 1. RWY's & Apron, 2. TWY's.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: RWY: 10 JetbroomRunway, 3 Snowblower, 2 Unimog with plough – one run concept, TWY: RWY vehicles according to TWY width, APRON:6 Jetbroom BJB8000, several Snowplough's and other available vehicles.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? Staff to be expected on the airport after 75min. "black top" within 30min.
12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Vehicles acc. to 10.1.
12.2 Comment on storage capabilities of the chemicals that you use: 500000l liquid, 40000kg solid.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Application solid with 35% liquid deicer.
12.4 Have you experienced any corrosion problems with de-icers? Yes.
12.5 Have you employed any special means to economise on chemical use? Heightened use of solid deicing chemicals combined with mechanical cleaning.
12.6 Do you have any other comments on experience with chemicals? Deicing material must be environment friendly and is consequently less effective and very expensive.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Findlay Irvine ICELERT.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Around 0°C questionable reliability.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: 14 Westergaard Elephant Beta.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Dedicated area.
14.3 Is glycol recovered? If so, please state methods: Yes, it's applied in steps to the clarification plant.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Skiddometer BV11.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

VITORIA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Vitoria Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY04 – dimensions 3500x45m, shoulders 7.5m, TORA 3500m, CWY 100X150m, RESA 220x150m. RWY 22 – dimensions 3500x45m, shoulders 7.5 m, TORA 3500m, CWY 100X150m, RESA 215x150m.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 04 – ILS CAT II, RWY 22 – Non precision approach.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? The airport is carrying out internal audits about the level of compliance of infrastructure and operational procedures, with IACO SARPS, as part of the certification process. The airport is taking the appropriate measures in the SMS to take into account the results of these audits, for example: Improve the grading of the runway strip, installation of RET systems, adaptation of the PAPI for B747-8 operation.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Safety bulletins distribution and safety courses for all the staff involved.
b) Inspection by airline, airport, and airplane handling agency personnel: Regular surveillance by marshallers and inspections by handling agent previous to the





aircraft entering the stand.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): FOD containers, sweeping, sub-contractor.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Apron Safety Committee coordinates the different companies working in the apron.
4.2 General: Are there any special systems or software solutions you employ for FOD control? No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? ATC
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Not available.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Signals, markings and lighting systems.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Staff training, Local Runway Safety Team, Safety bulletins.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Any accident/incident reporting procedure is coordinated with all entities involved in airside operations. Non-punitive principle has been implemented in the occurrence reporting procedures.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Periodic surveillance of wildlife.
6.1 Do your staff attend recognised bird control training courses? No, the airport provides internal training.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuosly.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Sonic bird deterrents.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Hares – huntings are organised periodically. Roe deer – they are caught and carried outside the airport boundaries.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: IVECO Dragon 6x6, 10,000-L, 1200-L, 5000 -L min, 250 K- Chemical powder; IVECO Dragon 6x6, 10,000-L, 1200-L, 5000 -L min, 250 K- Chemical powder; MAN 28.603DFAEX 6x6, 10,000-L, 1.200-L, 5000-L min, 250 K- Chemical powder.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? The airport has a fire training area with real fire. It is available to other airports for training purposes.
PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From November 1 to March 31.
8.2 Average annual days of snow: 10 days/year.
8.3 Average snow depth: 5-7cm.
8.4 Maximum snow in 24 hours: 35cm (winter 2009).
8.5 Annual number of days of de-icing activities: 53 days/year.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 5 airport staff + sub-contractors if required.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): 1 x UNIMOG 1650, 1 x UNIMOG U400, 1 x MAN CFR with plough, 1 x NEW HOLLAND 8360, 1 x NISSAN PICK-UP 4x4, 2 x SCHMIDT NIDO SNK 330 R 3300mm, 1 x SCHMIDT NIDO HYL 530 6100mm, 1 x SCHMIDT FRANCE NEIGE SM-5 3400mm, 1 x MEYER TML 6,5 2010mm, 1 x ASSALONI FL120A 1200mm 3500m3 /hora, 1 x VICON ROTAFLOW RSXL 3050 3 m3 fundente, 1 x IVECO-PEGASO Snow plough – solid 4000mm, 1 x Spreader
GILLETA LV40 5 m3 fundente solido 1.800 l fund liquido, 1 x UNIMOG U400 Snow plough SCHMIDT SNK34 3400mm, 1 x Spreader – liquid SCHMIDT RSP-3S 4000 l.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY - TWYs T1 to T6, B2 y D - Stands 1 to 3 in Ramp1 and 9 to 12 in Ramp2 – TWYs A, B1 , C1 y C2 – Other stands.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: RWY – Three trucks with snowploughs working on tandem from RWY c/l. At the same time, trucks are spreading solid or liquid de-icers. TWY – Two trucks with snowploughs working in tandem. Apron – graders and snow ploughs. Trucks transport snow out the apron.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 1 hour.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Urea – ice prevention. It's used till -9º C, preventive or corrective treatment. Acetatum formiate (liquid) –It's used with very low temperatures and de-icing ice plates.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: There is a sensor in RWY 04 aiming point. The sensor has been install by the Spanish meteorological authority.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: It's a support element to take decisions on the application of de-icing chemicals.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: The service is provided by the handling agents with the following vehicles: DHL – 2 trucks, with 3,750 l. capacity each one
IBE – 2 trucks, with 400 capacity each one.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No de-icing apron is available. De-icing is carried out at stands.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SFT.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

WARSAW

WARSAW CHOPIN AIRPORT

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Warsaw Chopin Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 11: 2800x50m, TORA 2300m, TODA 2300m, ASDA 2560m, LDA 2560m. RWY 29: 2800x50m, TORA 2800m, TODA 2800m, ASDA 2950m, LDA 2300m. RWY 15: 3690x60m, TORA: 3690m, TODA 3690m, ASDA 3690m, LDA 3690m. RWY 33: 3690x60m, TORA 3690m, TODA 3690m, ASDA 3690m, LDA 3690m. Shoulders: 2x5m. Total apron area: 52. Ramp area: 342 564 m2
2.2 Landing aids for each RWY (e.g. CAT II): RWY11 – ILS/DME CAT II, RWY15 – VOR/DME, RWY29 – VOR/DME, RWY33 – ILS/DME CAT II.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No significant change has been made to SMS except the introduction of a dedicated team to conduct safety analyses and incident investigation (recommendation from CAA certification audit). Implementation of dedicated SMS software in progress – operational status to be reached by the end of 2012.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): There is a special procedure in force describing how to prevent, collect and remove FOD from an airside area. Any person staying in an airside area is strictly obliged, firstly, not to drop any object on the ground and, secondly, to pick up any foreign object observed, which must be placed in a specially marked container. Airport maintenance services are only responsible for keeping surfaces clean. They take contents





form FOD containers and dispose of them outside the airport. Airside concrete and grass surfaces are periodically swept and cleaned. No magnetic bars are used. There is no special training performed. Each person working in the airside area is required to know FOD prevention procedures and follow the rules.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? In VMC primary method is visual monitoring done by ATC. Surface Movement Radar (SMR) is treated as advisory measure. During LVP primary device is SMR. Additionally Airport Duty Officer is monitoring TWR and GND frequency and dedicated frequency for communication between ATC and vehicle drivers.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? To improve safety on hot spot area there is a plan of removing taxiway M3. In place of this taxiway, a new rapid exit taxiway is to be built outside of the hot spot area.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Currently none of the above.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: RWY AHEAD markings, continuously lighted stop-bar used in most dangerous areas (hot spots) – they were ignored by pilots on several occasions.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? "Manual on vehicular and personnel movement regulations at Warsaw Airport" describing rules for vehicular and pedestrian traffic – applies to all airport vehicle operators as well as mechanics, controllers and every person working at the movement area.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Reporting system established according to national regulations (reports from airport, ATC, airline and State Commission on Aircraft Accident Investigation). All runway related reports are subject to investigation by Runway Safety Team established at the aerodrome. Non-punitive principles implemented in national regulations regarding aviation accident investigation.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Employment of falconer; agro technology – grass cutting to height which is not attractive to birds; cutting of trees at the airport; removing bird nests from the trees around the airport; preventing the construction of landfills around airports (sorting garbage); acoustic bird dispersal system installed at each approach area and at runway crossing (10 units); use of acoustic bird dispersal arrangement – PATROL TWO; use of pyrotechnic shotgun; development of map of presence of different kind of birds; development of map of migration routes of birds near airport; control of pigeon breeding around the airport – with assistance of City Guard and land owners.
6.1 Do your staff attend recognised bird control training courses? 2011 – Bird Management Conference and Workshop - London Luton.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Acoustic bird dispersal system (Recorded distress calls) – 10 units – BG SUPER PRO AMP BirdControl; PATROL TWO – 2 pieces; pyrotechnic shotgun – 1 piece – mod. 36 Combat; falconer – 6 falcons and a dog.
6.4 Do you carry out a bird strike risk assessment? Bird strike risk assessment is done once a year, the process is audited.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Presence of different kinds of birds on or close to manoeuvring area is logged and analyzed during every-day patrols conducted by specialists responsible for wildlife control.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? There is a small population of hares and foxes. The falconer keeps animals off airport premises.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Tiger E-One 6x6 9000l 2007; Eagle E-One 4x4 5000l 1999; Tiger E-One 6x6 9000l 2007; Eagle E-One 6x6 12000l 1999; Eagle E-One 6x6 12000l 1999; Barracuda Boughton 6x6 12000l 1997; Eagle E-One 6x6 12000l 1999.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Purchase of 2 8x8 Rosenbauer vehicles.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Fire Training Simulator not in place.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From 01 Nov to 15 Apr.
8.2 Average annual days of snow: 75 days.
8.3 Average snow depth: 2cm.
8.4 Maximum snow in 24 hours: 15cm.
8.5 Annual number of days of de-icing activities: 106.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 16 – 22 airport employees are available per shift.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Mechanical equipment including: 19 sets of snow removal vehicles MB ACTROS 2041 truck tractor with a plough and Schorlig P17, Oyeraasen RS 400 and RS 200 runway sweepers; 3 Boschung BJB 8000 compact sweepers with sprinkler-spreaders, Schmidt CFB 5500 S runway sweeper supported by two Unimog tractors with MF 3,3 snow ploughs and sprinkler-spreaders; 5 sprinkler-spreaders including: Schmidt ASS 6000, Kupper Weisser SDA 95, Areal 2000, 2 x Schmidt NIDO; 4 Snow Blowers including 2 x Rolba 3000, 1 x Kahlbacher, 1 x Ural-Rotor; 2 x JCB loaders-excavators enable efficient load and unload of granulated chemicals.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY 11/29 or RWY 15/33 depends on TWR and at the same time all aprons, two TWYs adjacent to the currently cleaned RWY, three other TWYs.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Snow Plough + Snow Sweepers formations - first snow removal, then de-icing liquids or granulate or mixed liquids and granulate.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? It depends on traffic and weather conditions.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Safeway KA liquid based on potassium acetate and Safeway SF granulate based on formic acid which are imported materials
12.2 Comment on storage capabilities of the chemicals that you use: Liquid de-icer is stored in 4 x 60, 90 and 48 litre tanks.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: No comments.
12.4 Have you experienced any corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? We have not employed any extraordinary means.
12.6 Do you have any other comments on experience with chemicals? No comments.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: ICE ALERT Boschung.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? We have no such plans.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Are experience with these systems is positive.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No, the airport does not provide aircraft anti/de-icing operations.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Yes we have dedicated de-icing positions, Parking Apron 6 and Parking Apron 10.
14.3 Is glycol recovered? If so, please state methods: Glycol is not recovered.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? ASFT VOLVO V70, ASFT Saab 9-5 SE, ASFT Saab 9000, Grip Tester MKIIC.
15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? Different methods and patterns in the column of sweepers/snow blowers will be tested to obtain more effective results.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: We have just purchased new equipment for Chopin Airport.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: Overaasen RS 400 runway sweepers with plough and brushes, 4 in 2012.
16.4 Do you have any winter services equipment that you would like to sell? No, not at the moment.





ZVARTNOTS

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Zvartnots International Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): RWY 09, TORA 3850m, TODA 4250, ASDA 3850m, LDA 3850m. RWY 27, TORA 3850m, TODA 4150m, ASDA 3850m, LDA 3850.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 09: CAT II, RWY 27, PAPI.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: All airport and airline personnel and airport tenants should receive training in the identification and elimination of FOD, including the potential consequences of ignoring it..
b) Inspection by airline, airport, and airplane handling agency personnel: Airline personnel, when feasible, should join the airport staff in daily airside inspections. This practice helps increase familiarity with local airfield conditions, and promotes effective communication between the airport and airlines.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Maintaining control of FOD includes using several methods: Sweeping, magnetic bars, rumble strips, FOD containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Yes
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual monitoring from ramp control in corporation with ATC.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): None.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Yes.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? 6 month refreshing training for drivers (communication).
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Flight ornithological security assurance. Due exposure and liquidation of conditions contributing to bird concentration in the airport and nearby area. Flight ornithological maintenance is aimed at prevention of bird strike in airport area. Due and qualitative execution of prophylactic (prevention) works for scaring birds. Training of interested candidates for the improvement of their knowledge. Performance elaboration and fulfillment for flight ornithological security improvement in "Zvartnots" international airport. Due to the above mentioned policy birds strike reduces for 20% each year.
6.1 Do your staff attend recognised bird control training courses? Yes.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Our bird control staff is working on the airfield continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Bird patrols in vehicles, Bioacoustics Super BirdX peller PRO, electronically generated noise, ,propane cannons- Zon Mark, pyrotechnics, shooting to scare, netting hangar rafters, ponds.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)?: Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 3X Oshkosh Striker 3000 (6x6; 3000 US gallon; Year 2007).
7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From December to February.
8.2 Average annual days of snow:10-15.
8.3 Average snow depth: 5cm.
8.4 Maximum snow in 24 hours: 15cm.
8.5 Annual number of days of deicing activities: 50 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 15.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): Snow plough, quantity -12 pieces PM-130; Hot-air splatter machine, quantity 1 piece GM-1 KRAZ- VK-1 aviamotor; Snow collector (POMOP) machines, quantity- 2 pieces (D-902, DE-226); ZIL-4502-70 liquid chemical reagent machine; ZIL- 130-95 chemical solid reagent machine; Hot-air-splatter GM-1 KRAZ VK-1 avaimotor).

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY B,C,D , main, 10 meters strip from each edge of the RWY, ILS zone, edge lighting of the RWY. All stands 10 meters from each edge of the TWY-s, Aprons, engine checking stand and TWY A. 25 meters strip from each edge of the RWY and all vehicle movement area.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: The Runway snow removal is performed in patrol method (patrol snow removal) with snow clearing machines of PM-130 type: The removal of snow is performed beginning from the Runway axle till the boundary, snow piles on the Runway boundaries are removed immediately with snow ploughs from there with snow collector machines.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? Removal of snow from the Runway should be performed from the beginning of snowfall between landing and take-off. If there is a layer of dry snow with 2-3cm thickness on the runway.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: For removing the ice-crust from the pavement in the chemical way the carbamide (AHS) chemical solid or anti – icing liquid as well as heating machine (HM-1 KRAZ VK aviamotor) is used , which moved along the Runway axle.
12.2 Comment on storage capabilities of the chemicals which you use: 15,000kg.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: After corrosion of ice-crust in chemical method , when the ice layer becomes fragile and loses its viscosity with the cover surface, it is necessary to clean the slush from the cover, for this purpose there should be used: snow plough swaths (PM-130, quantity -12 , KAMAZ -4326 73 , as well as for increase of the friction coefficient it is necessary to dry the cover with an Aerodrome heating machine HM-1 KRAZ 1 aviamotor.
12.4 Have you experienced any corrosion problems with de-icers? Yes.
12.5 Have you employed any special means to economise on chemical use? Yes.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: None.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No.. It does by handling company "Zvartnots Handling".
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Yes we have dedicated de-icing positions.
14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Skiddometr BV11.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? Yes.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment which you would like to sell? No.

CATEGORY: WINTER EQUIPMENT

BOSCHUNG – DIVERSE EQUIPMENT FOR MAINTENANCE ACTIVITIES

IN May 1947 Marcel Boschung Senior laid the foundation of the company bearing his name, which in the course of the last 60 years has become one of the leading manufacturers of machinery and equipment used in the field of cleaning and maintaining of airports, roads and municipalities, with branch companies in Germany, France, Austria, China and USA.

A network of agents and partners operating worldwide is the guarantee of a successful future. With its 350 employees, the Boschung Group manufactures a diversity of equipment for maintenance activities.

Starting with the special, unique and extremely economical all-year sweeper/blower machine for airport areas – the Jetbroom, Spreaders and De-Icers in every possible execution and combination, Snow blower/cutter B4 + B6, multi-purpose carrier Pony, compact and mounted Sweepers in all sizes and many more.

With the establishment of Boschung Mecatronic Ltd. in 1978 – producer of electronic and electro-mechanical winter equipment – the activities of the Boschung Group have been extended. This company has specialised in ice early warning systems and automatic thawing agent spray systems as well as the BORRMA-web System.

Under the trade name SCM ("Surface Condition Management") the Boschung Group supplies the entire equipment for the maintenance of working surfaces – from one single source.





KAHLBACHER'S PIONEERING EQUIPMENT

TUCKED away between mountains in the heart of the Alps, the Tyrolean town of Kitzbühel has been situated in the centre of Europe since 1949 and is the headquarters of the company Kahlbacher GmbH&Co. KG – a family business with global operations that maintains a strong connection with its roots. Its areas of operation encompass road maintenance and airport equipment for summer and winter.

The company's history boasts numerous pioneering achievements, which is also reflected in the fact that the family firm holds a large number of patents in Austria and abroad. The company is keen to take up new challenges and to develop and implement practically oriented concepts. The main focus of production is snow clearing equipment for roads and specialised clearing equipment and jetways for airports.

The production programme ranges from vehicle hydraulics over multi-purpose side snow ploughs, antifriction snow ploughs, snow cutters, snow blowers, combination snow blowers and custom-built solutions to jetways.

EN ISO 9001 certification in 1995 is proof of achieving the ultimate goal of implementing the "zero defect" philosophy. More than 300 apprentices have been trained since the company was founded, and in 2000 this resulted in being awarded the title of "Excellent Company Offering Apprenticeship Training". Customer focus has always been a central company concern.

Kahlbacher's real showpieces are the high-speed combined snow blowers for use at airports with clearing speeds of up to 40 km/h. Now all Austrian airports have been equipped with these high-tech combined snow blowers.

With a capacity in excess of 1400 HP, these snow clearing machines have been designed in line with the exacting demands of international airports.

The final element completing the company concept is the in-house customer service department, which provides customer-centred after-sales service and repairs.

CATEGORY: FRICTION TESTING



Over the many years that the Mu-Meter has been in production, over 1,000 units have been sold worldwide.

DOUGLAS MU-METER MK6 CONTINUOUS FRICTION MEASURING EQUIPMENT

WITH all airports that operate within ICAO having a legal requirement to inspect and test their runways, friction measurement becomes a necessity. With the Douglas Mu-Meter MK6 these requirements are met and surpassed with the option of recording not only to the ICAO standard, but also to prescribed formats for the CAA and FAA amongst others.

Used by both Civil and Military airports worldwide, runway rubber deposits, freezing conditions, wet and dry surfaces are all with the Mu-Meters portfolio of measurement. With a history dating back some 50 years the small three-wheeled unit is capable of carrying out its duties whilst being towed behind a car as small as a family hatchback. Data is fed back into the tow vehicle and displayed 'live' via a laptop computer directly to the operator. This information can easily be analysed and sent to the airport operations team, giving them detailed runway surface conditions. The measurement can then be archived and compared to assist the airport operator to build up a clear understanding of their airport runway surface evolution, through the seasons, day-by-day, year-by-year.

The Mu-Meter is manufactured in Cheltenham, England and it's not uncommon for the UK factory to see units of over 20 years of age be returned for refurbishment and upgrade to the latest specification.

As an option, the Mu-Meter can also be provided with an independent, towable or truck mounted wetting system, allowing the unit to obtain wet surface friction measurements during dry conditions as specified in some friction measurement standards.

Over the many years that the Mu-Meter has been in production, over 1,000 units have been sold worldwide, and with new technological advances on the horizon, the future looks bright for the world's bestselling CFME system.

DYNATEST 6875 RFT TESTING IN OPERATIONAL (WINTER) CONDITIONS

THE Dynatest 6875 Runway Friction Tester (RFT) is designed for both functional (maintenance) and operational testing to evaluate surface friction changes. Operational friction testing can be performed during such adverse weather as heavy rain, ice, slush or snow with data reporting in both metric and US units. The 6875 meets all of the FAA and ICAO specifications for friction measuring devices (CFME).

The RFT includes the industry's largest 1,000-litre (250 U.S. gallon) built in, aluminium, baffled water tank, positive displacement water pump and ASTM laminar flow water nozzle for self wetting testing of up to 11,000m+ (36,000ft.+) of runway without refilling. Larger water tank sizes are available on request. For airports in winter environments, the RFT comes with four-wheel drive. The test gear in the RFT does not require changing the vehicle manufacturer's axles and preserves the factory warranty.

Customers choose the Dynatest 6875 RFT for several reasons, intuitive and easy to use, highly reliable, always available and the highest levels of support. These aspects are incredibly important for a device working on the front line of airfield safety during both winter (operational) conditions and defining the need for maintenance actions.

The Dynatest 6875 Runway Friction Tester (RFT) is designed for both functional (maintenance) and operational testing to evaluate surface friction changes.





RUNWAY FRICTION MEASUREMENT

…reliable, repeatable, cutting edge technology and incredibly good value for money!

The Douglas Mu-Meter Mk6 is the world's best selling CFME system. With over 1000 units sold around the world, Mu-Meter has consistently maintained its market and technical leadership since its launch some 50 years ago. The generated reports are displayed immediately via the supplied laptop computer to enable runway friction and weather related friction changes to be determined for the management of airfield operations.

- Powerful onboard microprocessor based system for years of trouble-free operation.
- Simple to use touch screen laptop to store measurement data.
- Automatic computerised results - (CAA/FAA/ICAO/CAA CAP683 etc) in the chosen language of the operator.
- Operates in both dry and self wetting modes.

For full details or to arrange a demonstration, contact Douglas today.

Douglas Equipment, a business unit of
Curtiss-Wright Flow Control (UK) Limited
Douglas House, Village Road, Cheltenham
Gloucestershire GL51 OAB, UK

Tel: +44 (0)1242 527921
Fax: +44 (0) 1242 571667
e-mail: sales@douglas-equipment.com
Web site: www.douglas-equipment.com

CURTISS WRIGHT Flow Control Company
DOUGLAS

3RD ANNUAL RUNWAY CERTIFICATION WORKSHOP AND AIRPORT SAFETY EXPO



March 25-28, 2012

New, FAA proposes amending of FAR 139.305 to require airports to establish and implement a runway friction testing program. Become certified as a Runway Friction Safety Inspector.

Who should attend:
Airfield managers
Engineers
Consultants
Contractors
Construction
Professionals in airport pavement design
Pavement consultants
Aviation accident investigators

IFPA
International Friction Pavement Association
www.intlfpa.org
813.471.7026

Brooksville Friction Test Facility
Thomas J. Yager Research Center
Hernando County Airport, Tampa Bay, Florida USA
Presented by: International Friction Pavement Association
Learn more, call 813.471.7026 or email info@intlfpa.org

IFPA is a not-for-profit association IAW federal IRS exempt section 501(c)(3) and corporate contributions are tax deductible.



Our customers requested more wet testing capacity, optional four wheel drive, and more vehicle brand selection!

We listened...

An industry leading standard 300 gallon (1200 ltr) or 44,000+ feet (13,400 m) of wet test capacity. Windows software, optional four-wheel drive and GPS. Available in Chevrolet, Dodge, Ford or Toyota full sized Pickups with extended or crew cab formats.

6875 Runway Friction Tester

The 6875 is FAA/ICAO Approved and AIP Fundable.

Dynatest provides test equipment, surveys and pavement management systems to airports worldwide

Dynatest®
Equipment & Pavement Engineering Specialists
www.dynatest.com

For further information e-mail: runwayfriction@dynatest.com or mi@dynatest.com

CATEGORY: DE-ICING

SAFEAERO SIGNS CONTRACTS AT INTER-AIRPORT MUNICH

SAFEAERO had a successful exhibition at Inter-Airport Munich with three de-icers on display. One of the main attractions was the new 223 XXL de-icer, which was recently sold to KLM, as well as a 220 extended height version of their most popular model, which was on route to the German Air Force in Northern Germany. They also had their smaller Typhoon de-icer on display, which attracted a lot of interest from regional airport representatives or users with a lesser demand for de-icing. With these top three performers on display, they were able to cover all the bases when it comes to de-icing requirements.

The highlight of the show was the ceremonial contract signing with Vienna Airport Authority for ten 220 de-icers. Mr. Nichtenberger, Purchasing Manager from Vienna Airport Authority said: "After careful and deliberate evaluation, we chose the Safeaero de-icer as it was the best fit for our specification."

A team of technical and management representatives from Vienna Airport Authority were present to take part in the ceremony as well as several representatives from the Safeaero Team.

Curt Herrstrom, Managing Director of Safeaero, hosted the ceremony and said: "We are pleased that Vienna chose Safeaero for their next generation of de-icers and look forward to working together well into the future."

A new simulator for the Safeaero 220 series also generated a lot of interest at the show. The simulator is a joint venture between ESG and Safeaero with the aim to significantly reduce training time and costs.



Herrstrom: "We are pleased that Vienna chose Safeaero for their next generation of de-icers and look forward to working together well into the future."

TG Mures and SIBIU airports in Romania each ordered a Typhoon de-icer for their airports. TG Mures will take delivery of their deicer in December 2011, while SIBIU will take delivery in April 2012.

PROVIRON

PROVIRON'S DE-ICING TECHNOLOGY

DURING the last decade, Proviron Industries N.V. has established itself in the market as a reliable supplier of environmentally benign formate and acetate-based airport runway and highway de-icers. All its products are considered safe for the environment, exhibit low toxicity to vegetation and aquatic life, have low corrosion rates and work longer than common de-icers.

Proviron is constantly working on even more ecologically driven developments.

Its team of specialists will be happy to assist you with your inquiries and upon request, come and visit you for a more detailed presentation of the company and its de-icing products.

Proviron de-icing product range: Cryotech E-36 Liquid Potassium Acetate – AMS1435B approved; Cryotech NAAC Solid Sodium Acetate – AMS1431C approved; Provifrost KF ECO Liquid Potassium Formate – AMS1435B approved Cryotech CMA Solid Calcium Magnesium Acetate; and Cryotech CMA40 Solid Blend of 40% CMA and 60% rock salta.

KEMIRA'S ENVIRONMENTALLY FRIENDLY DE-ICERS

KEMIRA supplies the world's airport industry with a range of organic salts designed to ensure the required friction for traffic operational surfaces. The company specialises in the production of organic salts based on acetic and formic acids, and one of its major activities includes the development, production and marketing of environmentally friendly runway de-icers.

The products prevent ice and snow build-up in a safe and environmentally responsible manner and the product range includes both liquid and solid products. Kemira Clearway products are readily biodegradable, and are not water endangering. Experience gained at various civil and military airports shows that environmental friendly Clearway products melt ice and snow effectively. The basis for Kemira's success is a highly flexible production and logistical set-up that can produce and supply large amounts of products on a continuous basis. We are also closely monitoring the proposed changes in the AMS standards, and are currently focusing our R&D efforts on meeting the possible changes in the industry standards.

In an industry where precise measurement and constant monitoring is the exception rather than the rule, Kemira has a corporate reputation for consistency and quality, backed up by its ISO 9002, ISO 14000 and ISO 18001 certification.

kemira

Clearway de-icers for runways

Your best choice for winter airport services and environment

kemira



www.kemira.com

SAFEAERO i Trelleborg AB

The future of de-icing



Safeaero i Trelleborg AB, Sweden
Phone +46 410-140 50 • fax+46 410 451 25 • sales@safeaero.com
www.safeaero.com

CATEGORY: WINTER EQUIPMENT

ØVERAASEN'S INTELLIGENT WINTER EQUIPMENT

FOR more than a hundred years, Øveraasen has dedicated its resources towards development of winter services equipment. With a main focus on the airport area, Øveraasen is today one of the world's leading companies in this sector.

The Øveraasen runway sweepers distinguish themselves thanks to their intelligent modular structure and flexibility. These machines, which are unique in the market, unify the four most important benefits: Efficiency, reliability, functionality and low operation costs. The Øveraasen runway sweepers come in different models ranging from the "small" RS 200, the compact version with its outstanding manoeuvrability to the big RS 400. You will find RS 400 runway sweepers at many major airports around the world, and runway sweeper number 500 will leave the factory this winter season.

The Øveraasen attachment snow blowers range from the smallest UTV with 180 hp up to the biggest one with 600 hp. With their dual stage blower head, the horizontal auger and fast rotating impeller they are all designed for the rough jobs at airports around the world.

The large self propelled snow blowers TV 1360, TV 1520 and the world's largest snow blower TV 2000 are designed specially for use at the airports, where large snow clearing capacities and high casting distances are required. These machines with up to 2200 hp are designed with the driver's cabin positioned in front of the casting chute to guarantee the best possible view for the driver, and can be operated at speeds up to 60 km/h.

ØVERAASEN
SNOWREMOVAL SYSTEMS

JCB EQUIPMENT IS A HIT WITH AIRPORTS

TWO consecutive tough winters, with more than 125mm of snowfall in just over an hour last December at Heathrow, have made airport operators across the UK determined to be ready for any wintery conditions this year.

To meet the needs of these operators, JCB offers a wide range of machinery to deal with the worst of the winter weather, as well as providing year-round help with numerous other tasks.

Telescopic handlers, backhoe loaders and wheeled loaders are all capable of loading snow, digging and general loading duties. BAA Edinburgh runs its own telehandler for operations throughout the year, and hires in wheeled excavators and backhoes as the situation demands.

The unique JCB Fastrac is proving invaluable at an increasing number of airports. It features a comfortable two-man cab, full suspension, powerful all-wheel drive, travel speeds of up to 80kph and truck standard ABS braking. Able to power multiple attachments, it is a master of many tasks – from pushing a snow plough and running a sweeper, towing a snow blower, powering de-icing equipment or mowing the grass, verges and hedges in the summer.

"The Fastracs have been fantastic, they've repeatedly done everything we've asked of them," said Gary Clark, transport manager at London Luton Airport, which runs 11 Fastracs. "Whether it's clearing snow from the runway or taxiways, or covering large areas with de-icer, they really have kept things moving. I couldn't ask for a better vehicle, reliability has been 100%."



The JCB Fastrac features a comfortable two-man cab, full suspension, powerful all-wheel drive, travel speeds of up to 80kph and truck standard ABS braking.

London City Airport hires in a fleet of three Fastracs, from specialist rental company ACE Plant, on an annual winter contract from October to March. The machines are equipped with 6m ploughs and a Schmidt jet sweeper. "The Fastrac definitely does the job that we need it to do," said Steve Fair, senior operations controller at London City's airfield safety unit.


















Keep your airport running – whatever the weather

JCB's extensive range of equipment provides year-round versatility to your fleet. The Fastrac tractor is the master of many tasks, operating multiple attachments for snow-ploughing, de-icing, snow blowing and sweeping in winter or mowing grass in summer. Our world-leading Loadall telehandlers, backhoes, excavators and wheeled loaders can perform numerous duties – from loading grit and clearing snow to digging ditches and shifting pallets. Combined with the best dealer back-up in the business, JCB machines will keep your airport running all year round.

For further information, contact your local dealer, call +44 1889 561424 or visit www.jcb.com/airports

KFS 950
rotary snow blower



KFS170M2
two engine – full hydrostatic drive



KFS 950 RL
wheel loader - rotary snow blower



TWIN DISCHARGE STOP
for snowploughs



Airport VAMPIR
airport snowplough



KFS 1250
rotary snow blower



safety on the road

KAHLBACHER®
AIRPORT EQUIPMENT

www.kahlbacher.com

Toni Kahlbacher GmbH & Co. KG · 6370 Kitzbühel · AUSTRIA
St. Johanner Straße 48 · phone: +43 / (0) 53 56 / 62 511 - 0 · fax: 62 511 - 19 · e-mail: info@kahlbacher.com