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INTRODUCTION
THE AIRSIDE SAFETY SURVEY 2011

Our annual survey of ACI EUROPE member airports provides a comprehensive and invaluable guide to their respective airside operations, covering such practices as winter services, safety management systems, FOD prevention, bird and wildlife control, friction testing and crash fire rescue.

This survey includes responses from a wide variety of airports, ranging from major European hubs to regional airports and in order to ensure the highest level of accuracy, each response has been left largely unedited wherever possible.

In addition to providing a detailed outline of the airside operations, the survey also identifies key and emerging trends, as well as providing a significant insight into which airports are planning to purchase new equipment.

Budapest Airport, for instance, has plans to buy new high-speed sweepers and a blower unit in 2011, while the "selection procedure is about to start" at Ostrava, which will introduce new equipment in the next 2-3 years.

Meanwhile, Brussels South Charleroi Airport's response explains: "Each year, at the end of the winter season, we adapt our experience and analysis issues for next year." A forthcoming extension to the Apron and the introduction of more aircraft parking space will



require the airport to buy new equipment, including three sweeper-blowers with a snowplough, one spreader, and one truck with a milling cutter. As part of Southampton Airport's business plan, the "replacement of daily operational vehicles" is also scheduled.

The winter services strategies of the member airports is an area in which major differences are most evident. While Stockholm-Arlanda Airport reports an average of 110 annual days of snow, Dubvronik experiences just 1-2 days of snow per year on average. Therefore, while the former's comprehensive winter equipment inventory comprises "17 Schmidt TJS560 Compact Jet Sweepers + Snow Plows; 8 Wheel Loaders Volvo L50-120; 2 Sand sprinkle-devices Nido RSP; 3 Granulate sprinkle-devices Schmidt Nido Stroman; 3 Runway de-icing vehicles Nido RSP; 3 Articulated Haulers Volvo A 30 Snowdumpers; 2 Snowblowers Overaasen 1560 Supra 5000; 3 Wheeled Shovel-Loader Overaasen Supra 5000; 4 Truck Snowtransporter; 4 Surface friction testers SFH; 1 Snowgroomer", the latter's entails a total of just four units.



BIRD AND WILDLIFE CONTROL

Bird and Wildlife control methods also differ from airport to airport and each response outlines exactly how this vital aspect of airside operations is approached. Aberdeen Airport has bird control staff working on the airfield continuously and in order to protect the airport from wildlife-related risk, "Grass length is 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."

A 'long grass policy' is employed at Stavanger Airport and, in addition, "we patrol the airfield constantly to scare birds, using scarecrow, lasers, shooting and flares." Airport operator Fraport AG carries out the bird control programme at Frankfurt Airport in accordance with national laws and international practices for aerodromes, based on recommendations of the German Airports Association. One of the 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."

NEW METHODS

As airports continue to further improve safety through airside operations, a number of them have plans in place to amend their methods in the near future. The methodology at East Midlands Airport is "under constant review", Ostend-Bruges is working on a new 'Snow Plan', while Limoges is in the middle of a study into the law framework on water.

Malta International Airport is also going to introduce new methods "in terms of safety procedures in line with refuelling with passengers on board, and a new programme for the airfield driving permits and basic safety issues for new entrants." At Liege, meanwhile, all procedures are improved every year by audits, exercises, workshops and SMS.



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THE AIRSIDE SAFETY SURVEY 2011

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): Runways 16 & 34 length 1829m (currently awaiting business approval for extension up to 120m). Runway width – 46m, TORA – 1829m, ASDA – 1829m, TODA – 2030m. No shoulders available. 17 aircraft stands up to 767 dimensions. Apron area 3500sqm.

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? Yes, following internal BAA and External CAA Audits.

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): None.

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 6-8inches, 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? Continuously.

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

6.4 Do you carry out a bird strike risk assessment? 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): These figures are collated monthly and reported monthly.

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 4 x 4.

7.2 Future developments – are there plans to purchase or dispose of any equipment? None.

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

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

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

8.2 Average annual days of snow: 15.

8.3 Average snow depth: 4cm.

8.4 Maximum snow in 24 hours: 25cm.

8.5 Annual number of days of de-icing activities: 30.

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: Runway – 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 with optimum clearing 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. last year saw the use of Clearway which on the whole was effective when surface is not contaminated at average freezing temperatures at Aberdeen, holdover of 2 – 3 days can be achieved when temperature remains below zero and no further contamination occurs, normally at Aberdeen temperatures rise above zero and clearway starts to degrade as designed. When the temperature fluctuates or fluid becomes contaminated holdover can be as little as 3 hours.

12.2 Comment on storage capabilities of the chemicals which you use: Prolonged storage is not required at Aberdeen due to fluid use; storage between seasons is not a problem.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Storage is an issue, as solids are hygroscopic. We therefore do not use any significant amount of solids.

12.4 Have you experienced any corrosion problems with de-icers? Yes, Clearway 3 is corrosive to plated metals and galvanised materials.

12.5 Have you employed any special means to economise on chemical use? Yes, use of GPS.

12.6 Do you have any other comments on experience with chemicals? Yes we have the experience of the Security Team who react to low levels of contamination.

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.
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: Provide support to the decision making process of when to anti-ice, however only used as an aid.

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? Designated on Aircraft 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? Mu Meter 6 x 2, Mu Meter.
15.2 Have you any comments on the reliability of friction indexes? We do not comment on friction ratings during winter ops as per current CAA legislation.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? Yes, testing to be undertaking on the European/Scandinavian method of always using snow ploughs on runway Sweepers.
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: Schmidt de-icing unit on order.
16.4 Do you have any winter services equipment which you would like to sell? No.

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 – 2014m x 60m, Width – 45m, LDA – 2014m; Runway 22, TORA – 2014m x 60m, Width – 45m, LDA, 2014m, ILS – CAT I/B/1; Runway 06, TORA – 3500m x 60m, Width – 45m, LDA – 3250m, ILS – CAT III/E/4; Runway 24, TORA 3500m x 60m, Width – 45m, LDA – 3500m; Runway 09, 3453m x 60m, Width – 45m, LDA – 3453m; Runway 27, TORA – 3453m x 60m, Width – 45m, LDA – 3453m, ILS – CAT III/E/4; Runway 18C, TORA – 3300m x 60m, Width – 45m, LDA – 3300m, CAT III/E/4; Runway 36C, TORA – 3300m x 60m, Width – 45m, LDA – 2850m, ILS – CAT III/E/4; Runway 18L, TORA – 3400m x 60m, Width – 45m, LDA – 2850m; Runway 36R, TORA – 3400m x 60m, Width – 45m, LDA – 2850m, CAT III/E/4; Runway 18R, Width – 60m, LDA – 3530m, CAT III/E/4; Runway 36L, TORA – 3800m 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 recognizing 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 ULD's 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.
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 takes 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. Obvious these fences are regularly cleaned. We are still looking and following the developments around FOD-radar.

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) during low visibility operations. RIASS 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 of 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.
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 organizations 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.

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 birds 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 ontinuously, hourly, less than hourly? Continuously (24/7).
6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). 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.
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, as well on paper as digital.






6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Wild hare, we have 10 regular hunding 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 any equipment.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Amsterdam Airport possesses fire Training simulator which is available to other airports for training purpose.

PART 2: WINTER SERVICES QUESTIONAIRE

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 snowseason.
8.3 Average snow depth: Less than 1 cm.

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 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; 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 33 mtrs width and for TWY and Aprons 16 mtrs 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: KA-Cr36; Salt.
12.2 Comment on storage capabilities of the chemicals which you use: We store up to 480.000 litres of KAC.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: We don't use solid de-icers.
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 minimize 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 KAC and no sand. It is however possible that due to environmental issues and the lack of KAC we are forced to use sand.

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. Therefore we are able to reduce the costs for winteroperation for as much as €300.000 in an average 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.
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 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.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? (snow clearing vehicle formations, for example): 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: 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.

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 (m); Total concrete 154,310sqm.
2.2 Landing aids for each RWY (e.g. CAT II): CAT 1 papi on Rwy29 VOR/DME papi on Rwy 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?
ANSWER: For info about safety management contact the Airport Adj. Commander tel nr.003232856504

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 controle 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): Posters 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):
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 Twy's.
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 on airside must follow a special training with safety lessons.
5.6 Have the reporting procedures for run-






way 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: Fake birds and scare them with noise.
6.1 Do your staff attend recognised bird control training courses?
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Very regular control.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Gunfire, birdscare cartridges, birdnoise.
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): 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 12000 litre water 1200 litre foam product (year1977); Panter 6x6 12000 litre water 1500 litre foam product 500 kg extinguish powder (year2008); SIDES 6x6 9000 litre water 1100 litre foam product 250 kg 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 QUESTIONAIRE

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: 20.2.
8.3 Average snow depth :+/- 2.0 cm.
8.4 Maximum snow in 24 hours: +/-15 cm.
8.5 Annual number of days of de-icing activities: 23.

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 4000 litre potasiumacetaat.

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 Rwy 11/29 then Twy's 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 3m 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 systems. When ready and after mu measure stabilisation of the Rwy surface with kaliumacetate. "Winter operations" manual available for special weather conditions.
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

12.1 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: 50,550 litre used Cryotech Potasiumacetaat effectiveness good and hold over time good
12.2 Comment on storage capabilities of the chemicals which you use: New tanks in stainless steel for 30.000 litre 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 prilled Sodiumacetate and moisten the product with Potasiumacetate.
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? Previous use of the liquid deicer and a close control of the physical action of the chemicals. 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 sensors if so which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: The warning system is for us a second help, 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: 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.

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 45 meters, plus shoulders of 7.5 meters on each side. The runways are designated as follows: Runway 03R/21L with physical length 4000 meters; Runway 03L/21R with physical length of 3800 meters. The runways are parallel and the distance between their centrelines is 1575 meters. According to the physical characteristics as published in the AIP Greece the declared distances are: Runway 03R TORA (m): 4000 meters; Runway 21L TORA (m): 4000 meters; Runway 03L TORA (m): 3800 meters; Runway 21R TORA (m): 3800 meters. Ramp area: 45,975 sqm + Non effective areas: 11,853 sqm = Total apron area: 57,828 sqm.
2.2 Landing aids for each RWY (e.g. CAT II): The RWYs landing aids are able to serve CAT II aircraft traffic. Approach lighting: Precision approach CAT II; Lighting system, 900M, all RWYs; PAPI, left side / 3; 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. 9893.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: 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 (Airside Monitoring & Inspection Specialists (AMIS)) and Airside Sweepers staff. There is an external contractor which can provide ad-hoc FOD control upon AIA's request. Aircraft parking position pre-use check by AMIS and then by 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 Safety committee, brochures, apron banners, and incident reporting.
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.
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): SMR.
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.
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.

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 minimize 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 supports 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 QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 15 December - 30 March.
8.2 Average annual days of snow: Not Available (Snowing 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 Apron and landside approximately 65 per shift.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): 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 1 unit; 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 at one Rwy, adjusted Twy. At least three high speed exits and Taxi lane towards MTB and STB. Simultaneously apron taxiways by different team.
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 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: Clariant SAFEWAY KA HOT (liquid), and Safeway SF (solid) as pre-wet.
12.2 Comment on storage capabilities of the chemicals which you use: Inside silos with closed doors.
12.5 Have you employed any special means to economise on chemical use? Not Available.
12.6 Do you have any other comments on experience with chemicals? Not Available.
12.7 Do you use other chemicals or sand on operational areas? Not Available.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Warning and forecast by Hellenic National Meteorogical Service.
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: 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: The Athens International 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; 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? Not available.
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.

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: 165650m² - Concrete, General aviation PRKG: 24400m² - Macadam, GAGBA PRKG: 14000m² - Macadam, JAPAT PRKG: 4806m² - 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): Visual 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, a new risk assessment for next 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, 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 2011 and a second for the year 2013 are planned.
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 which will be operating for the year 2011. 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? 15 November to 15 March.
8.2 Average annual days of snow: During the winter 2009-10 : 28 days.
8.3 Average snow depth: Unknown.
8.4 Maximum snow in 24 hours: 50 cm in 2006.
8.5 Annual number of days of de-icing activities: Not concerned.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 20 airport-employed and 4 sub-contracted (for snow loading).

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): 3 Schmidt CJS 914 SUPER II; 1 Schmidt airport sprayer, wideness 24m; 1 Alpiroute truck with 1 STRATOS II (sprayer for mixed de-icier : solid and liquid); 2 Boschung Jetbroom with sprayer for liquid de-icer, wideness 12 m and snow plough; 2 Unimog with broom, snow plough and sprayer for liquid de-icer; 1 Alpiroute with snow plough;1 sweeper Schmidt AS990 with snow plough; 1 Unimog with a V-blades; 1 turbine ROLBA 600; 1 REFORM Metrac H7 with a V-blades; Manual 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: We have 3 teams : One for the runways and taxiways; one for the aircraft parking and passengers walkway near air aircraft, service road (access road for fuel supplier, for the technical services); one for the passengers access (public sectors); each team begin at the same time.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: All vehicles are ready for an intervention (de-icer's and fuel's tanks and are full). All airport employed are training every year. For the general method, we begin with the main runway with 3 CJS after the closing of the airport. We keep on the main taxiway and we're doing a friction test. We keep on the other runway and taxiway, and the finishing working at linking between runway and taxiway. If the temperature is low, and friction test are wrong, we're spraying de-icer.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? Without spraying de-icer: 1h15; with spraying de-icer: 1h45.

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 2 types: Solid de-icer : KEMIRA Clearway 6S; Liquid de-icer : KEMIRA Clearway 1. During the last season, we used 148 000 litres of clearway 1 and 12,5 tonnes of clearway 6S. In function of our experience with these products, we use the clearway 6S for the preventive operation before icing rain. We can use the clearway 6S in curative intervention when we have ice. We use the clearway 1 in all other weather conditions and if the temperature is very low (< -10°C).
12.2 Comment on storage capabilities of






the chemicals which you use: We have 2 tanks of 50 000 litres for the liquid de-icer and we stock 6 tonnes of solid de-icer.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: We use always solid de icer mixing with liquid in order to fixing the solid on the ground. The ratio is 75% (solid) / 25% liquid).
12.4 Have you experienced any corrosion problems with de-icers? All our installation and sprayer's equipment s are in inox stell or in composite materials.
12.5 Have you employed any special means to economise on chemical use? For the spraying on the runways and taxiways, our equipment has got 3 ranges of spray nozzles. The height of these spray nozzles is 20 cm. So, compared with a classic sprayer with many disc, we have no influence of the wind.
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 salt on the direct approach roads.

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: Not concerned.

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: Not concerned.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? We have got 2 friction testing SARSYS, 1 tapletmètre.
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: We replace our equipments in 2015.
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, 137,700 m2; TWY's 142,160 m2; Apron South 61,790 m2; Apron North, 100,000 m2

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 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 last 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.
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.

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, apart from that there are no courses.
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? 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.

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.
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 QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? November – April.
8.2 Average annual days of snow: 43.
8.3 Average snow depth: 21.8mm.
8.4 Maximum snow in 24 hours: 89mm.
8.5 Annual number of days of de-icing activities: 60 on Rwy / 120 Aircraft De-icing.

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? 11






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): 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: 288,5 tons. Used quantities of Aviform Solid last season: 91, 5 tons. Aviform Solid and Aviform Liquid are used on apron.
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.
12.8 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 and benefits 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 (we just received one new BETA / Vestergaard).
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.

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: 91,800m^2. RWY length: 2040m. RWY width: 45m, TORA: 2040m. TWYs A, B, C, D, E, F, G, H: 83,133m^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." 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.

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, hourly, less than hourly? Continuously. All bird control staff are employed by the airport and familiar with the area and airport procedures.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Bird control is using by approximately 48 stationary shotguns and auxiliary pyrotechnics.
6.4 Do you carry out a bird strike risk assessment? Once a year, audited by the DAVVL organization.
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 in a report and available to the responsible bird strike manager.
6.6 Does your airport have problems with other wildlife (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 2000kg Powder MAN 6x6 1996; Flughafen-Hubrettungs-TroLF 2000kg Powder MAN 8x8 1993; FLF 60/90 I 9000 litre Water/1000 litre AFFF MAN 8x8 1988; FLF 60/90 II 9000 litre Water/1000 liter AFFF MAN 8x8 1989; FLF 60/90 III 9000 litre/1000 litre AFFF MAN 8x8 1998; FLF 60/90 6000 litre Water/600 litre 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? (Oct.) / Nov – Mar / (Apr.)
8.2 Average annual days of snow: 20 days.
8.3 Average snow depth: 2-4 cm.
8.4 Maximum snow in 24 hours: 25 cm.
8.5 Annual number of days of de-icing activities: 30-50 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Ca. 15. Sub-contracted 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): 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. 2 Trucks (Magirus 4x4, Mercedes-Benz 4x4) with Snow Ploughs. 1 Snow-Blower (Unimog 1300 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 Single-Rotation-Sprayer (MB UX100, 4x4 / Küpper-Weisser Typ SDA 95, 1,3m³). 1 Singel-Rotation-Sprayer (MB 300GD, 4x4 / Küpper-Weisser Typ SDA 95, 1,3m³). 1 Truck, Sander 5m³ (Magirus-Deutz M232D15 / Epoke). 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. 80 m³ 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
13.2 Have you plans to purchase further ice warning systems and if so which model(s)?
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: 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.
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 Have you any comments on the reliability of friction indexes? Friktioncoefficient – 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? No changes intended for now.
16.2 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.
16.3 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 which you would like to sell? No, we have not.

BRUSSELS AIRPORT COMPANY

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: 21,00sqm.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 02 – CAT I; RWY 20 – CAT I; RWY 07L - visual; RWY 07R – visual; 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: 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 planned beginning of 2011.

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? 24H use of stopbars; 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; 24H use of stopbars.
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? Planned for 2010.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously: daily between 6 am – 10 pm.
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 ; 2.000 litre foam, 4.000 kg. powder, Monitor-output : 4.000 – 7.000 L./min, Monitor-output powder : 30 – 60 kg./sec, 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, 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), 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, Monitor output powder : 15 – 30 kg./sec, 2000. LF 36/30 x 2/45V 6x 6, MAN chassis, 12.500 litre water ; 1.250 litre foam, Monitor-output : 3.000 – 6.000 L./min, 1977. 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.
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 QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 15 November - 31 March.
8.2 Average annual days of snow: ± 5.
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.

9. WINTER ORGANISATION

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

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 blower sweeper , Schörling P17, 1 unit - towed blower sweeper, Overaasen SB90, 3 units - compact jet sweeper, Schmidt CJS720, 2 units - compact jet sweeper, Schmidt CJS914, 2 units - compact jet sweeper, Schörling P21, 1 unit - sprayer, Nido Schmidt ASP on Actros, 2 units - sprayer, Nido Schmidt RSP on Unimog, 1 unit - sprayer, Nido Schmidt RSP on Atego, 1 unit - sprayer, Nido Schmidt RSP on Axor, 2 units - 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 - friction tester SFH, ASFT on Saab 9.5, 1 unit - friction tester SFH, ASFT on Saab 9000, 1 unit – Schmidt TJS compactjet sweeper, 4 units – Schmidt Supra 5000 snow blower/cutter, 2 units – LADOG multipurpose vehicles, 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: RWY 07L/25R or RWY 02/20 with associated main twy’s and aircraft de-icing area. RWY 07R/25L, main aprons, cargo apron, other twy’s and aprons.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Standard clearing plans and procedures are to be followed.
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 30-50 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: CRYOTECH E36 : 1.350.000 liters. Effectiveness very good but not with extreme low temperatures. NAAC : 9 ton.
12.2 Comment on storage capabilities of the chemicals which you use. Good, storage capacity 220.000 l.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Solids used in combination with liquids: mixing ratios dependable on conditions.
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 will be used next season to economise on liquids.
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? SFH Saab 9.5.

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? We try to improve our procedures every year (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 which you would like to sell? No.

BRUSSELS SOUTH CHARLEROI

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME:

Brussels South Charleroi 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): Total RWY length : 2550m, TORA : 07/2550m – 25/2405m, RWY Width : TWY Nand S : 23m. No shoulder width on runway Total Apron Area : 140,000sqm.

2.2 Landing aids for each RWY (e.g. CAT II): Landing Aids: RWY 25 / CAT III – RWY 07/SALS.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Every year a risk study is done by the safety Manager to determine the kind of animal species we must watch. In that report, The Safety manager analyses and evaluates the number of collisions between birds and Aircraft. A number of recommandations are done and dispatch to all departments.

6.1 Do your staff attend recognised bird control training courses? No, they have a long experience and they are briefed during audit by specialists (twice since 2004).

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

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Pyrotechnical means (birds scaring) – Patrol car equipped with siren - Ecopics – flash gun – gas cannon.

6.4 Do you carry out a bird strike risk assessment? Yes, each month a meeting is organized with different relevant staff of the airport and the Safety Manager and they discuss about problems or incidents.

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 details or problems regarding incident/accident involving birds are logged and dispatched to all departments ; this one mentionned, date, hours, type of gun used, localisation, type of bird, name and signature of inspector.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Those kinds of animals may be present but they did not cause any accident until now.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.5 Annual number of days of de-icing activities: +/- 110 days (winter 2009/2010).

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 Sweeper – blower with snowplough (sweeping width : 3.50m); 6 sweeper – blowers with snowplough (sweeping width : 6m); 1 sweeper – blower with liquid spreader and snowplough; 1 truck « UNIMOG » with miling cutter and spreader solid de-icer tank; 1 snowplough adaptable to truck unimog; 1 spreader solid de-icer (capacity : circa 1000kg); 1 sprayer of de-icing liquids (capacity 6000l); 1 sprayer of de-icing liquids and solids (capacity : 4400l/m³); 1 sprayer of de-icing liquids and solids (capacity :8000l/m³); 1 truck with miling cutter; 1 truck de-icing/anti-icing FMC TM 1800 de-icing type1/ anti-icing type 2 (alla a/c type); 2 trucks FMC Tempest de-icing/anti-icing type 2; 1 truck VESTERGAARD Elephant Gamma de-icing/anti-icing type 2; 1 truck Vestergaard mu de-icing/anti-icing type 2.

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 product : Cryotech E36 – Solid product : Cryotech NAAC for runway de-icing.

12.2 Comment on storage capabilities of the chemicals which you use: The product is stored in a closed and hermetic place. this place is dry, cool and ventilated , the storage capacity 180m³ for liquid product for all the winter season and for solid product is +/- 40T (stock full). We used 350.000 litres of liquid product and 80t of solid product.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: We used this product from a couple of years and no real problems appeared. Each year, we compare our impressons with the provider, and if necessary a training or refresh is organized to improve it.

12.4 Have you experienced any corrosion problems with de-icers? No corrosion problems appeared since we used this product.

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, except runway and apron we use sodium chloride for services roads.

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: 4 de-icing vehicles: 1. Tempest // de/anti-icing capacity 75/25 = 6000 L // anti-icing capacity 100% = 1400 L. 2. FMC SMD 1200 // de/anti-icing capacity 75/25 = 3250 L // anti-icing capacity 100% = 750 L. 3. Vestergaard // water capacity = 5000 L // anti-icing capacity 100% = 2000 L. 4. Vestergaard Elephant // de/anti-icing capacity 75/25 = 4600 L // anti-icing capacity 100% = 1000 L.

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

14.3 Is glycol recovered? If so, please state methods: Glycol recovered with Boschung vehicle.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? As models of friction tester, we used a muumeeter on a saab vehicles

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: Each year, at the end of the winter season, we adapt our experience and analysis issues for next year. We project to extend the Apron and get in the future more aircraft parking, we project to purchase new equipments as 3 sweeper-blowers with snowplough, 1 spreader and 1 truck with miling cutter.

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.

BUDAPEST

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Budapest Ferihegy 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): RWY13L/31R: 222,300sqm, TORA: 3707m, Width: 45m; RWY13R/31L: 180,600sqm, TORA: 3010m, Width: 45m; TWY system: 427,902sqm general width: 23m, except A1 is 19m and the paved shoulder is 3.5m. Aprons (Apron 1 and Apron 2): 489,120sqm.

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.

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 SMS manual was published at the beginning of 2010. As a part of the system all relevant procedures are checked by risk analyzes. The first review of the system is planned at 2011.






4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: FOD awareness campaign periodically, FOD leaflets are circulated periodically, The FOD is a part of all kind of movement area safety trainings.
b) Inspection by airline, airport, and airplane handling agency personnel: Cleansweep projects in every week; and regular area inspection by the Duty Airside Manager and the Apron Supervisors.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Regularly sweepings; Set up containers at every stand. The sweeper machine is equipped with magnetic bars.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Weekly Terminal/Airside meetings to inform the partners and defines the actions will be taken.
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 collector 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 by VELO system.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? All runway holding position is indicated by Runway guard lights, and stop bars. The RETs are equipped with permanent stop bars.
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: Airfield safety publications; High visible signs; NO ENTRY markings; H24 operations of RGLs, permanent stop bars on RETs.
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? Maneuvering area inspection and maintenance procedures are in force. Awareness campaigns, trainings for mechanics and maintenance workers.
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 jointly investigation process is established. The information is continuously shared between partners as a part of 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 team, with detailed manual contains all procedures, and data collecting methods.
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, falcons, gas cannons.
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 established, including all kind 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, rabbits.

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: Foam, Rosenbauer, 5,000 l/min; Foam, Rosenbauer, 6,000 l/min; Foam, Protector, 7,250l /min; Foam, Rosenbauer, 6,200 l/min; Foam, Rosenbauer, 7,000 l/min; Water Supplier, Rosenbauer, 10,000 l/min; Water, Silvani, 4,000 l/min; Water, Rosenbauer, 2,400 l/min; Water, Rosenbauer, 2,400 l/min; Water (standby), Rosenbauer, 3,000 l/min.
7.2 Future developments – are there plans to purchase or dispose of any equipment? 2+1 Crash tender will be purchased.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? At this phase two old non used ACFT help for the training but a new MOCKUP is planned.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? According to Winter Services Manual the designated period is between 15th of November and 15th of 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 deicing activities: 65-75 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 6-53.

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 JET SWEEPER; 10X IVECO-SCHÖRLING sweeper/blower; 5X SUPRA 4000, 2X SCHMIDT TS-4, 2X NIDO, 10X UNIMOG.

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: Duty Airside manger will decide the priorities on airside following the list below: 1) Active RWY (13L/31R), Belonged TWYs of RWY; 2) Aprons 2AB,/Apron 1, 3) Other TWYs; 4) Maintenance area; 5) Landside, car parks.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: The conga-line with 5-6 sweeper/blower open the cleaning procedures on the designated RWY and on the TWYs. The snow is pushed from the centreline to the side of the surface with respect for the edge light system. Since the runways are 60m 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? 30-40 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, Clearway-1, and sand on the landside and other non airfield areas.
12.2 Comment on storage capabilities of the chemicals which you use: No.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: No experience yet.
12.4 Have you experienced any corrosion problems with de-icers? No corrosion problems were detected.
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 on landside roads and car parking areas only.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: VAISALA SYSTEM, MET OBSERVER on 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 on parking area mainly. in case of remote de-icing is needed due to short hold over time, de-icing is done at a Holding Bay B5 in case 13L, and on the stands are close to runway 31R.
14.3 Is glycol recovered? If so, please state methods: No glycol recovery process.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? 2X ASFT (SABB).
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.
16.2 Do you plan to purchase new equip-






ment or vehicles? If so, please provide details: Yes, to purchase new high speed sweepers and blower unit is planned in 2011.
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, only in 2012.

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 250sqm. Construction works in progress. Estimated apron area after extension – 222 885sqm.
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 General: 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, foam 1500 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 Train-






ing 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: 10-30 cm.
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. Sub-contracted 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 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. No. We have just received one runway sprayer and compact sweeper.
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.

CHISINAU

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: International Airport Chisinau

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. TORA for RWY 08/26 – 3590m. TODA for RWY 08/26 – 3590m. ASDA for RWY 08/26 – 3590m. LDA for RWY 08/26 – 3590m. Total apron and ramp area – 110000 m2.
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 - 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): SMGCS.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. 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 airport vehicle operators every 6 month.
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, recorded distress calls / Bird Gard SUPER PRO PA4.
6.4 Do you carry out a bird strike risk assessment? The bird strike assessment is on permanent basis, audits are provided by CCA.
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 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 – 2008. 2 units.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes. The car of fast response, axles 4x4.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Doesn't possess any FTS.






PART 2: WINTER SERVICES QUESTIONAIRE

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: 4-6 cm.
8.4 Maximum snow in 24 hours: 20 cm.
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? 10 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: Compact Jet Sweeper, Schmidt, CJS 914 Super II MB, 3 units. Snow Clearing Schmidt Supra – 4001, 1 unit. Snow ploughs DE – 224A, 4 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 sides, depending on direction and intensity of wind.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? After moderate snow – 3.50 hours; 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 de-icers.
12.2 Comment on storage capabilities of the chemicals which 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. Have 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

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 which you would like to sell? No.

COPENHAGEN

Copenhagen Airports CPH

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Copenhagen 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):
2.2 Landing aids for each RWY (e.g. CAT II): 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? No comment.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: An integrated element in CPH's Apron Safety Training, which is a compulsory course for all with a need to drive airside, is the dangers of Foreign Object Damage and how to prevent FOD being a hazard to flight safety.
b) Inspection by airline, airport, and airplane handling agency personnel: This is done repeatedly times daily by personnel from Airside Operations.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): CPH we use, among others things, Sweeping, Magnetic Bars and FOD containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): This is done through the Airside Safety and operational 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): CPH uses Geographical Information System (GIS) for plotting where each FOD was found and what kind of FOD was found. The GIS is also used for trend analysis and identification of "hot-spots".

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? The usage of A-SMGCS and through visual observation
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Among others things, the A-SMGCS.
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? No vehicle operators or other people working airside at Copenhagen Airport are allowed to drive or walk on their own, unless they have attended a CPH Airside Safety training course, and passed a test
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 (CAA) established a mandatory reportingsystem built upon the philosophy of being non-punitive and confidential. It is applicable to everybody within Danish aviation, that all occurrences concerned shall be reported to CAA within 72 hours.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: CPH retain the main grass areas with tall grass (above 50 cm) in periods with high numbers of gulls and Lapwings. In the rest of the year, the grass length is between 21-30 cm. CPH is covering permanent water with nets, and works towards a reduction of any temporary fresh water pools. Additionally CPH wants to reduce the wooded areas known to attract Wood Pigeons, Magpies and Crows.
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? Continuosuly (recommended at airports with more than 40,000 daylight movements pa).
6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer: Pyrotechnics. Yes, shotguns Yes, dogs. Yes, Lasers. 6.4 Do you carry out a bird strike risk assessment? 12 times a year, or more, and is this process audited? The bird hazard prevention is audited once every 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. both (eg, in case of lawsuits).
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Rabbits, they are being terminated.






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 Crash tender, Volvo FM 12, 6x6, 12.000L water and 1200L RE-Healing Foam, 80 kg CO2, 2004; 1 Crash tender, Volvo FM 12, 6x6, 12.000L water and 1200L RE-Healing Foam, 2003; 1 Crash tender Rosenbauer Panther 6x6, 12.500L water, CAFS, 1200L RE-Healing Foam, 2007; 2 Crash tender Rosenbauer Panther 6x6, HRET Snozzle,11.000L water, 1000L RE-Healing Foam, 225 kg dry chemical, 2008; 1 Multi-vehicle, Volvo FL10, 2400L water, 100L RE-Healing Foam, 80 kg CO2, Rescue tools, 1995; 1 Fire chief vehicle, VW Tiguan 4 motion, 2008; 1 Incident Commander vehicle, VW caravelle Syncro 2002; 1 Secondary Incident Commander vehicle, VW Tiguan 4 motion, 2007; 1 First responder vehicle, (ems), VW Caravelle 2009; 1 Sea Rescue VW Transporter Syncro, 2005; 2 VW Touran (aux vehicles), 2008; 1 Vehicle with triage equipment, Mercedes 1622; 1 Rescue Stair, Ford Super Duty 550, 2010; 1 Sea Rescue boat, weight: 20 tons, engines: 1250hp, speed: 35 kn. Carrying inflatable life rafts pax capacity: 600, 2001; 1 Secondary Sea Rescue boat, 2x100 hp, speed: 42 kn, 2006; 2 Ea. Crash tender, Volvo FM 12, 6x6, 2004, 12.000L water and 1200L AFFF light water, 3. Ea Crash tender Rosenbauer Panther 6x6, 12.500 L water, 1200L AFFF foam, 2007. 2 Ea.Crash tender, Volvo F12, 6x6, 1992-1993, 10.000L water and 1000L AFFF light water. Multi-vehicle, Volvo FL10, 1995, 2400L water and 50L AFFF light water. Rescue tools act. First responder vehicle, (ems), VW Caravelle 2009. Supervisor vehicle, VW caravelle 2002. Rescue chief vehicle, VW 4 motion, 2006. Rescue boat, weight: 20 tons, engines: 1250hp, speed: 40, 5 KN.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes, we have a 767 Fire Training Simulator. All Danish airport fire fighters are educated in CPH/ Fire & Rescue

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: 21 days.

8.3 Average snow depth: 5-10cm.

8.4 Maximum snow in 24 hours: 50cm.

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

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? 45.

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): 2 units Holder, 4 units John Deer, 2 units SAAB 9-5 Friction, 2 units Caterpillar 972 G / 966 F, 1 units Komatsu WB97S-2, 6 units Lundberg. Sweeper: 1units Danline, 5 units Øveraasen RS200, 8 units Øveraasen SB470, 6 units Øveraasen RS400. Snow blowers: 1units Schmidt slynge TS5, 1units Øveraasen TV 110- 150- 825S, 2 units Oshkosh H2718B, Highspeed, 1 units Viking UTV. anti-icer units: 2 Damman spreader (40 Meter), 3 units NIDO Stratos 50-36 PALN CS, 1 units Epoke Kombi SW 4500.

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 2 multi de-icer. 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 20-30 minutes, depending on snow quantities, type of precipitation, runway-in-use, wind direction and speed, etc. With only a small amount of snow the whole runway-width is cleared in one run. Normally, the column finishes half the runway-width all the way down to its end, and then returns, finishing the other half. 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 5-8 sweepers and 4-8 big ploughs and 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? 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: The chemicals used, 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.

12.2 Comment on storage capabilities of the chemicals which you use: Liquid de-icer is stored in 2 x 55.000 liters tanks.

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 god 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.

13.2 Have you plans to purchase further ice warning systems and if so which model(s)? 24 hour forecast module 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? 2ea.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.

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 they are used.
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.
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: ANSWER: 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 QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 31th 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: 5cm
8.5 Annual number of days of de-icing activities: 10 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 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, 1,000kg
12.2 Comment on storage capabilities of the chemicals which 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, define snow cleaning methods, formations etc.
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.






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 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 05R/23L length: 3000m, TORA: 2700m, width: 45m, shoulder widths: 7.5m each side, RWY 05L/23R length: 2700m, TORA: 2400m, width: 45m, shoulder widths: 7.5m each side. RWY: 401,028sqm, TWY: APPROX 550,267sqm, Apron: APPROX: 1,000,647sqm.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 05R: CAT IIIb, RWY 23L: CAT IIIb, RWY 05L: CAT I, RWY 23R: 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? Implementation of SMS exercised in November 2005. Documentation of safety relevant incidents on runways, taxiways and apron by Duty Traffic Manager.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Training. Staff concerned with removal of FOD objects as well as inspecting the movement areas is trained.
b) Inspection by airline, airport, and airplane handling agency personnel: Inspection by airline, airport, and airplane handling agency personnel. Inspections are done by airport duty manager, marshaller and handling agents.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): FOD-Container, use of sweeping carpet for an RWY &Apron carpet ride.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Co-ordination and reporting done by airport duty manager at airport traffic office (24hrs).
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments):To improve the FOD Control a test version Inferred FOD System.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Aircraft movements are controlled by ATC tower and airport apron control. Vehicle movements are controlled by duty manager and marshaller.
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): Area Safety System – AMASS.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: No changes.
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? License for driving with vehicles based on Civil Driving Licence ABC, Training sessions about airport movement areas and apron behavior by airport operator.
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 ,Safety Meetings frequently.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Yes, by ornithological scientist in honourable position, bird strike agent, Professional deer-hunter with with a controlled African buzzard
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? No.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Bird control is using pyrotechnics, shotguns and falcons. Supplier: Ammunition Comet pyrotechn. Company ltd. Kaliber 4, shotguns SIG P2 A1 26,5mm.
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? Fox on the run, rabbits, sometimes 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: 4 ELW Opel/VW, command post, 99-01. 3 RTW Mercedes, 2005. 1 KTW Mercedes 2005. 6 GFLF; MAN/Rosenbauer, 10,000-12,500l water, 1,500l foam, 500kg powder, 1995-2003. 2 FLF MAN/Rosenbauer, 5,500l water, 500l foam, 1999-2004. 2 TLF MAN/Rosenbauer, 3,000l water, 200l foam, 1999/ 2 WLF; MAN/Atlas, 2001-2002. 1 DLK MAN/Vario, 2006. 1 PLF MAN/Rosenbauer, 2000. Listed November 10: Fahrzeugliste für CRASH FIRE RESCUE Stand: November 2010; 3x Kommandowagen, VW 2007 – 2008; 1x ELW, VW T5 2007; 2x HLF, MAN 3000l Wasser, 300l Schaum 2010; 1x HLF, MAN 5500l Wasser, 500l Schaum 2004; 6x GFLF, 8x8 MAN/Rosenbauer 10000 – 12500l Wasser, 1000 – 1500l Schaum 500 kg Pulver 1998 – 2010; 1x GFLF, 6x6 MAN/Rosenbauer 9000l Wasser,1000l Schaum, 250 kg Pulver 1999; 1x Rettungstreppe, Mercedes, 2003; 2x WLF, MAN/Atlas 2001-2002; 3x RTW, Mercedes, 2006 – 2010; 1x KTW, Mercedes, 2006; 1x Drehleiter 23/12, MAN, 2006; 4x Abrollbehälter für Atemschutz, Rüsteinsatz, Rettung, TEL, 2002 – 2005 Vehicle list for crash fire RESCUEStand: November 2010; 3x command car,
VW2007 - 2008 1x ELW, VW T5 2007; 2x HLF, one 3000 l of water, 300 l of foam; 2010 1x HLF, one 5500 l of water, 500 l of foam 2004 6x GFLF, 8 x8; one/rose smallholder 10000 - 12500 l of water, 1000 - 1500 l foam 500 kg of powder 1998 - 2010 1x GFLF, 6 x6; one rescue stairs, Mercedes, 2003; 2x WLF, one/atlas 2001-2002 3x RTW, Mercedes, 2006 - 2010 1x KTW, Mercedes, 2006 1x aerial ladder 23/12, one, 2006 4x Abrollbehälter for respiratory protection, arming use, rescue, Tel., 2002 – 2005.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No information.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Not possessed.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 01/11/2010 till 31/03/2011.
8.2 Average annual days of snow: Approx 15.
8.3 Average snow depth: 10.
8.4 Maximum snow in 24 hours: 30cm.
8.5 Annual number of days of de-icing activities: 25.

9. WINTER ORGANISATION

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

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): 21 x snow ploughs, 15 x airblast sweepers, 1 x snow blower, 4 x spreaders (sand and de-icing), 4 x de-icing units, 1 front loader, 1 rotary snow plough.

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:
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 8.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 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: AVIFORM L50 UDDCON NORDIC Norway—After 30 min.
12.2 Comment on storage capabilities of the chemicals which you use: 250,000 litres.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Not using.
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? Sand and AVIFORM.

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)? None.
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: 10 Vestergaard "Elephant Beta" 8000 Litres.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? 2 Parking area depends on RWY in use.
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.
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.

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 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? Forthcoming trial of enhanced stop-bar lighting (reduced light fitting spacing to 1.5m) at Runway Taxi-Holding Position Whiskey.
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 6 month 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 SMS Committee.

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 Toyota Hi-Lux, 2.4 Ltr Toyota engine, year purchased 1999.
7.2 Future developments – are there plans to purchase or dispose of any equipment? In the process of purchasing 1 additional 6X6, currently out to tender.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Not at present.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1st November to 31st 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 Magirus Duetz prime mover + 16 foot plough. 1 x Schorling P17b with Magirus Duetz prime mover+ 16 foot plough. 1 x Shorling P17a with Magirus Duetz prime mover+ 16 foot plough. 1 x Danline 2000 with Magirus Duetz prime mover+ 16 foot plough. 2 x Chafter de-icer with JCB fast trax. 7 x Sicards 540 with combination of JCB, and 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 land side 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 1 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? Methodology 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

exeter INTERNATIONAL

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 08, TORA 2047m, TODA 2263m, ASDA 2047m, LDA 2037m; RWY 26, TORA 2073m, TODA 2653m, ASDA 2073m, LDA 2037m.
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 wide SMS, with rolling introduction since 2002. SMS is reviewed following audit, changes and occurrence reporting.

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.
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.
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. 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 a 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: 5mm.
8.4 Maximum snow in 24 hours:






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? 4.

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 – 4 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.

12.2 Comment on storage capabilities of the chemicals which you use:

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

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?

12.6 Do you have any other comments on experience with 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: N/A.

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:

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.

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.

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/P 23M, Main Apron 174,870sqm, General Aviation Apron 10,500sqm.

2.2 Landing aids for each RWY (e.g. CAT II): RWY 28 – CAT II – (Delayed to early 2011).

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 in implementation fase.

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 programme. 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 2011).

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 programme. 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 tol Sunset).

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Bird control is using: Gas cannon, 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, Water Pump 7400, Top Turret 1 6200, Front Turret 2 6200, Time 0-80km 28, Engine 720bhp; OSHKOSH STRIKER 00-007, Water 12000l, Foam 1500L, Dry Chemical Powders 250kg, Water Pump 7400, Top Turret 1 6200, Front Turret 2 6200, Time 0-80km 28, Engine 720bhp; OSHKOSH T1500 00-002, Water 6000, Foam 1500L, Dry Chemical Powders 320kg, Halon 68, Water Pump 4730, Top Turret 1 4730, Front Turret 2 945, Time 0-80km 25, Engine 540bhp; TITAN E-ONE 00-003, Water 12000l, Foam 1500L, Dry Chemical Powders 230kg, Water Pump 6810, Top Turret 1 2840, Front Turret 2 1135, Time 0-80km 37, Engine 7540bhp

7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes.1 Command vehicle – end of 2012; Complementary rescue equipment for mud waters – end of 2013.

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. Removal of Disabled Aircraft, Faro airport may perform the Removal of Disabled Aircraft until category II.






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

Fraport

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Frankfurt 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: 07L/25R 4000m x 60m TORA 4000m; 07R/25L 4000m x 45m TORA 4000m; 18W 4000m x 45m TORA 3970m; Total RWY surface area: 720,000sqm; Total apron surface area: 2,128,000sqm.
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 SMS at Frankfurt Airport is enhanced continuously. The results of audits are considered beneficial for the continuous development of an SMS. However no major changes were necessary in the risks/hazards identification process.

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 communi-cated 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. FRA Apron Supervision inspects apron areas continuously 24 hours a day and orders clean up details as needed. FRA 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 daily at regular intervals and when required by surface sweeper vehicles with magnet bars. Hot Spots (e.g. equipment parking areas) in the movement area are cleaned manually. Additionally a FOD*BOSS duplex system is utilised by our Apron Supervision on 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 coordinates the cleaning of surfaces per 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. FRA 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 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 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: FRA constantly upgrades infrastructure such as lighting, stop bars and markings designed in part to prevent runway incursions and increase safety. FRA is in the process of installing RWY vacated signs at the RWY turn offs that illuminate when aircraft have vacated the RWY.
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? FRA Airside Operations regularly reviews standard operating procedures and conducts runway safety workshops with 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? FRA Airside Operations has a good working relationship with 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 FRA 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 staff 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): FRA utilises pyro acoustic 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? FRA 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: 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.
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 QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? November 15 to March 31.
8.2 Average annual days of snow:
8.3 Average snow depth:
8.4 Maximum snow in 24 hours: 15cm.
8.5 Annual number of days of de-icing activities: 134 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 or more depending on to actual weather 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): 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 and plows/co. Schmidt, Kuepper-Weisser and Iveco.

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) Active runways and main taxiways in the manoeuvring area. 3) ATC landing aid sender areas. 4) Taxiway centre lines. 5) Aircraft servicing areas. 6) Passenger bridge manoeuvring areas. 7) Areas used for parking ground servicing vehicles, equipment and transfer cargo and post. 8) Main apron roads. 9) 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 lined up diagonally to clear the runway in one run. 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, Safeway KF and Safeway SF.
12.2 Comment on storage capabilities of the chemicals which 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.
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 Surface Management System including GPS in our de-icing vehicles 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 utilise for example an Ice Early Warning System, friction measuring results and weather forecasts from the German Weather Service stationed here at the airport to avoid de-icing when it is not necessary.
12.6 Do you have any other comments on experience with chemicals?
12.7 Do you use other chemicals or sand on operational areas? Due to environmental issues some areas of the Movement area are sanded.

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)? No.
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 a secondary system. We still depend mainly on weather forecasts and actual 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.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? FRA has 2 active De-icing Pads and 1 dedicated de-icing surface 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 and retained in special reservoirs and 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 on the apron.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SAAB 9.5 Surface Friction Tester (SFT) equipped with SarSys.
15.2 Have you any comments on the reliability of friction indexes? An international standard for friction indexes and reporting 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:
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units.:
We are in the process of acquiring a new convoy consisting of snowblowers, sweeper plough and surface de-icing vehicles to service our new RWY which is planned to start operations at the end of next year. All vehicles have been ordered.
16.4 Do you have any winter services equipment which 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: 2356m, 106.020sqm; RWY width: 45m; TORA: RWY06: 2210m, RWY24: 2146m; TWY A: 22.5m; TWY B/E/F/N: 18.0m; TWY C: 15.0m; TWY D/S:12.0m; Apron1: 30 x 30m; 900sqm; Apron2: 250 x 60m; 15.000sqm; Apron3: 270 x 30m; 8,100sqm
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
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). Coordination 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.

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






warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Nothing special, 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 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.

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 backup).
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; 1x Ambulance (Mercedes Benz); 1x Truck with technical equipment (Mercedes-Benz); 2x ELW (Mercedes Benz 220T, Mitsubishi L200).
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? Airport plans a Fire Training Simulator, earliest availability 2007.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? Nov 1 – April 30.
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? 1 per shift and 3 on stand-by.

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 new 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: 92,000 kg "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.

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 recovery.

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? 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: Geneva 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 05/23: Concrete 190,000sqm. Taxiways: Concrete 188,027sqm. 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? Geneva International Airport (AIG) 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 Geneva International Airport which contains over 180 operational procedures has been accepted by the Swiss Federal Office for Civil Aviation (FOCA). AIG has received its initial Aerodrome Certificate in December 2006. In June 2010, the new (seventh






edition) of the aerodrome manual was delivered to FOCA. Geneva International Airport has undergone re-certification under ICAO standards in November 2010.

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: Runway inspections are carried out six times a day. All aircraft positions are swept once a day. The Apron is swept three times a week. The Links and Taxiways are swept once a week. The Runway is swept once a month, or on request. All positions are checked for FOD before arrival and on departure of the aircraft.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): 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).
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 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 Geneva International Airport 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 centre: 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; Suzuki Duty officer's vehicle 2006 4x4; Mercedes PCI "Transmission" vehicle 1992; Mercedes Fire duty officer's vehicle 1997 4x4; Toyota Escort vehicle 2006; 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 Headquarter vehicle 2006 4x4; Smart Infirmary vehicle 2003; Toyota Escort Vehicle 2005; Rosenbauer MAN Extinguishing vehicle 12,500 l water / 1,500 l extract; 2005 8x8; Rosenbauer MAN Extinguishing vehicle: 12,500 l water / 1,500 l extract 2000 8x8; Rosenbauer MAN Extinguishing vehicle: Type Snozzle 11,000 l water 2008 8x8; 1, 500 l extract Iveco 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 200;2 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; 1 nacelles fixed on the helicopter1999; 3 nacelles of 65 places each reserve SSA 1999; Reserve water Tow: 25,000 l 1969; Transport Tow (total weight 16 tons) 1982; Tow usage divers (HI-DRI) 1980; Emergency material Tow (1 axle) 1972; Compressor Atlas Copco XAS 55 1985; Teklite Projector with auxiliary engine 2002 ; 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 QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? November 1st to April 15.
8.2 Average annual days of snow: 13 days (between December and January).
8.3 Average snow depth: 46 cm (between December and January).
8.4 Maximum snow in 24 hours: 10cm.






8.5 Annual number of days of de-icing activities: 103 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 7, Maintenance (2 stand by) 4, Snow removal access roads 4.

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 2; Sweeper blower with snow blade Boschung (Jet Broom) with Spayer 1; Rotary plows Rolba 4; Snow blade Boschung 6m 6; Snow blade Peter 6m 11; Snow blade Peter 5,1m 3; Snow blade Peter 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; Tracto Terratrack 1; Tractor Reform pavot3; Tractor Boschung Pony 5; Snow blade Zaugg 2,4 m 4; Snow blade Zaugg 3 m 1; Snow blade Zaugg 2 m 2; Sprayer Boschung 4; Snow evacuation trucks 2; Rotating Sweepe Boschung 1,5 m 2; Rotating SweeperZaugg 2 m 2. New vehicles: Blower AF1 1; Tractor with special blade for runway lights New Holland 1. Glycol absorbers: Sweeper and absorber Boschung 7000 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 15 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 2009-2010: For RWY and TWY: Safeway KA, 194'600 l. Safeway SF, 45,000 Kg. For Aircraft: Glycol type 1, 490,541 l. Glycol type 2, 299,878 l. Glycol type 4, 568,379 l.
12.2 Comment on storage capabilities of the chemicals which you use: 37,000 liters of Safeway KA in tank; 33,500 kg of Safeway SF in bags of 500 and 1000 kg.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: AIG has reliable experience with solid de-icers or mixing ratios with liquids.
12.4 Have you experienced any corrosion problems with de-icers? AIG has experienced some corrosion problems on de-icers.
12.5 Have you employed any special means to economise on chemical use? AIG has not employed any special means in order to economize on chemical use.
12.6 Do you have any other comments on experience with chemicals? "Safeway KA and SF" have been used since 1999.
12.7 Do you use other chemicals or sand on operational areas? AIG does not use sand.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: There is no ice warning systems in Geneva.
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: 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 x friction tester vehicles "SAAB".
15.2 Have you any comments on the reliability of friction indexes? No comment is made on the reliability of GVA's friction index.

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.
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 winter equipment is currently on order or for sale.

GLASGOW AIRPORT

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Glasgow Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1Please 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: TORA 2658m, TODA 2783m, ASDA 2658m, LDA 2661m. Runway 23: TORA 2661m, TODA 3090m, ASDA 2812m, LDA 2356m. Runway Strips: Each runway is included within the defined strip areas, in accordance with CAP 168, Chapter 4. Strip widths: Designator Runway 05/23 150m either side of centreline. Runway End Safety Areas (RESA): The runway end safety areas are defined for both runways, and their dimensions are in accordance with CAP 168, Chapter 3. Taxiways: All taxiways are designed to CAP 168 requirements and are safeguarded for code E operations, with the exceptions of: Northern taxiway Z which is limited to Boeing 737/A319 size due to the DVOR and the Fire Training ground; Stopways There is a stopway of 150m associated with Runway 23. Clearways: The clearway surfaces are prepared in accordance with CAP 168, Chapter 3. Their lengths are as follows: Designator Runway 05 129m, Runway 23 433m. Aprons (EGPF AD 2.8): Aprons at Glasgow Airport are designed to accord with the permitted size and slope requirements of CAP 168, Chapter 3. Aerodrome Surface Conditions: The movement area surfaces are designed to accord with the requirements of CAP 168, Chapter 3. The type of construction and surface characteristics are designed to ensure that the effect of surface contamination is minimised. Movement Area Bearing Strength (EGPF AD 2.12): Taxiways and Main Aprons - compatible with the type of aircraft designated to use the areas. Taxiway W - suitable for light aircraft only.Taxiway Z, Taxiway C and Taxiway Y - restricted to aircraft weight of 30,000 kilograms.
2.2 Landing aids for each RWY (e.g. CAT II): Aerodrome Ground Lighting Basic Licensing Requirements Glasgow Airport conforms to the licensing requirements of CAP 168 in respect of Runway 05/23 scale L1 precision approach CAT III recommendations. Aerodrome Beacon No aerodrome beacon is available. Approach Lighting (EGPF AD 2.14) and Circling Guidance Runways 05 and 23 - equipped with full Calvert coded centrelines and five bar systems; 914 metres of High Intensity (HI) approach lighting with supplementary HI lighting over the inner 300 metres. Circling Guidance - No Circling Guidance Lights are available. Precision Approach Slope Indicators (PAPI) (EGPF AD 2.14). Runway 05 - PAPI 3°, 394m from threshold with Minimum Eye Height above threshold (MEHT) of 60 ft. Runway 23 - PAPI 3°, 346m from threshold with MEHT of 56 ft. Runway Lighting (EGPF AD 2.14 Runway 05 and 23 centreline HI bi-directional colour coded 15m spacing. Runway 05 and 23 edge lights Elevated HI bi-directional with Low Intensity (LI) omni-directional component. Runway 05 and 23 TDZ lights HI 914m in length. Runway 05 and 23 threshold HI green, flush with elevated wing bars. Runway 05 and 23 end Red. Taxiway Lighting (EGPF AD 2.9): Green centreline lighting is installed on all sections of the taxiway system, and Links A to G. Red uni-directional stopbars are installed on Links A, B, D, E, F and G. Yellow alternate flashing Wig-Wags are situated at the CAT II/III holding positions at Links A and G, and at the Holding Points on Links A, B, D, E and F and G.Yellow alternate flashing Wig-Wags are also located at the holding point on Taxiway Z, and holdings points Y1 and C1 on either side of the Runway 05/23. Alternate yellow/green runway turn-off lighting is provided on Links A,B,D,E,F and G to indicate to an aircraft that is in ILS LLZ sensitive area.Green taxiway lighting indicates when the aircraft






is clear of the ILS LLZ sensitive area.Low intensity blue edge lighting is installed in the holding areas Links A, E, G and R1.Apron Lighting and Visual Docking Guidance Systems (EGPF AD2.9):Apron lighting provision is in accordance with CAP 168. The horizontal average is 20 Lux on all apron areas. Nose-in parking is in operation for most aprons except the Cargo area, General Aviation area and Stands 6 and 7 which are marshalled. All nose-in stands have visual docking guidance systems in at least one of the following forms – VGDS, AGNIS, PAPA, Mirror or Ground Stop Arrow.

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 SMS shown in 3.1 has evolved over the years as a result of reappraisals and audits (internal & external).

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Part of ground handling training, part of AODP.
b) Inspection by airline, airport, and airplane handling agency personnel: Inspection process is continuous, FOD removal sweeping programme
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): FOD removal sweeping programme, FOD bins on apron.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): See (a) to (c)

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Surface Movement Radar.
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) RIMCAST.
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? Manoeuvring Area 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 NATS.

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? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer: Recorded distress calls, pyrotechnics, shotguns, air rifle.
6.4 Do you carry out a bird strike risk assessment? Yearly audit, reviewed half yearly by FERA.
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

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: Cobra MKII (1) 11,500 1750 4,500 100 2 50 2; Cobra MKI (4) 11,500 1380 4,500 100 2 50 2 Javelin (SDR)10,000 1181 4,500 100 2 50 2; Viper (2) 5,600 875 2,500 50 2 35 2; Mitsubishi Shogun; LR Discovery (2) (2).
7.2 Future developments – are there plans to purchase or dispose of any equipment? There is a fire vehicle replacement programme in our capital investment plan.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? November 1 to March 31.
8.2 Average annual days of snow: 8.
8.3 Average snow depth: 5cms.
8.4 Maximum snow in 24 hours: 1m.
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? 13.

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): SB 90 Sweeper 6 units; Snow blower 2 units; De-Icer 2 units; Tractor ploughs 2 units; Tractor brush 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: Runway, taxiway, apron.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Staggered formation
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 4 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 (379,125 lts), & Clearway 6 (8700 kg).
12.2 Comment on storage capabilities of the chemicals which you use: Bunded tanks.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Good.
12.4 Have you experienced any corrosion problems with de-icers? None.
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: Icelert Mk6.
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: Useful if used in conjunction with 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
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? Grip tester.
15.3 Have you any comments on the reliability of friction indexes? Accurate.

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 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.

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 275 100 square metre.
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.
5.5 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.
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, from time to time.

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: Scania - Swedcat Water 9500 litre/Foam 500 litre / AFFF (1); Volvo F12 - 6x6 Water 9200 litre/Foam 540 litre / AFFF (93/95) (2); Dodge Tri Star - Water 1000 litre (1); Tracked vehicle - Hagglunds / equipments carrier (1).
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. Hopefully next year.

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.

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): TJS (Tow Jet Sweepers): Schmidt -TJS 560 D (5); PSB 4500 H – Vammas (2); PSB 5500 H - Vammas (2). Snow Blower: Rahtikone 381-S (1); Schmidt - Supra 5001 (1); Overaasen – 430 (1). De-icing: Schmidt ASP – liquid (2); Falkoping C5 - (sand/(1) granulte solid de-icing); Epoke SH 3500 - (sand/(1) 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: Aviform L50 – formiate. Good, but need more quantity of liquid. Aviform Solid (natriumformiate) – as a compliment to Aviform L50.
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

14.2. 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: No. Note: Airport use two vacuum-cleaner vehicles for soak up liquid.

15. FRICTION TESTING

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

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? Not for the moment.

GRAZ

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Flughafen Graz Betriebs 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): Runway: Dimensions 3000 x 45 m (left and right 7,5 m 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 – 3. Aircraft Parking: 13 Positions for A/C Cat C other 4 Pos. Cat D and 4 Pos Cat C. 2 Positions A/C Cat E. 20 General Aviation Positions. 12 Positions for Cat A. 6 Positions for Helicopter.
2.2 Landing aids for each RWY (e.g. CAT II): 35C: 35 C Cat II/III ILS 17C: 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 three 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:
a) Training b) Inspection by airline, airport, and airplane handling agency personnel c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc) 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?
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)
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. Type Bj. PS: water foam powder CO2, ÖAF (6x6) 1993 500 9000 lt. 1000 lt. Panther (8x8) 2004 1000 12.500 lt. 2000 lt. 500 kg, ÖAF (4x4) 1998 460 5000 lt. 500 lt. ÖAF (4x4) 1990 360 2000 kg, Z8 2010 1000 13.500 lt. 1650 lt. 500 kg 180 kg.
7.2 Future developments – are there plans to purchase or dispose of any equipment?
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 QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From 1 Oct – 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 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, 2 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.

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? 24 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: 60.000 kg Harnstoff UREA, 7000 kg Safeway KA Hot (Fa. Clariant).
12.2 Comment on storage capabilities of the chemicals which you use. For Runway de-icer we have niroster tanks with 12.000 lt. capacity. For aircraft de-icer we have niroster tanks with 24.000 lt. 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.
12.5 Have you employed any special means to economise on chemical use? Ice warning systems
12.6 Do you have any other comments on experience with 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. 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 aiplast 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 5.5 m 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 which you would like to sell? No.

HAMBURG

Hamburg Airport

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): RWYs: 315,800 m2 (RWY 05/23 and RWY15/33). TWYs: 320.600 m2. Aprons: 491.300 m2. RWY-Shoulders: 92.000 m2.
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.
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? 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): New ASDE-X; A-SMGCS Level I and II incl. Sensor Techniques (Multilateration) - fully operational as of May 2010.
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: 4-6 cm.
8.4 Maximum snow in 24 hours: 12 – 15 cm.
8.5 Annual number of days of deicing 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): 3 Bucher Schoerling P25; 2 Bucher Schoerling P17; 2 Overrasen RS 400; 14 snow ploughs; 11 air blast sweepers; 1 rotary snow ploughs; 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 TWYs 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.

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






KATOWICE

Katowice AIRPORT

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; 1Truck 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, Zi) – 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 capabil-






ity 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.

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

15.1What 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

16.1 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: Runway snow plough – 1 unit; Runway sweeper – 1 unit.
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.

KEFLAVIK

KEFLAVIK INTERNATIONAL AIRPORT

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 3065 m, both 60 m 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, April through September.
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 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 new risk assessment model is a part of a new 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.

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: 298 cm(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 week-ends. 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): Compact jet sweeper, Schmidt, CJS 914, 1unit; Snow sweeper, towed, Schmidt, TJS 560, 4 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, 4 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.

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 "snow combinations" (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 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 disadvantages.

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 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 four new "snow combinations" (a Scania P400 ploughing truck towing a Schmidt TJS 560 sweeper) and has the option to buy three more within the next two years.
16.3 Do you currently have equipment or other products on order? Yes (see above).
16.4 Do you have any winter services equipment which you would like to sell? No.

LEIPZIG/HALLE

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 – 533,000sqm.
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. Implementation of an ASMR is intended for 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? 1 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.
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 which you would like to sell? No.

LIEGE

LIEGE AIRPORT

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Liege 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 05R/23L : TORA 3690 m, width 45 m, shoulder 7,5 m - asph - PCN86 RWY 05L/23R : TORA 2340 m, width 45 m, shoulder 7,5 m - conc / asph - PCN56. South apron area : 400,000m2 - Deicing area : 40,000m2 - conc North apron area : 161,000m2- conc - General aviation : 228,000m2 - conc / asph
2.2 Landing aids for each RWY (e.g. CAT II): RWY 05R : CAT I - PAPI 3° - LIH RWY 23L : CAT II / III - PAPI 3° - LIH; RWY 05L : Visual APCH - PAPI 3° - LIH; RWY 23R : CAT I - PAPI 3° - 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? Created by end-Oct 2007 the SMS is compliant with ICAO and Belgian Civil Aviation Authority Standards. SMS Team was updated end-Nov 2010. The SMS is regulary updated in close cooperation with all airport operators and BCAA auditors with regard to newly identified hazards, risks, particularly in case of new infrastructure and work on the airfield. Certification audits are conducted every year.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Theorical courses and on job training.
b) Inspection by airline, airport, and airplane handling agency personnel: Runways and taxiways are inspected four times a day, and more if necessary by Airport Inspection. Apron is inspected by the Marshaller and handling agencies personnel on each parking stand.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Daily sweeping programme by special sweeping vehicles, FOD bins installed on each aircraft stairs, FOD containers installed all ramp along.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Co-ordination with all airport users made by reports, poster campaings, ramp safety committee meetings, 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? Visual observation, radio contact, airport inspection and marshaller vehicles, SMR under study.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? ARSA Chart published, additional runway guard lights installed.
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: Use of stop bars during darkness.
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 for vehicle drivers, refresher courses and awareness campaign, regular Runway 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 Occurence Reporting is regulated by the Belgian CAA Circular CIR/INS/01 and covered by a Royal Decree 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. Liege Airport is implementing a voluntary reporting.

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? Yes, completed in 2009 and refreshing courses planified. People are hunting licensed.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Daily from 6 am till 10 pm.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Recorded distress calls, pyrotechnics, shotguns,
6.4 Do you carry out a bird strike risk assessment? In SMS included - special study completed in 1998.
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, roe deer.

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: VM02-SIDES-6x6-water 13400 l - foam 1600 l - output 3000-6000 l/min - VM31-SIDES-6x6-water 13600 l - foam 1600 l - powder 250 kg - output 3000-6000 l/min - VM54-SIDES-6x6-water 13600 l - foam 1600 l - output 3000-6000 l/min - VM62-SIDES-6x6-water 13600 l - foam 1600 l - output 3000-6000 l/min.
7.2 Future developments – are there plans to purchase or dispose of any equipment? VMxx-6x6-water 10800 l - foam 1000 l - powder 250 kg - output 3000-6000 l/min.
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 QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 November - 31 March.
8.2 Average annual days of snow: ± 8.
8.3 Average snow depth: ± 5 cm.
8.4 Maximum snow in 24 hours: ± 20 cm.
8.5 Annual number of days of deicing activities: ± 15 days.

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): 1 wheel-loader with snowplough (working width: 4.2 m) - 1 sweeper-blower (sweeping width: 3.3 m) - 1 "UNIMOG" MBTRAC with snowplough (working width: 2.9 m) - 1 milling cutter (working width: 2.3 m) - 2 chemical spreaders (solid/liquid: 2 x 6 m^3) - 4 compact jet-sweepers with snowplough (working width: 5 m) - 2 jet-sweepers with snowplough (working width: 8.4 m).

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 05R/23L - S2 - S5 - South apron - RWY 05L/23R - C0 - D1 - C1 - D2 - C2 - North apron.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Standard clearing plans and procedures are to be followed
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 60 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: Cryotech E36 – 23,000 l - effectiveness very good - no experience with extreme low temperature.
12.2 Comment on storage capabilities of the chemicals which you use: 100,000 l.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Not been used from 3 years.






12.4 Have you experienced any corrosion problems with de-icers? Not on ACFT - smal problems on equipments.
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: Sensors on the RWY installed - certification in progress.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Yes but model not yet specified
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Indicators only.

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 parking area - new de-icing area enter in use this year.
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 Saab 9-5 and Mu-Meter Mk6.
15.2 Have you any comments on the reliability of friction indexes? Standardisation of friction measures and index values are necessary.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? All our procedures are improved every year by audits, exercices, workshops and SMS.

LIMOGES

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: 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):
2.2 Landing aids for each RWY (e.g. CAT II): a) Descriptive of the track 1: Orientation: 034° 214°; Identification Number: 03 21; The track length: 2500 m & The track width: 45 m; Track Type: Clothed more precisely "concrete bitumineux" to allow the execution of automatic landings. This track is used for: The approach precision of Category II or III; The approach precision of Category I; The classical approaches; The approaches to seen day and of night ;The take-offs by RVR < 150 m. Descriptive of the track 2: Orientation: 034° 214°; dentification Number: 03 21; The track length: 800 m & The track width: 80 m; Track Type: Her Be. b) Declared distance: Track 03: Distance of usable rumble to the take-off (TORA): 2440 m; Distance usable to the take-off (TODA): 2800 m; Distance usable for the acceleration stop (ASDA): 2440 m; Distance usable to landing (LDA): 2440; Track 21: Distance of usable rumble to the take-off (TORA): 2500m Distance Usable to the take-off (TODA) : 2500 m; Distance usable for acceleration stop (ASDA) : 2500 m; Distance usable to landing (LDA) : 2440 m.

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 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.
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 undertaken/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.
6.1 Do 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.
6.5 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 (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.

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: 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? November – March.
8.2 Average annual days of snow: 10 days.
8.3 Average snow depth: 7-10 cm.
8.4 Maximum snow in 24 hours: 10-20 cm.
8.5 Annual number of days of de-icing activities: 50 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted 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 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): Materiel 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, The 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.

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): 0.
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.

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.

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 qm; Taxiway+holding bay 134,000sqm; 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 are also available on the "Airport Circulation and Safety Manual" which is at all airport operators' disposal.
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 which 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 is 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.
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 theattraction 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 birds biology 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.
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? Two wildlife studies were carried out, in 2002 and 2009. A brief risk assessment report is carried out monthly.
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.

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 2 Autohydrofoam MAN 6 X 6; Dragon X 6 1 Autohydrofoam/Powder IVECO 6 X 6; Dragon X 6 2 Autohydrofoam IVECO 6 X 6; Superdragon 1 Autohydrofoam/Powder IVECO 8 X 8; Rampini 2 Sirmac 4 X 4; ASA 1 Rescue vehicle IVECO 4 X 4 APS 1 Autopump IVECO 1 NBCR vehicle BAI; Actros 1 Support tanker Mercedes 4 x 4.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 November – 31 March.
8.2 Average annual days of snow: 5-7 days.
8.3 Average snow depth: 7-10cm.
8.4 Maximum snow in 24 hours: 20-25cm.
8.5 Annual number of days of de-icing activities: 70 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 97 + 85.

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: 2 snow type fresia f.90 st; 3 turbo-tillers rolba 1000r; 3 Fresia elf-propelled polishing machines; 1 spreader on land rover – defender;1 spreader omer on iveco 35 f.8; 1 crawlers prinoth t.3 (snowmobile); 2 de-icing sprayers track schmidt giletti; 2 Saab skiddometer; Schmidt 2 sweepers sweeping. Total: 19. Third parties supplies polishing machines for tow trucks 3 / blowers; 11 trucks for knife attack mt. 4.5; 20 loading trucks for snow; mechanical shovels 10 hp 70/100; 21 tractors with blade mt. 3.2 and 2.5; .3 tractors with brush front mt. 2.5; 1 brush truck with front mt. 4.5; 2 door mount towing lamaper lame mt. 2.5; 8 mini excavators; 2 trucks for loading and snow removal; 1 truck spreader. Total: 82. Blades & brushes:10 lame rolba ar 450; 16 lame rolba sl.25; 9 lame 3.2; 2 lame 2 rv; 2 polishing machines towed rolba Viking; 1 brush front Fresia; 4 front brush Schmidt; 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? Approx. 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: 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 which 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.

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; RWY direction 13 ILS CAT II / III B; 100m RVR Take off minima.

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 under review.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: FOD training for staff employed at the air-side. The FOD prevention management programme is in use.
b) Inspection by airline, airport, and airplane handling agency personnel: Airside FOD inspections are regular done and recorded. On the request the additional inspection was done.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): For mechanical airside pavement surface cleaning we use the vacuum sweepers and special FOD boss carpets. Aircraft parking positions are equipped with special FOD containers (yellow containers with black visible sign "FOD").
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): There is coordination for FOD between multiple agencies using the 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? Primary is the communications method.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? The full parallel TWY for RWY has been completed in 2010.
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 warn-






ings or guards – use of paint, signs, lighting and other lower-cost technologies: STOP bars with guard lights on RWY entrence as adequate.
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.
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: More or less the entire area of airfield is cover with grass. A smaller part of airport area is covered with trees. Around 6 Nm (SW) from the airport there is two artificial lakes and river, luckily with no essential influence for bird hazards. There is an active method of bird management with aim do eliminate or disperse them. As soon as possible we start with so called long grass cutting 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? Bird control staff performing bird control in half an hour base for special part of day light. Otherwise at least each hour in the time of day light.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Pyrotechnics; Shot guns; Scare crow.
6.4 Do you carry out a bird strike risk assessment? The need for bird strikes risk assessment depends on the actual threat that bird presents on the airfield. It was done 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.

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? No.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From the 1st of Nov until 30th of Apr .
8.2 Average annual days of snow: 32 days.
8.3 Average snow depth: 20cm
8.4 Maximum snow in 24 hours: 50cm.
8.5 Annual number of days of de-icing activities: Roughly more or less 120 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 plans for three groups with 12 members in each. In case of heavy snow there is a deal for help with outsourced partner. There are special sub-contracted snow services with special trucks and snow loaders for main apron. It is available on request H 24. The number of personnel depends of the snow fall intensity.

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 clearing - 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 clearing – 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. Lights: RWY, TWY, intersection lights 7. GA apron 8. Navigation systems 9. Service roads inside the airport perimeter 10.Others .
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 as soon as 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 top' on 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 40 tons / effective till -5° C - hold over time depend of weather condition (precipitations). Safeway KF (liquid acetate) approximately 1000 l / effective till – 25°C.
12.2 Comment on storage capabilities of the chemicals which you use: We have suitable chemicals storage capabilities.
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 effective for the de-icing treatment.
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 touch down zone (ILS approach).
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Yes, there a plan for installing an advance ice warning system on RWY. The construction work for it has been prepared in the time of the RWY re-construction this year.
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?






At most de-anti icing is performed at 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.

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.

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 Rwy 09, TORA 1199 1199, TODA 1385 1319, ASDA 1319 1319, LDA 1319 1319, 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? 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 x SGS Protector Medium Foam Tenders carrying the following amounts of extinguishing media: a. 6000 litres of water and 720 litres of FFFP foam liquid. b. 1 x 50kg Monnex Dry Powder pressurised unit.1 x 50kg Halon 121bcf pressurised unit. Discharge rates: 4,500 litre per minute pump (lpm); Monitor discharge rate: 1600 lpm (low ratio); 3200 lpm (high ratio); Sideline discharge rate: 450 lpm; 1 x Kronenburg 4X4 Foam Tender carrying the following amounts of extinguishing media: a. 6000 litres of water and 720 litres of FFFP foam liquid. b. 35Kg Monnex Dry Powder trolley unit. c. 50Kg Halon 1211 B.C.F trolley unit. Discharge rates: 4,500 litre per minute pump (lpm); Monitor discharge rate:1600 lpm low ratio; 3200 lpm high ratio; Sideline discharge rate: 450 lpm. 2x Sides VMA 112 6 x 6 Foam tender carrying the following amounts of extinguishing media: a. 10,000 litres of water and 1200litres of FFFP foam liquid. b. 75kg Monnex. c. 75kg Halon 1211 B.C.F. unit. Discharge rates: 5400 litres per minute pump; Monitor Discharge rate: 2250 lpm low ratio 4500 lpm high ratio; Sideline discharge rate: 450lpm.
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.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? October to April.
8.2 Average annual days of snow: 4.
8.3 Average snow depth: 5mm.
8.4 Maximum snow in 24 hours: not recorded.

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): 1 x Schmidt TJS560 Snow Sweeper (primary); 1 x Danline 2000 Snow Sweeper (secondary); 1 x Schorling Snow Sweeper (secondary); 1 x Sicard 314D Snow Sweeper (back up); 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.

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 which 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)? Yes. Ice Alert.

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 – 3 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: Yes – Schmidt Tower Jet Sweeper 560.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: Schmidt Tower Jet Sweeper 560.
16.4 Do you have any winter services equipment which you would like to sell? 1 Schorling brush/blower towable unit.

LONDON GATWICK

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: London Gatwick

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: 3316 x 46m, TORA 3159m, TODA 3311m, ASDA 3233m, LDA 2766m; RWY 26L: 3316 x 46m, TORA 3255m, TODA 3407m, ASDA 3316m, LDA 2831m; RWY 08L: 2565 x 45m, TORA 2565m, TODA 3040m, ASDA 2565m, LDA 2243m; RWY 26R: 2565 x 45m, TORA 2565m, TODA 2703m, ASDA 2565m, LDA 2148m. 26L has a 150 m 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 417mm. A maximum weight limit of 562,000kg applies to landings and take-offs on Runways 08R/26L and 08L/26R. 1,900,000 sqm 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 mechanical sweepers, 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 airlines. 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.
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.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No – however, GAL are considering the use of a FOD radar.
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: 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. Airfield driving map, clearly showing the manoeuvring area (maps updated every 6 months). 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. Local Bird Hazard Management Working Group - The group meet quarterly to discuss bird strikes, habitat management issues, risk assessments, and training issues. The group also track recommendations/action points from






audits. The group have standard terms of reference and the members include airfield operations, landscape managers and grass management contractors and any other individuals concerned with bird hazard management. 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 5 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: the presence of birds on the airfield and in the surrounding area is minimised; an environment not conducive to the presence of birds is created; birds on the airfield are detected and dispersed; warning can be passed to aircraft and ATC about the presence of flocks of birds on the airfield; 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 dealing 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; Kronenburg MAC 11 Fire 4; Kronenburg MAC 11 Fire 5; Kronenburg MAC 11 Fire 6; Kronenburg MAC11 Fire 7; Scania Hose Layer Fire 8. Total water capacity: 50,000l. Total Foam capacity: 7,040l. Total Monitor discharge rate: 22,500l/min. Total BCF capacity: 100kg. Total Monex dry powder: 345kg.

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 QUESTIONAIRE

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: December 2009: 9 days of Anti/De-Icing; 207,000 litres of Clearway 3/Konsin used. 12 Days when Snow Warnings were received from the Met Office; 2 Occasions of Heavy Snow causing closure of Runway. 17th – 18th December 2009 8hrs 5 mins; 21st December 2009 4hrs 35 mins. January 2010: 18 days of Anti/De-Icing; 296,000 litres of Clearway 3/Konsin used 20 Days when Snow Warnings were received from the Met Office. 2 Occasions of Heavy Snow causing closure of Runway. 5th – 6th January 2010 20 hrs. 13th January 2010 12hrs 11 mins. February 2010: 8 days of Anti/De-Icing; 79,000 litres of Clearway 3/Konsin used; 11 Days when Snow Warnings were received from the Met Office; 0 Occasions of Heavy Snow causing closure of Runway. Winter 2009 / 2010: 37 Days when Anti or De-icing activities were undertaken; First date 30th November 2009; Last date 1st March 2010. Total Media Used: Clearway 3 (litres) 440918; Konsin (litres) 141810; Clearway 6S Solid (kgs) 77850.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Runway & main Taxiways: Control – 2nd Airfield Duty Manager, Staff Airfield Operations Support Team. 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. 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. 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 8; Eagle sweeper / blower 3; Unimog cutter / de-icer 11; Trailer de-icer 1; Scania de-icer / spray bars 1; Scania de-icer / spinners 1; Shafer trailer de-icer / spray bars 1; 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 4; John Deere ramphog plough 2; Rolba 1000 snow cutter 1; Vale spreader 2; John Deere telehandler 1; Kubota spinner 4.

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 which you use: We have two storage tanks each capable of storing 85,000 litres, we will soon (by 29th November) have another two tanks each being able to store 85,000 litres. Total storage capacity 340,000 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 have just purchased 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.

12.7 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 re-habilitation work we will be using more sensors on the runway. However, the ASFT will give us this information too and we will be using this as a constant 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, with a contingency of using taxiways can be brought into operation, should conditions require this.

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 which you would like to sell? No.

LONDON STANSTED

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PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Stansted 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 Specification: Width = 46m; Shoulder width = 7.6m Area = 140,208sqm (not incl shoulder); Area = 186,538sqm (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, Asphalt, 80/R/D/W/T; Golf: Width 27m, Asphalt, 67/R/D/W/T; Hotel: Width 23m, Concrete, 78/R/C/W/T; Juliet: Width 23m, Concrete, 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).

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? This SMS has been running in its' current form since June 2003 and is a living system that is continually under review via an internal audit / review process accompanied by periodic external audits.

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).

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? We are undertaking a review of our lighting system to provide 24hrs runway guard bars, this after analysis of both our own and other Airports' data from runway incursions. We continue to review incursion risks through formal review processes and following any actual event investigations. Part of the European Action Plan for the prevention of runway incursions included the utilisation of enhancements to NATS procedures and the installation of RIMCAS which we have initiated at Stansted as best practice.

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 Local Runway Safety Team chaired by STAL and NATS representatives. Beyond these forums, the driver training packages now contain content around incursion awareness for staff whom 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.
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; 3 x 1.5" calibre 'Apsley' Flare pistols with 12 bore adaptors.
6.4 How often do you carry out a bird strike risk assessment, and is this process audited? 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 (deer, for example) and, if so, how are these issues being addressed? Although we have had periodic sightings of other wildlife ie. 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: Current Inventory: Landrover Discovery 4X4 2 01/02; Landrover Discovery 4X4 08/09 Scania Domestic 4x4 2 09/10; Scania Hoselayer 4x4 2 00/01; Kronenburg Mac 08 4x4 2 95; Kronenburg Mac 11 6x6 3 95 6x6 3 95 6x6 3 96 6x6 3 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 and 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-contracted winter services personnel are available per shift? Average 8 airport-employed per shift; Average 16-24 sub-contracted per shift.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and no. of units (For example: compact jet sweeper, Schmidt, CJS720, 4 units): De-Icer: DE-ICER 1 DAF 2300, Articulated liquid de-icer Kupper Weisser; DE-ICER 2 DAF 2300 Articulated liquid de-icer Kupper Weisser; DE-ICER 3 Leyland Rigid liquid de-icer, Kupper Weisser. Head of Stand De-Icer: DE-ICER 8 N/A Trailer liquid de-icer Billericay Farm Services Anti / de-icing; DE-ICER 9 N/ATrailer liquid de-icer Billericay Farm Services Anti / de-icing DE-ICER 10 N/A Trailer liquid de-icerBillericay Farm Services Anti / de-icing. Prime Movers: SNOW 1 Scania 114c Articulated plough / brush / blower unit Overaarsen RS200 Snow Clearance; SNOW 2 Scania 114c Articulated plough / brush / blower unit Overaarsen RS200 Snow Clearance SNOW 3; Scania 114c Articulated plough / brush / blower unit Danline DA2000 Snow Clearance; SNOW 4 Scania 114c Articulated plough / brush / blower unit Overaarsen RS200 Snow Clearance; SNOW 5 Scania 114c Articulated plough / brush / blower unit Danline DA2000 Snow Clearance; SNOW 6 Scania 114c Articulated plough / brush / blower unit Overaarsen RS200 Snow Clearance; SNOW 9 DAF 2700 Articulated plough / brush / blower unit Danline DA2000 Snow Clearance; SNOW 11 DAF 2700 Articulated plough / brush / blower unit Danline DA2000 Snow Clearance; SNOW 13 Leyland Roadtrain Articulated plough / brush / blower unit Overaarsen SB90 Snow Clearance. Snow Blower: BLOWER 1 SMI Specialist Snow Blower unit SMISnow Clearance; BLOWER 2 SMI Specialist Snow Blower unit SMI Snow Clearance. Brush: TRACTOR 1 John Deere - 6800 Front mounted cylinder brush Snow Clearance; TRACTOR 2 John Deere – 6800 Front mounted cylinder brush Snow Clearance; TRACTOR 3 John Deere – 6800 Front mounted cylinder brush Snow Clearance; TRACTOR 4 John Deere – 6810 Front mounted cylinder brush Snow Clearance; TRACTOR 5 John Deere – 6810 Front mounted cylinder brush Snow Clearance; TRACTOR 6 John Deere – 6610 Front mounted cylinder brush Snow Clearance; TRACTOR 7 John Deere – 6610 Front mounted cylinder brush Snow Clearance; TRACTOR 8 John Deere – 6810 Front mounted cylinder brush Snow Clearance. Walkway Brush: TRACTOR 15 Antonio Carraro Front mounted cylinder brush Confined space snow clearance; TRACTOR 16 Antonio Carraro Front mounted cylinder brush Confined space snow clearance; TRACTOR 17 Antonio Carraro Front mounted plough Confined space snow clearance. Blade: BLADE 1 John Deere Front mounted hog (pushing) blade Snow Clearance; BLADE 2 John Deere Front mounted hog (pushing) blade Snow Clearance; BLADE 3 John Deere Front mounted hog (pushing) blade Snow Clearance; BLADE 4 John DeereFront mounted hog (pushing) blade Snow Clearance.

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: a) Isomex 3 Liquid b) Konsin Liquid. The quantities used last season (2009/10) at an application rate of 20g/m^2 or 40g/ m^2 was 750,000 litres Isomex 3 and 75,000 litres of Konsin.
12.2 Comment on storage capabilities of the chemicals which 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.
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 shall be investigating technological solutions when we purchase new vehicles.
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.
15.2 Have 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):
As our process is reviewed annually there are no plans to change our plan for this winter season. We are currently reviewing the Airport's Snow Fleet and are looking at the purchase of new equipment.

LUXEMBOURG

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Airport of Luxembourg

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: Length 4000m, TORA : 4000m, Width: 60m, Shoulders: N/A, Total apron/ramp area 240,000sqm.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 24 CAT II/III; RWY 06 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? As the SMS is in principle created for ANSP' s, we were confronted recently with the works at the airport ex. enlarging the taxiways. There is no formalized SMS for Airport, but the SMS is asked for advice in safety matters.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: On the Job Training.
b) Inspection by airline, airport, and airplane handling agency personnel: The fire brigade and the road department are checking runways and taxiways two times a day.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): A report is filled for any object found, a copy of the report is send to the Direction de l'Aviation Civile (NSA). All objects are kept for 14 days. FOD containers are present on aprons, but these are handled by Luxairport. (for your information the "administration de la navigabilité aérienne" is responsible for the manoeuvring area, not the aprons).
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Any person finding an object on the manoeuvring area has to deliver it to the fire brigade. ATC and /or Pilots are kept informed about FOD on the manoeuvring area.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): SMS gets the report from our fire brigade as copy. No special systems or software solutions are employed.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? All vehicles on the manoeuvring area are radio-equipped and have to be in contact with the TWR.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? We are just in the tender phase for an A-SMGCS with primary Radar and Multilateration.
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: Until we get the A-SMGCS into operation, we bought High Frequency Barriers to warn the ATC from possible runway incursions. They will be installed in a short period.
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 training program for Follow-me and Tow tug drivers has been made together with the tower, how to operate on the manoeuvring area. This has been made together with the 2 major operators: Cargolux and Luxair.
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? 'Just culture' is implemented (but not in the judicial system). At Ana level this process is has been set up. Nevertheless after some intervention by the NSA, involving from the side of ATCO lawyers, the just culture is at least postponed for some time. Reporting is still done, as required by law. As ANSP has mainly state functionaries, after the incident/accident of the 21 January 2010, the Minister himself , initiated an 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: All owner or tenant of a building inside the airport has been instructed to take any means necessary to prevent birds to stay at the airport: eliminate all nests; avoid construction of new nests; feeding of birds is forbidden; trees and shrubs have to be eliminated if the can give shelter to birds; grass is only cut to a height of 25cm; Water collectors will be covered; the roads department are checking the airport twice a day to eliminate birds; Close collaboration with airport users undergoing regular updates; In addition to this, our NSA named DAC (Direction de l'Aviation Civile) has created instead of the Runway Safety Team an ASC (Airport Safety Committee) including the directors of the stakeholders at Luxembourg airport.
6.1 Do your staff attend recognised bird control training courses? No, but we became member of the DAVVL in order to help Ana to set up effectif mitigations.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? The roads department is during office hours at the airport.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): None. The siren with bird voices is out of order. New equipment has been ordered.
6.4 Do you carry out a bird strike risk assessment? A wild live committee has been created and will be in next future included in the ASC as working group. According to my knowledge no risk assessment has been done.
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): As at the moment no dedicated staff is available, the wild live committee is doing statistics, animals recognition, a Flora investigation in order to eliminate food attraction for animals and general recommendation.






6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Boers entered the airport despite of the fence, and after a hunt of about 3 hours they were shot. Traps are used inside of hangars especially for pigeons. They are released far away from the airport.

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: Foam tender/rapid intervention vehicle / THOMA chassis / 4X4 / 5000 liters of water, 500 liters of foam; PANTHER dated 1998 / MAN chassis / 8X8 / 12000 litres of water, 1600 litres of foam; SINGHA dated 1996 / MAN chassis / 8X8 / 12000 litres of water, 1600 litres of foam; Foam tender / MAN chassis / 4X4 / 3000 liters of water, 400 liters of foam.
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 at Luxembourg Airport. We use a container for fire exercises only for our local firemen. Further specialized training session take place in the United Kingdom.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? November 1 until March 31.
8.2 Average annual days of snow: 34.
8.3 Average snow depth: 5cm.
8.4 Maximum snow in 24 hours: 10cm.
8.5 Annual number of days of de-icing activities: 80.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 14.

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 trucks equipped with snow-plough, snow-brush and blower unit,make Schörling / Bucher; 1 jet sweeper make Schmidt; 1 truck equipped with snow-ploughs only, for aprons make JCB; 2 trucks equipped with a spreader for solid de-icers make Mercedes Unimog / MAN; 1 truck for spraying liquid de-icers, make 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: RWY 06/24,TWY A, B1-B4, Other TWY's except taxiway "India", Apron P1, Apron P5 (Air-Rescue), Apron P4 (Luxair maintenance), Apron P8 (Cargolux maintenance), Apron P2/P3, Others.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: They generally run in formation to provide the same surface quality as far as possible.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 45 to 55 minutes with a record of 38 minutes. This includes the measurement of the breaking action.

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 SF3: 109 tons; Clearway F1 : 366,500 litres; Clearway SF3 is solid and used to perforate ice layers to enable liquids to penetrate; very effective; Clearway F1 is acting immediately, the lower the temperature the more effective, holdover times of 2 days has been observed during freezing fog. These are reduced considerably with melting snow or freezing rain
12.2 Comment on storage capabilities of the chemicals which you use: The liquid is stored in a tank farm. The solid is stored in lots of superposed containers.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: No comment.
12.4 Have you experienced any corrosion problems with de-icers? Clearway is very corrosive to steel. The trucks have to be cleaned thoroughly. It is also aggressive to all sealants and insulators.
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: Up to now no ice warning systems had been installed.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? We plan to use pavement temperature and condition sensors either from company LUFFT or BOSCHUNG in the next future.
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: Done by the handling agent.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-icing on aprons.
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 / Skiddometer.
15.2 Have you any comments on the reliability of friction indexes? Both friction tester run together one behind the other one and gave us identical values. These good values were obtained after the rubber from landing tyres was steel blasted away from the runway surface. This test confirmed the reliability of our friction measures.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? In the speed of cleaning the runway,the old snowblowers could not keep up the speed with the sweepers. The new snow blowers will be capable to have the same speed and runway will be earlier vacated. The same applies to the taxiways.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: New vehicles have been purchased in order to accelerate the snow removal. We might have an important improvement of snow removal after delivery of 6 Sweeper Blowers and 2 snow Blowers.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: This depends of the winner of the tender.
16.4 Do you have any winter services equipment which you would like to sell? No.

MADEIRA

Madeira Airports
Aeroportos da Madeira

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Madeira 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 2781m, RWY 05 TORA 2631m (Including 150m of pavement before Threshold), RWY 23 TORA 2631m (Including 150m of pavement before Threshold), RWY Width 45mts, shoulder widths 3mts, total apron area 82,487qm, ramp area 110,809sqm.
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? SMS is implemented since August 2006. SMS is an integral part of the aerodrome operator policy and it also an integral part of the Quality System; To follow the reappraisal of risks and hazards identified by internal/external SMS audits, Madeira Airports have made changes in some procedures including daily monitoring of animal life, implementation of preventive measures to mitigate the presence of birds, measures to ensure the quality of airside communications, definition of special safety procedures for service providers operating in air side and for the contractors carrying out works on the manoeuvring area.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: In coordination with the Department of Environment, Airport Safety Manager has established safety standards mandatory, ensuring that everyone 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 man-






ager (24h) and monitored by safety 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): No special software in use for FOD control. Use of FOD´BOSS sweeper.

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? Repositioning of TXY signs have been made to eliminate any misunderstanding.
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) to ensure the quality of airside communications.
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. Safety manager did several meetings in order to divulge all the procedures, guaranteed the confidentiality of reports, adopting a proactive approach and not punitive and collaborates with the Office for the Investigation of Aircraft Accidents and Incidents in identifying any gaps.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: A study was performed in 2001 by Madeira University and some of the recommendations were implemented. The team "Wildlife Consultants" continues to work to mitigate the presence of birds at the airport. It is planned to carry out a thorough study (for 28 months) by an accredited institution and a specialist in the study of birds called SPEA - Portuguese Society for the Study of Birds.
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 manager.
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? Yes. Every three months.
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? Yes. Fleet Renewal (Oshkosh P 19 e T 12).
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Madeira airport doesn't have a Fire Training Simulator.

PART 2: WINTER SERVICES QUESTIONAIRE

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 January 2010, the analysis by sections does not point to the need for intervention. However, the analysis by segments of 100m of the tests performed at a speed of 65km / h, manifests the existence of several sections of 10m witch values of coefficient of friction is low, though never more than 100m on extensions. Under these conditions, the Madeira Airport scheduled for the first half of 2011, the carrying out of removal of rubber so as not to compromise the coefficient of friction.

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 mq; Runway 17R-35L, 235.000 mq; Taxiway, 552.000 mq; Apron T1, 1.150.000 mq; Apron T2, 319.000 mq; 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? 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 are also available on the "Airport Circulation and Safety Manual" which is at all airport operators' disposal.
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.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): The personnel is 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 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 theattraction 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 birds biology 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.
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? Two wildlife studies were carried out, in 2002 and 2009. A brief risk assessment report is carried out monthly.
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.

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: 10 x Superdragon Autohydro foam/powder IVECO 8 X 8; Dragon X 6 Autohydrofoam IVECO 6 x 6; Rampini quick intervention Sirmac 4 x 4; Rampini Quick intervention Sirmac 4 x 4; Rampini Quick intervention Sirmac 4 x 4; Actros Support tanker Mercedes 6 x 4.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 November – 31 March.
8.2 Average annual days of snow: 4-5 days.
8.3 Average snow depth: 7-10cm.
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? 198 + 195.

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: 7 Turbo cutters Fresia; 3 Turbo cutters Schmidt; 1 self-propelled sweeper blower Schmidt; 2 snow Compactors; 1 blower driven sweeper; 2 Friction Tester; 4 Multi Spreaders de-icing; 7 self-propelled sweepers blowers; 3 suction sweepers with front roller; 30 Tractor blades with support ; 2 tractor with rotary brush 2m. Total: 62 Third parties supplies: 10 Truck blade mt. 4; 12 trucks blades mt. 6; 53 Dumpers; 10 Farm Tractor w / trailer not exceeding 35 cubic; 35 Wheel loader m ; 8 tractor with blade ;10 mini-tractors with blade. Total: 138. Landside area: 21Tractor with blade; 15 Farm Tractor dump from; 10 Wheel c / cubic capacity; 7mini-tractors with a blade; 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 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: 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 which 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) – Wolkswagen 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.
16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details: Airside Operations Dpt. is continuously looking at new vehicles and equipment.

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): Runway 31-13 asphalt strip = 3544 x 60 mts. Runway 23-05 Asphalt strip = 2377 x45 mts.
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? Minor changes, but increased safety cases.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Awareness campaign and during new entrants & revision.
b) Inspection by airline, airport, and airplane handling agency personnel: Airport regular inspections.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): mechanical sweeping / fod bins / fod controls.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Airlines,Handling, fuel suppliers, and airside 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, but making use of e-database.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? ATC visual / Apron Management.
5.2 Are any design or engineering changes






being undertaken/required to eliminate perceived hazards? Yes in the process.
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): Through ATC.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Paint/ signs/ red warning lights on top of traffic 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? Airport vehicle operators & airside users undergo strict training procedures with testing both written and 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? Yes through the Regulator – Committee for 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: Continuous grass cutting, checking of sensitive habitat area for birds, pruning of trees to avoid flocks, use of acoustic system.
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? 24x7 on the aerodrome.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Acoustic bird dispersal sound systems.
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): Recording for each inspection is obligatory.
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: Three Rosenbauer Panther 6x6 (FL 33.600), water capacity 12,000 lts and foam capacity 1,500 lts, dry powder 125 kgs, year 2000.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Not yet.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Full Training Grounds for ARFF both internal & extenal.
PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? Mild Winter.
8.2 Average annual days of snow: No snow.
8.3 Average snow depth: N/A
8.4 Maximum snow in 24 hours: N/A
8.5 Annual number of days of de-icing activities: N/A

9. WINTER ORGANISATION

9.1 How many airport-employed or subcontracted winter services personnel are available per shift? N/A

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): N/A

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: N/A
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: N/A
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway: N/A

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: N/A
12.2 Comment on storage capabilities of the chemicals which you use: N/A
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? N/A
12.5 Have you employed any special means to economise on chemical use? N/A
12.6 Do you have any other comments on experience with chemicals? N/A
12.7 Do you use other chemicals or sand on operational areas? N/A

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)? 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: N/A
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? N/A
14.3 Is glycol recovered? If so, please state methods: N/A

15. FRICTION TESTING

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

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? In terms of safety procedures in line with refuelling with passengers on board, and a new programme for the Airfield driving permits, fire awareness, and basic safety issues for new entrants.
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.

OHRID

Tepe Akfen TAV Macedonia — OHRID ST.PAUL THE APOSTLE AIRPORT

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Ohrid St. Paul The Apostle 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 (2,550 x 45 m) 114,750sqm Asphalt; Runway (RWY) Designation: 02/20; RWY Thresholds: RWY THR 02 (41° 10' 08.57" N 020° 44' 15.81" E); RWY THR 20 (41° 11' 26.90" N 020° 44' 48.85" E); RWY BRG GEO: 018°/198°; RWY Dimesion: 2 550 x 45m; RWY Surface: ASPH; RWY Strength: PCN 76/F/B/X/T; RWY Shoulders: 2.5 m from both; RWY edges Strip: 2,730 x 140m; Declared RWY distances: TORA 2,550m; TODA 2,550m; ASDA 2,550m; LDA 2,550m. Apron (250 x 75m +180 x 115m) 39,450sqm Asphalt; Apron Dimension: 240 x 75m (the old part of the Apron); 180 x 115m (the new part of the Apron); Apron Surface: ASPH; Apron Strength: LCN 56, h = 77m. Parking positions: 13 PSN Nr. 1,2,3,4: MAX 35.55m wing span PSN Nr. 5,6,7,8: MAX 34.88m wing span PSN Nr. G1,G2,G3,G4,G5: General aviation, MAX 12.2 m wing span, Number of A/C parking positions: 8 + 5(GA). Taxiways A, B, C, D Asphalt; Taxiways (TWY): A, B (from RWY to Apron) C, D (on the Apron); TWY Width: 23m; TWY Surface: ASPH; TWY Strength: A, B PCN 76/F/B/X/T C, D LCN 56, h = 77cm. TWY Shoulders: 2.5m from both TWY edges. Access road on the land side, 110 x 5m Asphalt; Parking lots: 1,200sqm.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 02/20, CAT I; Approach lighting: Precision Approach Lighting System CAT I - ALSF II; White centerline barrettes at 30m spacing, with crossbar at 300m from RWY THR 02. Centerline sequentially flashing capacitor discharge lights, from 390m to 0m from RWY THR 02. Length 390m. High intensity, adjustable in 5 stages. Approach slope indicator: PAPI 3.2° (4 units on the left side of RWY). RWY Edge Lights: 2,550 m, spacing 60m, white, last 600m yellow. High intensity, adjustable in 5 stages. RWY End Lights: Red; RWY THR Lights: Green; RWY Wing Bar Lights: Green; RWY Centerline Lights: 2,550 m, spacing 30m, white, 900m - 300m from RWY end alternate red/white and last 300m red. High intensity, adjustable in 5 stages. TWY Edge Lights: Blue Apron Edge Lights: Blue. Aerodrome Beacon Lights: Top of ATC Tower, 24 flashes per 1min, operating during night hours; Windsock/Landing Direction Indicator Lights: Vicinity of GP, externally lit, 7.5m AGL Navigational aids: GP, LLZ, MM, DVOR, DME, VDF, NDB, SSR.

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 for the first time was introduced in November 01,






2006; SMS was established during 2007 and 2008. SMS was recognized and adopted by the CAA of Macedonia in 2009, right after the introducing of the national certification by-law, in the last quarter of 2008; The process of certification of the airport was done in May - September 2009; The first certification was issued on October 16, 2009. SMS is an integral part of the Aerodrome Manual. Following the reappraisal of risks and hazards identified by internal or external SMS audits, the airport operator hasn't made any recent changes to the SMS.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Refreshement training and testing for airport personnel every third year.
b) Inspection by airline, airport, and airplane handling agency personnel: Inspection only by airport personnel.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground?Only visualy observing from TWR.
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):Standard horizontal and vertical signalization (markings and signage) and lighting signalization and some local regulations.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Yes, runway guard lights, installed in 2004, helping to prevent RWY 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? According national low training programme.
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? CAA of Macedonia (Civil Aviation Agency), yes they do.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: N/A.
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, the report is sent to the CAA immediately after each bird strike.
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): Heavy CFR vehicle TATRA 815; 6 x 6; 8,000 litres water, 800 litres foam, 120 kg. CO2; 1993. Heavy CFR vehicle SAVAL KRONENBOURG MAC 09, 6 x 6, 9,000 litres water, 1,000 litres foam; 1995. Rapid CFR vehicle DODGE 450; 4 x 4; 1,000 litres water, 100 litres foam, 50 kg. BCF, 50 kg. CO2; 1982.Technical support CFR vehicle FIAT DUCATO MAXI; 250 kg. S powder; 1999.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes, two new heavy CFR vehicles and one new CFR vehicle for rapid intervention.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? November 1 - March 31.
8.2 Average annual days of snow: 20 days.
8.3 Average snow depth: 5cm.
8.4 Maximum snow in 24 hours:28cm.
8.5 Annual number of days of deicing activities: 75 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift?15 airport-employed winter service 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): Compact snow cleaner & de-icer, MERCEDES ATEGO, with snow plough; MF 9.3 (5.6m), urea and glycol spreader, 1 unit; Snow cleaner KAMAZ, with snow plough Schmidt (4.8m), 2 units; Snow plough, DSA, 1 unit; Urea spreader, tractor towed, 1 unit; Snow blower with sweeper, tractor towed, 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. Runway; 2. Taxiway A or B; 3. ILS and PAPI areas; 4. Other taxiways; 5. Apron (few parking positions); 6. Access road to the apron (air side); 7. Access road to the terminal building (land side).
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Snow clearance is performed with snow cleaners (2 or 3), with ploughs, from the centre line of RWY to the edges. After that, if it's possible, the snow is blown off the RWY sides with snow blower. If it's necessary, anti/de-icing of movement areas is performed at the same time. The same way is performed for the other airport operational areas too.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? About 1.5 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: The main runway deicers are urea and acetate-liquid. Last season were used about 3 tonnes of urea and about 1,600 litres acetate-liquid. This season, urea and acetate-liquid (Clariant, Safeway) will be used too. Urea itself is ineffective below -7€C, therefore we're useing an acetate-liquid also, for de-icing the pavements at lower temperatures. The effectiveness of mixed solid-liquid medium is much better.
12.2 Comment on storage capabilities of the chemicals which you use: Few of the main advantages of using urea are: the simple way of storage (in bags), easy handling and spreading and lower cost price.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Our experience with using urea is good, so far. About experience for mixing ratios with liquids, we could tell that effectiveness is much better.
12.4 Have you experienced any corrosion problems with de-icers? So far, we don't have that kind of problems.
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, except unregulated environment questions, so far, about using urea.
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.
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, Ohrid Airport directly provide A/C anti/de-icing operations: De-icing & anti icing vehicle, FSM, GS 800, 1 unit; De-icing & anti icing vehicle, FSM, LA 1000, 1unit.
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 position at the apron.
14.3 Is glycol recovered? If so, please state methods: We offer de-icing with warm water or other type of equipment (brushes, ropes, etc.) and anti/de-icing with glycol Type II Fluid / 50%, 75% & 100% / Clariant, Safewing MP II 1951 air.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SKIDOMETER VAMMAS BV-11, 1 unit.
15.2 Have you any comments on the reliability of friction indexes? We believe that mesured and calculated fricition indexes are very reliable. Regular inspections, of the vehicle and the equipment, shows that the skidometer is in excelent condition.

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.






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 3600m, TORA 3600m, Width 45m + shoulders 7.5m, Asphalt 216,000sqm, taxiways asphalt 266,000sqm. Runway 01R/19L length 2950m, TORA 2950m, Width 45m + shoulders 7.5m, asphalt 174,000sqm, taxiways asphalt 206,800sqm. Apron 478,000sqm , other 256,00sqm.
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 ore 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? No.
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 employees per 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, 6 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; Schmidt TS 5, 1 unit. Snow blowers mounted on wheel loaders: Øveraasen UTV 400, 2 units. Wheel loaders with snowplough: Caterpillar IT 28, 1 unit; Caterpillar 966, 4 units; Komatsu WA 470, 2 units; Volvo L 70F, 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, 4 units; Fallkøping, 1 unit. Glycol Sweepers: Frimokar, 3 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 conditions. 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, rapid 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 474.000 l / 41 500 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 which you use: We have 4 * 40 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 which you would like to sell? 1 ASFT SAAB 9-5 friction tester.

OSTEND-BRUGES

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME:

International Airport Ostend-Bruges

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 08/26: 3200 m x 45m = 144,000sqm (+ shoulders 15m = 60m x 3200m) = 192,000sqm; TWY K: 2100m x 20m = 42,000sqm; Apron : 525m x 11 m = 57,750sqm; Apron 2 : 620 x 225m= 139,500sqm ; Apron 3 = (40+70)/2 x 75 + 70 x 105 = 11, 475sqm.
2.2 Landing aids for each RWY (e.g. CAT II): RWY08: ILS CAT I; RWY06: 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? 1. Installation of stop bars 2. Installation of runway guard lights 3. Adaptation of low visibility procedure 4. Changes to apron markings (ACFT stands General Aviation).

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Awareness programme for airport personnel.
b) Inspection by airline, airport, and airplane handling agency personnel: Inspection by airport inspector, marshalling unit, bird control unit and handling agencies.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Use of sweeping and installation of FOD containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Coordination is done through two-monthly meetings and is directed by operations 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): EBOS is using in-house developed, Access-based software to collect and analyse FOD statistics.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Tower controls AC and vehicle movements on TWY and RWY strip + two-way radio contact on ground frequency with TWR.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Installation of RWY guard lights and stop bars.
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): Nil.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Since the airport has a very simple layout (1 RWY, 1 TWY) and traffic is not dense, procedures (e.g. 1 movement at a time during LVP) and use of simple protection aids, such as signs, markings, use of standard phraseology and driver training are sufficient to prevent runway incursions. To improve safety in low visibility conditions, the installation of stop bars and runway guard lights will improve safety. EBOS is working on introducing English as standard communication language.
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, ATC- refresher course, introduction course SMS, fire department refresher 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? "No-blame" culture is a part of the airport safety declaration. Procedures are implemented to report any safety-related issue to the safety manager.

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, training courses have been attended by airport staff.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously from 7 AM till 10 PM.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): recorded distress calls (Scarecrow Premier 1500 and Scarecrow Patrol 2); pyrotechnics (12 gauge birdscare cartridges); shotguns (riot gun with 12 gauge ammunition); handheld laser-beam (manufacturer Lord Ingénierie); moving scarecrow.
6.4 Do you carry out a bird strike risk assessment? Yearly evaluation by means of the BCU report (estimated occurrences by kind of birds, places, etc).
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 bird control activities are logged. RTF conversation with TWR on ground frequency is recorded; Logbook on number of kilometers driven by BCU vehicle; Logbook on number of used pyrotechnics, birdscare cartridges and ammunition.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Fox and rabbit habitat: population is under control due to regular hunting actions.

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 CRASH TENDERS (2 SIDES, 1 MERCEDES/ SOMATI, 6x6); 2 x 9.500 litres of water and 1 x 12.000 litres of water; 3 x 1.150 foam product type B; 3 x 4.500 litres of discharge rate; 2 x 250 kg chemical powders; 1 twin agent with 750kg chemical powder + 45 litres foam + 750 litres of water.
7.2 Future developments – are there plans to purchase or dispose of any equipment? A new crashtender Rosenbauer Panther has been ordered.
PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 November till 31 March.
8.2 Average annual days of snow: 15 days.
8.3 Average snow depth: 3cm.
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? 7.

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 tractor with snowplough (working width: 5.6m); 1 "UNIMOG" with snowplough (working width: 3.65m); 2 sweeper-blowers (sweeping width: 3.3m); 1 sweeper-blower (sweeping width: 3.6 m) with snowplough (working width: 5m); 1 sprayer of de-icing liquids (capacity: 2 200 l, spraying width: 18m); 1 spreader (capacity: 4 m^3, spreading width: 10m) – liquid and granules; 1 sprayer of de-icing liquid (capacity: 4.800 l, spraying width: 28m).

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 08/26; TWY to the aprons 1 and 2; Important aircraft stands on the apron 1 and 2.
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: Cryotech E36 330.000 litres + Cryotech NAAC 10,000kg.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Good result on using solid de-icer on ice in combination with liquid de-icer.
12.4 Have you experienced any corrosion problems with de-icers? Yes, on galvanised material.
12.5 Have you employed any special means to economise on chemical use? Yes, (new spraying vehicle with electronic spray control).

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)? None.
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: Handling companies.
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? SAAB 9000 – ASFT friction tester.

16. FUTURE DEVELOPMENTS

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

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, personels are trained according these guidelines.
b) Inspection by airline, airport, and airplane handling agency personnel: Inspections are done 4x / 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.
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): SMGCS. 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 use 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 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; 1x 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 airports 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 October – 30 April.
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.

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).
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? Frictionmeter, jetsweepers, snow cutters.
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 2-3 years. Selection procedure is about to start.
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.

PAPHOS

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Pafos 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 29/11: 2699m Length; RWY 29/11: 45m width; TORA: 2699m for both RWYs; Paved shoulders: 7.5m on each side; Total Apron Area ~180,000sqm.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 29 CAT I; RWY 11 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? Following appraisals / reappraisals by Hermes Health and Safety Officers but also by auditors from Insurance companies, various standard Operating Procedures have been reviewed to take into account the feedbacks on risks and/or hazards identified.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of :
a) Training: Basic Airside Safety (BAS) training to all Airport Staff including FOD awareness. - FOD awareness displays at Staff Rest Rooms / Cantine etc.
b) Inspection by airline, airport, and airplane handling agency personnel: Daily inspections carried out by Airport Operations, Technical Department personnel & subcontractors, Performance measurement of contractors FOD clearance activities - Check encompass inspection for cracks, rubber deposits, oil contamination or possible water presence, paint discoloration, FOD, shrubbery and bird hazard. - legal obligation for Ramp Handling companies to carry out their own inspection prior arrival and after departure of flight.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Use of Sweeping bar and vehicle, FOD containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Regular FOD walks involving airlines, handling agents and state entities staff working at airport.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? CCTV cameras from Operations Centre, Airport Operations staff monitoring Ramp activity.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? New taxiway in planning to connect apron with RWY 29 so that taxiing aircraft do not use or cross the runway.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Runway "hold point" paint markings at each taxiway: Warning and No entry signs on ARFF and ATC vehicle access road + barriers installed on each end of the road.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechan-






ics, airport vehicle operators, and other people who work at the airport? An Airside Vehicle Programme has been elaborated and all Airport Users driving airside must pass a written test to acquire the Airside Driving Licence. Staff, driving on the maneuvering area to carry out their duties, have to attend a Radio communications skills training provided by ATC trainer + practical test. Airside Traffic Directives are issued to all Airport Users when changes or new procedures are to be applied.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Runway Safety Committee meetings has been initially set-up involving ATC and Airport Operator, now enlarged to include ARFF, Police & Civil Aviation. Meetings with AAIB.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: The Wildlife and Habitat Control Plan is executed in accordance with the Airport Services Manual (Document 9137) and the ICAO Bird Strike Information System (IBIS). The Plan includes provisions for, at a minimum, monitoring of the following: Bird strikes; Bird populations, numbers and species monitoring; Habitat modifications; and Management control techniques.
6.1 Do your staff attend recognised bird control training courses? Yes. An initial extensive training took place on January 2007 and it was focused on the bird species identification, flight habits and efficient use of distress means. The training procedure is continuous process; A training course was held between 1st and 5th of December 2008 on the use of the new distress call system (ULTIMA); A refreshing training course was organised between 4th May 2009 – 5th May 2009 at PFO Airport on the Wild Life Management Plan. The instructor of the course was Dr. Albert De Hoon a worldwide known bird strikes expert, and was addressed to the PFO wildlife controllers as well as to staff from the other stakeholders of both airports (Control Tower, Airlines, Police, DCA); HSE Officer attended the training course "Wild life hazard and prevention management" organised by ACI from 3/5/2010 until 5 /5/2010 in Athens Greece.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Less than hourly.
6.3 What specialist equipment do you employ for bird control? Please state relevant supplier/manufacturer. Recorded distress calls fitted to Follow-me vehicle: Recorded distress calls, ULTIMA distress system, pyrotechnics, gas cannons, scaring baloons. Supplier / manufacturer : Scarecrow Bio-Acoustic Systems Limited.
6.4 Do you carry out a bird strike risk assessment?The Initial Bird Strike Risk Assessment was performed in May 2006 by Mr. Gary Searing. The second one was completed in August 2009 by Dr. Albert DeHoon. A new one is scheduled in cooperation with the University of Ca' Foscari of Venice in the beginning of 2011
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. New System has been installed on one of the Airport Vehicles and record daily wild life control inspections
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Presence of hares nearby runway. Gamefund is regularly asked to come and capture them.

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 no RIV, IVECO Somati, 4X4, 1998, 4000 litres water, 480 litres foam, 250Kg powder; 2 No IVECO Somati, 6 x 6, 1997 each 8000 litres water, 960 litres foam, one with 50Kg BCF an one with 30 Kg CO2; 1 No IVECO Somati, 6x6, 1999, 8000 litres water, 960 litres foam. To be fitted with 30Kg CO2.
7.2 Future developments – are there plans to purchase or dispose of any equipment? 1 No OSHKOSH Striker to be delivered in 2009, 1200 litres water, 1680 foam and 250 kg dry powder.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? There is a fire training simulator. It is not available to other airports.
PART 2: WINTER SERVICES QUESTIONAIRE

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? ASFT friction tester, Skoda Octavia ASFT CFME friction tester.

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 – Length 3,715m, Width 45m, Shoulder 2 x 7.5m, TORA 3,715m; RWY 13/31 – Length 3,250m, Width 45m, Shoulder 2 x 7.5m, TORA 3,250m. 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; RWY 31ILS 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. We created our SMS in compliance with ICAO Doc. 9859 and it hasn't been necessary to make any significant changes yet.

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 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? The 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 an 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.
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: Volkswagen Transporter 4x4 2003 200 20; Merceses Benz Atego 4x2 2000 2,500 200; Scania 4x4 2002 2,500 200; Merceses Benz Buffalo 6x6 1998 8,000 1,000; Merceses Benz Buffalo 6x6 1998 8,000 1,000; Panther Rosenbauer 6x6 2003 12,000 1,500 250; Panther Rosenbauer 6x6 2004 12,000 1,500 250; Panther II Rosenbauer 6x6 2008 12,500 1,500 250; Panther II Rosenbauer HRET 6x6 2009 12,500 1,500 250.
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 2011 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? 1 Nov – 31 March
8.2 Average annual days of snow: 31 days (during last 16 years; 39 days last winter).
8.3 Average snow depth: 67.5 cm (during last 16 years; 111.2 cm 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 – 18 internal + 8 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; cutter-blower Kahlbacher KFS 170 M2, 2 units (2nd unit from JAN11); snowblower Kahlbacher, 1 unit; 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. 1.000.000 litres (W09/10). 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 which 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 QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 01NOV - 15APR.
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: 4-6 on A319, 20-30 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.
12.6 Do you have any other comments on experience with chemicals? No, I do not.
12.7 Do you use other chemicals or sand on operational areas? No, we do 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.
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: 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.
15.2 Have you any comments on the reliability of friction indexes? No, I do not.

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 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 18/36 3200m x 45m, TORA 3200m, shoulders 7.5m, aprons 37.3ha.
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: FOD topics are integrated in several training modules such as Ramp Safety Basic and Refresher courses, Marshalling, Follow-me, etc.
b) Inspection by airline, airport, and airplane handling agency personnel: General inspections by Airfield Maintenance, local inspections by handlers before every arrival.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Regular sweeping, occasional "FOD walks", FOD containers on 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. Poster campaigns affect all premises facing airside regardless of owner/operator.
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.

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 installed, ground team radio equipment upgrade to a certified system, moving to single language and common radio comm. frequency 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 for 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. Anonymous reporting option is available.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Good housekeeping, no food airside, water bodies are covered, almost all trees removed, testing the tall grass policy. All together it has reduced the attractiveness but there is still place to improve.
6.1 Do your staff attend recognised bird control training courses? Yes, ACI and MJAirports.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Hourly.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Scarecrow Ultima, Premier, Partol, Lacroix 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, Scarecrow Ultima.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Mainly cats and foxes, which we are setting traps for; the perimeter fence has been dug 30cm into the ground to prevent foxes digging underneath.

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 4x4 2800 litres wate, 250 litres foam type A 2009; 1x Scania 6x6 8000 litres water, 1100 litres foam type A 2009; 2x SIDES VMA 6x6 9500 litres water, 1100 litres foam type A 1999; 1x VOLVO FCT 4x4 9000 litres water, 1000 litres foam 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 20 – March 31.
8.2 Average annual days of snow: 45.
8.3 Average snow depth: 20cm.
8.4 Maximum snow in 24 hours: 60cm.
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 or sub-contracted winter services personnel are available per shift? 2 engineers, 2 workers and 13 drivers.

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 aerodrome vehicle BOSCHUNG JETBROOM 6 units; Aerodrome sweeper/snow plough MOAZ 4 units; Front loader CASE 1 unit; Tractors with plough and brush various 7 units; Snow blower URAL 2 units; Snow blower unknown yet 1 unit; Motor grader rented, unknown yet 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 work 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 and to spread the agent if necessary. Winter 10/11 we expect to add a snow blower to the formation.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on 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: Kemira Clearway (liquid, 100t last season), Meltway (granulated, 160t last season), Kemira is tried and tested and works as expected, Meltway is not really the best one could get but it is cheap.
12.2 Comment on storage capabilities of the chemicals which you use: Granulated 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.
12.4 Have you experienced any corrosion problems with de-icers? There have been issues with corroded cabling. Investigation of probable cause still in progress but we suspect the de-icing agent.
12.5 Have you employed any special means to economise on chemical use? Economy is always driving the decisions.
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? Service roads and other remote locations where aircraft movement is not expected are treated with sand.

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.
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: N/A
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? A special de-icing pad is constructed but it is not yet operational. Currently de-icing takes place on apron.
14.3 Is glycol recovered? If so, please state methods: The new de-icing pad incorporates liquid gathering system for glycol recovery but the pad is not being used yet due to operational reasons.

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? We have only one main unit so not able to compare the indexes.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? We are going to add fast-pace snow blower to the formation on runway. The old snow blowers were to slow for formation.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Attachable snow blower – Overaasen or Patria (Vammas). Perhaps a one-piece snow blower in the nearest future.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units:
2 Belarus tractors with plough and brush.
16.4 Do you have any winter services equipment which you would like to sell? No

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 law-suits): 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 warning 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 length 2.450 m, TORA/TODA/ASDA/LDA = 2.450 m, RWY width 45 m, shoulder 7.5 m, total apron area 60.520 m, ramp area 64.080 m.
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: ALS & 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: 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 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? No.
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.
6.5Do 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: 14.1 cm.
8.4 Maximum snow in 24 hours: 50 cm.
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, 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.

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)? 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: ANSWER: 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/yes.
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. RWY 09 : TORA: 3600m, ASDA 3600m, TODA 3600m, LDA 3300m.
2.2 Landing aids for each RWY (e.g. CAT II): A. Radio aids: ILS: 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 up-dated every two years on the basis of the safety analysis and risks and hazards assessments.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Yes, FOD prevention programme is part of the Safety Management courses, which are obligatory for all staff working at the airport territory.
b) Inspection by airline, airport, and airplane handling agency personnel: Daily inspections by Sofia Airport Operational Centre.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): We use: Sweeper, Boshung Jet Broom BJB 800, 1 unit; Sweeper, Bucher City Cat 2020, 1 unit; Single FOD BOSS Assembly; FOD containers are installed on the apron.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Airlines, handling 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.

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 Tower. Aircraft movements are monitored by ATC 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): N/A.
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.
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 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 Control Unit operating at Sofia Airport. Manual for bird-strike prevention adopted at the 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): Bird deterrent system: Phoenix Wailer Mk III.
6.4 Do you carry out a bird strike risk assessment? Yes, part of the 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 – records 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 and dogs appear accidentally at the airfield. Bird 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? Plans for supply of Fire Fighting Vehicle and 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 QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? November – March.
8.2 Average annual days of snow: Jan: 11; Feb: 10; Mar: 7; Nov: 1; Dec: 9.
8.3 Average snow depth: Jan: 11.2; Feb: 8.2; Dec: 4.
8.4 Maximum snow in 24 hours: Jan: 64; Feb: 40; Mar: 18; Nov: 10; Dec 36cm.
8.5 Annual number of days of de-icing activities: 42 – 49 Days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 5 employed / shift; total 10 + 5.

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: Push out snow with ploughs and brushing; Throw out snow with rotor sweeper; Use spreader / if necessary; Friction testing.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 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) 200 t.
12.2 Comment on storage capabilities of the chemicals which you use: 140 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 directly provide anti/de-icing operations.






Ford 1800TM – 2 units; FMC TEMPEST II – 2 units; Liquid – Safewing MP II 1951,manufacture: Clariant.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? There are two de-icing pads. Pad "EAST" is dedicated for 1 aircraft ICAO code E; Pad "WEST" is dedicated for simultaneously treatment for 2 aircraft ICAO code C or 1 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? Sofia 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.

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.

SOUTHAMPTON

SouthamptonAirport

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME:

Southampton 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 20: Dimensions 1723m x 37m, Threshold elevation 44ft, TORA 1650m, TODA 1805m, ASDA 1650m, LDA 1605m. Runway 02: Dimensions 1723m x 37m, Threshold elevation 31ft, TORA 1723m, TODA 1831m, ASDA 1723m, LDA 1650m.
2.2 Landing aids for each RWY (e.g. CAT II: Runway 20: ILS and Localiser, DME, Glide Slope. Runway 02: Visual Approach, VOR Omni Directional Beacon.

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? Aerodrome Manual updated 2010.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Airport Safety Training, Airside Driver Training.
b) Inspection by airline, airport, and airplane handling agency personnel: Stands checked prior to aircraft arrival and departure, monitored by Airside Operations on Turnaround checks & Level 1 inspections.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): FOD bins ahead of every stand. Stand sweeping plan with use of sweeper and FOD Boss.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? NATS Air Traffic Control.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Solar Powered Runway Guard Lights. New signage and paint markings indicating Holding points.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Solar Powered Runway 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? Airport Safety Training. Airside Driver Trainer.
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? Mandatory Occurrence Report with NATS

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. Continuous BHM patrols. Regular refresher training for staff.
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 monitoring all areas of the airfield.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Scarecrow Premier 1500/Bio-acoustic Bird Dispersal. Primetake long range and screech 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.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Foxes & Rabbits. Continuous monitoring and culling when necessary.

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 4x4. 3.2 Litre 4 cylinder diesel, with intercooler turbo charger; Mercedes Sprinter 4x4 2.2 Litre 4 cylinder turbo diesel; Carmichael Viper 4x4 Scania DC 12, 6cyl, 11.7 ltrs 420bhp; 2x Carmichael Cobra 6x6 Detroit Diesel, V8 540bhp; MFTP Cobra; LFTP Viper.
7.2 Future developments – are there plans to purchase or dispose of any equipment? 2 x Rosenbauer on order.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 5 months.
8.2 Average annual days of snow: 5.
8.3 Average snow depth: 5cm.
8.4 Maximum snow in 24 hours: 30cm.
8.5 Annual number of days of de-icing activities: 23.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 4.

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 Mercedes MB Unimog – De/Anti Icer; 1 x County Tractor with Plough; 2 x Massey Ferguson Tractor with Plough; 3 x Sicard runway sweepers; 1 x Kubota with front mounted brush; 1 x Team De-icer Rig; 3 x Hand operated solid acetate spreader.

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: Clear Runway to black top; Clear Taxiway centre line 4m either side with lights visible; Clear Airside road, Stands and Clearways.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Runways & Taxiway cleared by Tractors with ploughs and Sicards attached. Airside Road, Stands and Clearways cleared by County Tractor with plough; Walkways and pedestrian crossings cleared by Kubota
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 1.5 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: Clearway liquid acetate 28,065 ltrs; Safegrip SF Potassium acetate formate; Kilfrost – Liquid ethyl glycol chemical (aircraft) ABAX type 1 & 2; Konsin - Liquid glycol chemical 3,000 ltrs.
12.2 Comment on storage capabilities of the chemicals which you use: Konsin – IBC, stored in locked metal bunded container 4000lt; Safegrip – Liquid acetate stored in 15000 ltr bunded tank.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: The use of de-icing granules has been solely for walkways, passenger crossings and steps.
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? Use of grip tester for targeted spraying reduces unnecessary de-icing.
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.
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: All aircraft anti/de-icing is sub contracted to Servisair.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? All de-icing carried out on stand. Effluent to separator
14.3 Is glycol recovered? If so, please state methods: Glycol is captured by Penstock.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Grip Tester Mk2 C Type.
15.2 Have you any comments on the reliability of friction indexes? We found the results easy to understand and reliable.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? Yes due to re-categorising – CAT 1.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Replacement of daily operational vehicles (Landrover type) in business 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.

SPLIT

Split Airport

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 2550m, RWY width 45m, TORA 2550/2550; Apron area 42 500 m2 (+ cca 30 000 m2 future "new" apron area – JUN 2011).
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: Standard IATA and ACI SMS training.
b) Inspection by airline, airport, and airplane handling agency personnel: 20 airline inspection per year + CCAA inspection + Safety Manager audit.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): All of above.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Yes – Committees, meetings, CDM.
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 use our local software Galiot/SMS for all safety matters including FOD prevention.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? System n/a (radio-communication only).
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): N/A.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: No.
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? According Airport Manual, dedicates Agreement and CDM.
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: Split Airport Bird and other Wildlife Hazard Assessment has been adopted. Programme of Bird Appearance Control within Split Airport Area has been made. Methods of long term lessening of number of birds at and around Split Airport are: reduction of food resources, reduction of habitats, scattering, scarring and adequate area zoning.
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.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Dianawerk rastatt-Ruggieri & Capa anti bird-strike cartridge, Bird Gard Super Pro digital audio bird repeller.
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: MAN 28603DFAEX 6x6, water 8.500 L, foam 1.000 L, year 2001; MERCEDES ACTROS 3358 6x6, water 9.000 L, foam 1.000 L, year 2008.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Described CFR vehicle are relatively new and in perfect conditions. New purchase is planned within 5 year period.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? N,o we do not have such equipment.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? Period from November – April.
8.2 Average annual days of snow: 1-2 days.
8.3 Average snow depth: 0.2 - 1cm
8.4 Maximum snow in 24 hours: N/A.
8.5 Annual number of days of de-icing activities: 2-4 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 4-5.

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): Tractor VALTRA N101 with snow plough RASCO PK 3.2, 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: N/A.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: N/A.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? N/A.

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.
12.2 Comment on storage capabilities of the chemicals which you use: No.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: No.
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: N/A.
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: 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: Mercedes De/Anti icing vehicle. Clariant safewing MP IV.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? 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? Surface friction tester SFH (Saab vehicle).
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.

STAVANGER

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Stavanger 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): As described in AIP: RWY 18/36 2556X60 M, TORA 2556 Shoulders 2X 7,5 M
RWY 11/29 2449X45 M, TORA 11 2299,
TORA 29 2349 Shoulders 2X7,5 M
Aprons: 17 acft stands by terminal. Several remote acft stands. 9 helicopter stands.
2.2 Landing aids for each RWY (e.g. CAT II).
RWY 11 and WRY 36: ILS CAT I, RWY 18 ILS CAT II, RWY 29 VOR/DME APCH.

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 major changes to our SMS, SMS are adjusted if or when audits or other methods of surveying the system, point out areas of improvement.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: FOD is one of the subjects of every airside safety training.
b) Inspection by airline, airport, and airplane handling agency personnel: Every person airside is trained and responsible to take action if FOD is observed. RWY's and TWY's are inspected periodicly for FOD.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Sweeping of areas airside is executed through the winter season, to remove sand and dust after snow/icecondition. Magnetic bars are not in use. FOD containers are situated on each acft stand and apron.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): FOD is a part of airside safety training in every company operating airside. FOD containers are used by every company.
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 is reported in our reporting system, MESYS.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Ground air traffic control assisted by Ground radar, Runway warning lights (WIG WAG) and RWY AHEAD marking:
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Internal roads are established around the ends of all RWY's, to reduce the need of vehicle crossing of RWY.
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.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: WIG-WAG and RWY AHEAD marking on RWY is used, working ok. STOP bars used during LVP. Most importaint is the establishment of internal roads around RWY ends, to reduse the need of crossing RWY's.
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 operating airside has to complete our airside safety learning program. In addition, vehicle operators join our airside driving course. Awareness is a part of these courses.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? No. 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: Long grass policy is introduced. In addition we patrol the airfield constantly to scare birds, using scarecrow, lasers, shooting and flares.
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? H16.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Scarecrow Patrol 2 and Lord LEM 50 Laser. Lord TOM 500 lasers are installed November 2010.
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): Bird patrol is logged, specific activities during bird patrol is not yet logged.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Minor problems with small deer. They are shot if they are observed airside.

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: 4XROSENBAUER MAN 6X6 (1984, 1998, 1996, 2000), 6500/8300/8300/8300 l water, 400/500/500/500 L foam.
7.2 Future developments – are there plans to purchase or dispose of any equipment? New fire fighting trucks will replace the old ones during 2011.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes.

PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? October-May.
8.2 Average annual days of snow: Last year 90 days, other years average 30 days.
8.3 Average snow depth: 2-10 cm.
8.4 Maximum snow in 24 hours: 20 cm.
8.5 Annual number of days of de-icing activities: 70.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 6-10.

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): 6X Mercedes-Benz sweepers and 1X volvo rwy deiceing vehicle.

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 18-36 and TWYs leading from helicopter and fixed wing terminal, has priority 1. Other rwy's and TWY's including aprons priority 2. Snow clearance on ACFT stands are executed by other staff, priority 1.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: 6 sweepers in formation, followed by a snow clearance vehicle to remove the snow ridge. Controlled by the team leader.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 30 minutes (45 M 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: Aviform, 55696 liters used, good effect if not too cold.
12.2 Comment on storage capabilities of the chemicals which you use.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc.
12.4 Have you experienced any corrosion problems with de-icers? -:
12.5 Have you employed any special means to economise on chemical use? Every operator has this autumn been trained, to use the correct amount of liquid, to achieve the best combination related to effect and environment.
12.6 Do you have any other comments on experience with chemicals? Last winter we were not allowed to use Aviform on helicopter apron. This left us with a severe problem to maintain an acceptable breaking action. This year we are allowed to use Aviform also where helicopter operates.
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. SNOWTAM.
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. Acft de-iceing is executed by two handling companies. 3 vehicles in total, manufacuturer unknown.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Dedicated de-iceing area, preventive anti-iceing on stand.
14.3 Is glycol recovered? If so, please state methods;






Recovered in drain system, transported via public drain system to the regional drain rinse station.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Tribometer SKH.
15.2 Have you any comments on the reliability of friction indexes? -:

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. Firetrucks, new Rosenbauer MAN.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. LORD TOM 500 Laseres, 3 units, Birdcontrol.
16.4 Do you have any winter services equipment which you would like to sell? No.

STOCKHOLM

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Stockholm-Arlanda 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 01L/19R, 3301m, 3301m, 45m, 2x12,5m; RWY 08/26, 2500m, 2500m, 45m, 2x12,5m; RWY 01R/19L, 2500, 2500, 45m, 2x9m. Total apron area 975,000sqm.
2.2 Landing aids for each RWY (e.g. CAT II): 01L/ ILS CATIII + RNP AR; 19R/ ILS CAT I; 01R/ ILS CATIII; 19L/ ILS CAT III; 08/ VOR/DME+LLZ; 26/ 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? Our SMS Safety Management System is well established and continuously reviewed, no recent changes have taken place aside editorials.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport's programme to control FOD in terms of:
a) Training: Introductory course in Airport Regulations and Working at an Airport covers the basics, paired with interactive combined web training for Safety and Security.
b) Inspection by airline, airport, and airplane handling agency personnel: Done at regular intervals.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): FOD containers available at all gates and stands, sweeping at regular intervals. Regulated by working instructions.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Discussed at meeting forums and communicated daily by Airport Supervisor.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Daily regular inspections following set procedures. Ad-hoc inspection requested by ANSP-TWR.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? A-SMGCS with MLAT and SMR, ADS-B, VDL mod4.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Under continuous review.
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: Green paint (to replicate grass) used to enhance taxiway circulation areas and some apron edges.
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? Initiated at times by the 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? Through the Local Runway Safety Team meetings all represented parties are encouraged to share information. ANSP-TWR copy reports into the Airport quality control system. Yes, required by law.

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, regular grass cutting, ground covering fencing strengthened at unmanned gates, choice of ground covering vegetation helps to prevent a food chain build up, hence a less attractive bird habitat . We also eliminate availability for nesting.
6.1 Do your staff attend recognised bird control training courses? Our principal hunter at yearly intervals, assisting staff every 4 years.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Staff available around the clock to scare birds. Controlling actions mostly done during daylight hours.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): We use various suppliers and equipment. For scaring 15 mm and calibre 12 shots using handguns. Distress call speaker, Scare Crow, handheld. Green laser (Lord France). Traps. Shotguns and rifles for hunting.
6.4 Do you carry out a bird strike risk assessment? In our overall risk assessment, bird strikes form part of the analyses.
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): Daily activities are logged, saved 5 years and archived.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No!. Ground covering fencing keeps most wildlife away.

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: 6/CFR Volvo RB90 6x6/Capacity 9400 liters with Rosenbauers foamsystem /1991-1992; 4/ CFR Scania Swedcat 6x6/Capacity 10440 liters with Rosenbauers foamsystem /2000.
7.2 Future developments – are there plans to purchase or dispose of any equipment? We will buy new CFR vehicle 2011-2012.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes we have a 30 meter fuselage simulator at our exercise area combined with fuselage from a crashed aircraft set in the woodlands nearby. We use environmentally friendly Bio Fuel during exercises.
PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? Early October until end of April.
8.2 Average annual days of snow: 110 days.
8.3 Average snow depth: 60cm (accumulated snow deep 190cm).
8.4 Maximum snow in 24 hours: 23cm.
8.5 Annual number of days of deicing activities: 62 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 22.

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): 17 Schmidt TJS560 Compact Jet Sweepers + Snow Plows; 8 Wheel Loaders Volvo L50-120; 2 Sand sprinkle-devices Nido RSP; 3 Granulate sprinkle-devices Schmidt Nido Stroman; 3 Runway de-icing vehicles Nido RSP; 3 Articulated Haulers Volvo A 30 Snowdumpers; 2 Snowblowers Overaasen 1560 Supra 5000; 3 Wheeled Shovel-Loader Overaasen Supra 5000; 4 Truck Snowtransporter; 4 Surface friction testers SFH; 1 Snowgroomer.

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. Runways, high speed taxiways, emergency roads adjacent to runways.
2. Taxiways. 3. Apron. 4. ILS critical areas. 5. Other Airside roads.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Runway/ 10 sweeper formation covering full width, followed by 1 or 2 runway de-icers and 2 friction testers. Taxiways and aprons/ 3-4 sweeper formation. At aprons snow swept from stands towards apron centre where loaded onto trucks and dumpers for transport to remote deposit site. Stands/ 5 Wheel Loaders with brush or plow attachments.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? Black top runway achieved in 8-10 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: Potassium Formiat, 640 000 liters. Varies with weather and temperature down to a low holdover time of 30 min.
12.2 Comment on storage capabilities of the chemicals which you use: We can store up to 300 000 liters.






12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Solids only used at stands and apron roads, as time factor reduces practical use on runways and taxiways.
12.4 Have you experienced any corrosion problems with de-icers? Yes on steel details.
12.5 Have you employed any special means to economise on chemical use? Yes by using new equipment and tactics in work planning.
12.6 Do you have any other comments on experience with chemicals? Tends to be very expensive and produces some problems after the winter season ended.
12.7 Do you use other chemicals or sand on operational areas? Sand used at taxiway curves, at stands and on aprons.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Vaisala ice warningsystem in use over 3 runways and taxiway bridges.
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: We have a very positive experience using the system, helping us monitor the actual situation at the airport.

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. 4 service providers available.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We use both dedicated positions and the parking area.
14.3 Is glycol recovered? If so, please state methods: Yes. Drainage system and mechanical collection.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Sarsys SFH (Surface Friction Tester High Pressure).
15.2 Have you any comments on the reliability of friction indexes: No. All friction testers are calibrated once a week.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? Minor adjustments to some methods.
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: Testing of a natural gas driven sweeper will be done in the north part of Sweden over this winter season.
16.4 Do you have any winter services equipment which you would like to sell? At times available through Swedavia Technical division.

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.

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. Nevertheless, there are several safety related procedures that are in force locally (at the airport) and are integrated in Airports of Montenegro QMS (Certificate Standard: ISO 9001:2008, No: 75 100 50125, valid through: 16.04.2011).

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of:
a) Training: Training provided by Training Centre of Airports of Montenegro for ground handling personnel.
b) Inspection by airline, airport, and airplane handling agency personnel: Once a year, at least, inspections are performed by airlines (This year it was done by SAS Scandinavian airlines and Malmo aviation).
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 both movement and manoeuvring areas is responsibility of airport operator i.e. Tivat Airport.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Following procedure “Tivat airport Bird strike and wild life hazard prevention programme and management” is applicable at Tivat 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): ARFFS truck horn and start gun /shotgun (if needed).
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, in the Bird strike Report, contained in above stated procedure.
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.
7.2 Future developments – are there plans to purchase or dispose of any equipment? There are no near future plans for purchasing new CFR equipment.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Fire Training Simulator is not available; for training purposes practical exercises are in place.
PART 2: WINTER SERVICES QUESTIONAIRE
Part 2 Remark (excluding 15. and 16.): Procedures related to winter conditions are not applicable at Tivat airport. In case of snow, ice etc., that happen very rarely (or almost never), Tivat airport would be closed.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Friction tester model: ASFT – T10.

ZURICH

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Flughafen Zürich AG

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 10/28 lengths 2500m; RWY 14/32 lengths 3300m; RWY 16/34 length 3700m. All RWY’s width 60m.Surface area data: RWY 10/28 150,000sqm; RWY 14/32 198,000sqm; RWY 16/34 222,000sqm; TWY’s 550,000sqm; Apron 900,000sqm; Technical area 143,000sqm.
2.2 Landing aids for each RWY: All landing RWY’s equipped with 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? Continuous improvement process with many changes, e.g. Adjustments in the low visibility process. The Safety Risk Management process has been adjusted. The use of the Airsight GmbH tool A-SMS has been very helpful to integrate all elements of the SMS.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of:
a) Training: All airport partners and their staff are sensitized to the topic by special trainings and distributed flyers and CDs. The Ramp Safety Culture Zurich raises the issue of FOD on a regular basis.
b) Inspection by airline, airport, and airplane handling agency personnel: Checks are accomplished by the Airport Authority. For necessary punctual cleanings, the sweeping service is assigned.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Stands: Two cleaning teams are on duty 7 days/week from 3.30 to 21.30 o’clock. During the remaining time an on-call service is established. The early shift cleans daily all airplane stand surfaces at least once. When necessary, additional special cleaning can be ordered by Apron Control, and/or the Airport Authority. Apron and Taxi Areas:Same procedure and cleaning teams as for the stands; cleaning interval twice a week. Runways: No regular cleaning concept. However cleaning is done when necessary and requested and after maintenance work, bird strike incidents, etc. Runways are inspected four times a day.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Beside the cleaning teams of the Airfield Maintenance, all airport partners are requested to pay attention to FOD and remove it. Specially marked FOD bins are






stationed on various locations accordingly.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments.) Momentarily no such software based reporting system exist. However, the Airfield Maintenance department is planning to evaluate an appropriate tool.

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 vehicles and aircraft movements on ground is visual observation, partly assisted by cameras and A-SMGCS during Low Visibility.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? One of the most hazardous RWY Intersection was physically closed. Defined and published standard taxi routes reduced taxi complexity significantly. Enhanced intersection equipment raises pilot's awareness.
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)? Zurich is operating an A-SMGCS with the integration of the Approach radar, two ASDE and a Multilateration-System (also called ASDE-X). In summer 2010 level II of the A-SMGCS has been completed with the deployment of the Runway Incursion Monitoring and Collision Avoidance System (RIMCAS).
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: All Runway holding positions are adequately marked (including an additional red runway designator marking) and equipped with red stop bars and wig-wags. RWY-Stop bars are operated (except line-up positions) during the whole Airport operation time (also in good weather and daylight conditions). Enhanced TWY centreline markings are applied on taxiways leading to a 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? The Local Runway Safety Team is organizing awareness campaigns to address identified hazards and to promulgate incident investigation findings. Furthermore licensing requirements was introduced for all vehicle drivers on the airfield (including initial training, skill test and periodical refresher). A specific Runway safety film was developed by the 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? The Local Runway Safety Team has established a common runway incursion database. Furthermore, a bi-annual "Runway Safety Report" to monitor trends in incursion numbers and effectiveness of measures is published.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Pure grass management and no agriculture. Long grass management with cut stop by the end of September, such that the grass surfaces can regenerate to the necessary height of 15-20 cm. No fertilizations.
6.1 Do your staff attend recognised bird control training courses? Yes. The co-workers of the Airport Authority, the environment caretakers and the hunter are trained by the bird strike supervisor.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously, at least every hour.
6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer: For controlling accumulation of birds mainly pyrotechnic means (signal pistol type Heckler & Koch P2A1 with signal rockets, and Röhm Revolvers RG 56) are used. Various others for hunting permitted firearms are used only by the licensed hunter. Lasers and falcons have been introduced and used during trials.
6.4 Do you carry out a bird strike risk assessment? Two times a day the Airport Authority makes a bird control tour. Extended bird control tours with observation of what kind of birds are doing what in which area of the airport are made 1 to 2 times a week. According to a yearly plan, a full day observation is made once a month. The bird control process is part of the Safety Management System and therefore being audited at least 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. Bird strike control reports are filled out by the staff. The bird strikes are also listed in the daily airport operation service journal.
6.6 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Yes with deer. The deer are hunted with a special license.

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: Crash Fire Tender: Ziegler Z 8 MAN, 5 vehicles, 12'500 L water, 1'500 L extract , 8x8 , 2005/2006 ; MANSK 14-1005 MAN Kronenburg, 8'000 L water , 1'500 L extract , 8x8 , 1994; Command vehicle: Chrysler Voyager , command vehicle , 4x4 , 1994 ; Chrysler Voyager , command vehicle replacement , 4x4 , 1994; MOWAG, mobile command and control vehicle, 4x2, 1980; Fire engine: Scania Vogt, 2 vehicles , 5'500 L water , 1'000 L extract , 1'000 kg powder , 90 kg CO2 , 6x6 , 2003 ; Mercedes Rosenbauer, 6'500 L water, 1'500 L extract, 1'000, 6x6, 1992; Mercedes Rosenbauer, 5'500 L water, 1'000 L extract, 1'000 kg powder, 6x6, 1997; small one: Toyota HI LUX extinguishing vehicle, for multi-storey car park, 220 L water, 20 L extraxt, 4x4, 1985 Others: Mercedes Brändle, pioneer vehicle, 6x6, 1998; Mercedes Contrac, passenger evakuation stairs, 6x6, 1993; Mercedes Bronto Skylift, stroke rescuer, 6x6, 1996; MAN M90 Walde, respiratory protection vehicle, 4x2, 1996; Mercedes 412 D, oil protection vehicle, 4x4, 1999; Mercedes 310 D, water protection vehicle, 4x4, 1986; Mercedes Unimog Hänni, hose transport vehicle, 4x4, 1979; Mercedes 409 D, lighting vehicle, 4x4, 1987, 2 vehicles; Mercedes Unimog Hänni, carbonic acid vehicle, 4x4, 1981; Manitou Perkins, cross-country stacker, 4x4, 2002; Mercedes Sprinter, crew transporter, 4x2, 1999/2002, 2 vehicles; VW T5, transport vehicle, 4x2, 2005; Mercedes Hiab, truck with crane, 4x4, 1982; Scania R124, loading vehicle for container, 8x4, 2001; VW T4, transport vehicle, 4x2, 1994; Skoda Octavia, passenger vehicle, 4x2, 2003/2005, 2 vehicles; FIAT Doblo Cargo, transport vehicle, 4x2, 2005; VW Golf, passenger vehicle, 4x2, 1989; Saurer D330 Wirz, loading vehicle for container, 8x4, 1981; Scania 113H Wirz, loading vehicle for container , 8x4, 1991.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes. New command vehicle (at the end of 2006, Volvo XC90).
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We have one small simulator (for engine and gear fire) but it is not available to other airports (fix installed).
PART 2: WINTER SERVICES QUESTIONAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? Winter readiness is from 18 October through 15 April.
8.2 Average annual days of snow: Annual days of snow approx. 29 days.
8.3 Average snow depth: Average snow depth 13 cm.
8.4 Maximum snow in 24 hours:10 cm, 11. March 2010.
8.5 Annual number of days of de-icing activities: De-icing activities during 31 days (only De-icing).

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 54 airport employees, 70 contractors.

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): Snow clearance airside (Flughafen Zürich AG owned equipment): compact jet sweeper Boschung plough 6m 9; compact jet sweeper Boschung plough 8.4m 14; rotary snow Øveraasen TV 2000 2; rotary snow Rolba R-10,000 2; rotary snow Rolba R-3,000 1; rotary snow / loader Bucher R-600 1; loader / blower Schmidt Supra 3; snow-blade* Ramphog 6m 1 snow-blade Øveraasen 6m 1; snow-blade Ammann 6m 1; plough** Peter 6m 16 plough**; Peter / Zaugg 4m 32; truck (for plough) Mercedes 3 *trax from contractors; **truck from contractors. De-icing vehicles multi de-icer Küpper-Weisser 40m 3; Multi de-icer Küpper-Weisser 20m 1; multi de-icer Küpper-Weisser 8m 2; multi de-icer Pony 4m 2. Snow-clearance landside: plough / gritter Unimog 1; plough / gritter Fendt 3; plough* various 2; plough / Pony Zaug 1,5m 1; plough / Holder Zaugg 1.5m 2; *truck from contractor. Contractors airside snow deportations: deportation trucks various 13-30; wheel loadervarious 3m3 6; Rolltainer various 40m3 5.

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: Air- and landside have equal priorities. First priority airside: RWY 16/34, 3.7 km (incl. TWY's); RWY 10/28, 2.5 km (incl. TWY's); RWY 14/32, 3.3 km (incl. TWY's); Apron (docks' area snow clearance), all non-covered parking lots; Apron / apron-taxiways. Second priority airside: Service roads; Maintenance areas; General Aviation area.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Two formations with 7 trucks (mounted plough, blow-sweeper each), 2 trucks (mounted plough only), 1 rotary snow, 1 multi de-icer.
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: Aviform L50, ca. 1, 990,000 litres.
12.2 Comment on storage capabilities of the chemicals which you use: Storage capacity 500'000 litres 24 hour additional supply guaranty.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Tests during the last and the coming winter season are being carried out with acetates and formiates.
12.4 Have you experienced any corrosion problems with de-icers? Some problems with corrosions at vehicles.
12.5 Have you employed any special means to economise on chemical use? Heated aircraft stands at the docks A
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 system 2000; 3 sensors per RWY (9 in total), 6 sensors in the apron area).
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Facilities will be extended at the airport-expansion.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: The system is a good aid in monitoring the weather impact in connection with winter services.

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? Both, dedicated de-icing positions (de-icing pad F and C) and on-stand de-icing.
14.3 Is glycol recovered? If so, please state methods: Yes, glycol is recovered. The material is collected in storage basins for wastewater treatment. On 20 hectares it is treated for biological degradation by micro organisms of the soil. The high concentrated part is distilled and recycled; the rest as carbon denitrification goes to the Zurich waste water treatment or on a sludge stabilisation digesting tower.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? BV-11; 2 units
15.2 What are the typical intervals between friction tests? Friction testing is carried out as soon as weather conditions are changing.

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.

ZVARTNOTS

ZVARTNOTS
"Armenia" International Airports C.J.S.C

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): No.
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 QUESTIONAIRE

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 de-icing activities: 50 day.

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 snow fall between landing and take-off. If there is a layer of dry snow with 2-3cm thickness of 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.

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 unit: No. It's done 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.



Vestergaard Company has reported a significant increase in sales of aircraft de-icers for virtually all winter airport markets.

MORE DE-ICING ELEPHANTS ORDERED

DENMARK-BASED GSE manufacturer Vestergaard Company has reported a significant increase in sales of aircraft de-icers for virtually all winter airport markets. Sales apply both to urgent deliveries for this winter season and for the 2011-2012 season where customers want to secure sufficient aircraft de-icing capacity for the longer term.

Among others, additional closed-cabin Elephant Beta de-icers will thus in 2011 be delivered to airports in Frankfurt, Munich, Prague and Geneva, as well as in Vancouver in Canada and several stations in Japan.

In the medium-sized segment, deliveries include open-basket Elephant My ordered by LOT Services for their handling operation in Krakow and additional units for customers in Germany, Romania and France.

Customer interest has also been significant for the smallest member of the Vestergaard Elephant family, the Sigma, which due to its compact size and yet wide range of features, appeals especially to operators in smaller airports.

Orders include a delivery for Norwegian regional airline Widerøe, whose Sigma fleet features the proportional mixing system, which can significantly reduce glycol consumption and thereby benefit the environment. New operation sites of the Sigma now also include Montpellier for Air France and Le Bourget for Manustra.

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. The company is 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.

YEAR-ROUND SOLUTION

THE SWISS-BASED Boschung Group is one of the leading manufacturers of vehicles and equipment for surface maintenance of cities, roads, highways and airports.

The company has been developing and manufacturing high quality products for more than 60 years and now counts close to 500 employees located in offices in Switzerland, France, Germany, and Austria, as well as in China, North America and the CIS.

Marcel Boschung Ltd produces the various vehicles of the company (sweepers, high-pressure washers, snow blowers, multi-purpose vehicles). Boschung Mecatronic specialises in ice early detection systems, fixed automated thawing agent spray technology, road and runway management software and control units. Küpper-Weisser, based in Germany and part of the Boschung Group since 2001, specialises in state-of-the-art spreader and snow plow technology. Boschung Airport Division specialises in airport equipment, notably the Jetbroom product range.



Boschung provides a global, all-year long solution to airports' needs under the name Surface Condition Management (SCM).

Boschung provides a global, all-year long solution to airports' needs under the name Surface Condition Management (SCM). SCM includes the full range of summer and winter equipment, fixed and mobile systems, as well as the appropriate software and electronics to centrally manage it all.

ECOLOGICALLY DRIVEN DE-ICERS

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 of the company's 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 developments which are even more ecologically driven. Its team of specialists is always happy to assist with any inquiries and, upon request, pay site visits for a more detailed presentation of the company and its de-icing products.

The Proviron de-icing product range comprises: Cryotech E-36 Liquid Potassium Acetate – AMS1435A approved; Cryotech NAAC Solid Sodium Acetate – AMS1431B approved; Provifrost KF Liquid Potassium Formate – AMS1435A approved; Cryotech CMA Solid Calcium Magnesium Acetate; and Cryotech CMA40 Solid Blend of 40% CMA and 60% rock salt.

KILFROST EXPANDS PRODUCT RANGE

A GLOBAL leader in de-icing and anti-icing, Kilfrost has expanded its portfolio of products for the aviation industry in order to keep ground maintenance staff and passengers safe and mobile in winter weather.

Kilfrost has introduced Power Pellets to its innovative 'Kilfrost Ice Melt' range. The newly launched Power Pellets, a composite mixture of low hazard and fully biodegradable de-icing chemicals have been specifically developed for large-scale applications. Ideal for use on passenger and access areas including walkways and car parks, the products offer fast, effective ground de-icing and are significantly less corrosive than traditional rock salt.

Kilfrost Ice Melt has been developed following over 75 years experience in pioneering specialist de-icing and anti-icing fluids for the aviation industry across the world.

A clean formulation product which is completely soluble and avoids the messy residue left behind by traditional rock salt, it is also fully biodegradable and not harmful to humans, animals or vegetation, making it ideal for even sensitive settings.



Kilfrost Power Pellets are the latest addition to the innovative 'Kilfrost Ice Melt' range of de-icing products.



VETTER'S HIGH QUALITY LIFTING BAGS

VETTER OFFERS suitable lifting bags for all kinds of civil and military aircraft, including the A380. When it comes to security and fast, safe recovery, quality is all that matters. This is why Vetter exclusively produces in Germany, guaranteeing the highest quality standards.

Innovative 1 bar aircraft lifting bag system for a safer lifting process: Only Vetter offers you Aircraft Lifting Bags with both 1 bar and 0.5 bar air pressure. The 1 bar system has many advantages over the conventional 0.5 bar systems, such as an improved stability, especially to lateral forces. It allows more stable lifting – and therefore safer recoveries.

Unique Vacuum Contour Matching Bags for the most gentle lift: Only Vetter offers you Vacuum Contour Matching Bags, which fit to every kind of aircraft. They adapt precisely and gently to wings and other crucial parts of an aircraft. Your benefit: better lift, no additional damage.

Recovery teams trust Vetter's products to quickly clear the runway from disabled aircraft without further damaging the valuable aircraft. This reduces impending losses for both airport and airlines.

The Lifting Bags offer you innovative pneumatics. Vetter offers you individual service.

As an Expert for Emergency Pneumatics, Vetter has been supplying Aircraft Lifting Bags and other Recovery Equipment to airports around the world for more than 30 years. Vetter is an IATA Strategic Partner and is always up to the latest rescue standards and actively engaged in the continuous improvement of how aircraft recovery is performed.

Experience emergency pneumatics live:
vetter.info@idexcorp.com. Phone: +49 (0) 22 52 / 30 08-60.

More information:
http://www2.vetter.de/Main/News,38,27.aspx.
Request our Vetter Aircraft Recovery Catalog now: vetter.info@idexcorp.com



SCARECROW'S ULTIMA V3

Ultima v3 is both a highly effective bird dispersal system and a data analysis tool and new standard features for 2011 include GPS Calibrated Image Mapping and the Runway Inspection Module.

SCARECROW is a leader in airside bird dispersal and offers unique products to the industry.

Ultima v3 offers effective airside bird and wildlife dispersal. It is both a highly effective bird dispersal system and a data analysis tool. Using a rugged tablet touch-screen PC, a GPS receiver and data collection software, it creates a real time record of dispersal management. The system creates an audit trail featuring date, time, location, system operator, species, flock size and dispersal direction.

The 21cm screen can display a database of bird recognition information, including full-screen illustrations to aid identification and it establishes proof of dispersal procedures completed in real time, logging the system operator, species, time and date of dispersal. Two vehicle roof mounting loudspeakers, mounting kit and a fist microphone for live announcements are all included while USB flash-drives are provided for captured data to be transferred to the airport analysis system.

New standard features for 2011 include GPS Calibrated Image Mapping and the Runway Inspection Module. The former combines with the Ultima v3 airfield map to give an instant overview of the level of wildlife presence, while the latter has been developed to allow users to log runway conditions and for general runway inspections.

ASFT'S WEATHER REPORT

ASFT, a family-run developer of surface friction measuring technology, has collaborated with Saab Security to manufacture weather monitoring products. The new range perfectly complements ASFT's other products, which are approved by FAA, ICAO and UK CAA CAP683 for unrestricted operation at aerodromes. In the partnership, ASFT and Saab Security cooperate in developing and marketing IT systems and products for weather monitoring at airports. ASFT now offers computerised technology for detecting and monitoring freezing points, precipitation, ground frost, ice deposit growth and colour/infrared camera systems. The technology is purpose-built for stationary or mobile use.

The product portfolio includes: Frensor – freezing point detection; Optic Eye – precipitation; ground frost measuring; general monitoring computers (GMC); general monitoring systems (GMS); runway weather information systems (RWIS); Advicy – ice warning system; IceMonitor; cameras; and mobile units.



As part of their collaboration, ASFT and Saab Security cooperate in developing and marketing IT systems and products for weather monitoring at airports.

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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	Liquid Potassium Formate
Cryotech CMA	Solid Calcium Magnesium Acetate
Cryotech CMA40	Solid Blend of 40% CMA and 60% rock salt

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