AIRSIDE SAFETY SURVEY
2012
A DEFINITIVE SURVEY OF TECHNIQUES, EQUIPMENT INVENTORIES AND OPINION REGARDING ALL ASPECTS OF AIRFIELD OPERATIONS BY EUROPE’S AIRPORTS
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INTRODUCTION

THE AIRSIDE SAFETY SURVEY 2012

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

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

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

UPDATING METHODS

The Airside Safety Survey also explores key and emerging trends, highlights which air-
ports are planning to purchase new equipment, and identifies any planned changes to existing airside methods.

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

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

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

WILDLIFE CONTROL

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

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

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

FRICITION TESTING

The reliability of friction indexes is another area explored in the Airside Safety Survey and while most airports appear satisfied, in some cases, questions are raised. For example, the London Stansted Airport response outlines: “Although the concept of an internationally agreed friction index is a positive step forward, it is clear that there are significant differences between the dynamics of aircraft braking performance when compared to the use of any CFME equipment. For this reason it is understandable that such an index has not been ratified through ICAO and meeting the approval of IATA and other international bodies.”
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PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT

1.1 Describe your airport’s programme to control FOD in terms of:
   - training, training through AODP1 and Driver Training, Apron Safety Training
   - as well as all induction courses.
   - inspection by airline, airport, and airplane handling agency personnel.
   - 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.
   - 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.
   - co-ordination of multiple agencies using airport bins available on every stand, ramp area, other): 1,949m x 46m.
   - total RWy length (or lengths), Take Off Run Available facilities and the surface areas (for example: no safety devices employed at ABZ.

2. MOVEMENT AND MANOEUVRING AREA DATA

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

2.2 Lending aids for each (e.g. CAT I): CAT I, ILS

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aero- dromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome. The operator of an airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Based upon the BAA Managing Responsibly framework of Health and Safety, and Environmen- tal with a process of ‘plan, do, check, review’. 4. FOREIGN OBJECT DAM- AGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of:
   - training, training through AODP1 and Driver Training, Apron Safety Training
   - as well as all induction courses.
   - inspection by airline, airport, and airplane handling agency personnel.
   - 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.

5. SAFETY MANAGEMENT SYSTEMS

5.1 What is the primary method of monitoring vehicle ware solutions you employ for FOD control? (Please to all operators during their Induction Process, (airlines, handling agents etc): Training given undertaken as identified during FOD checks, FOD bins available on every stand, FOD Boss used.

5.2 Are any design or engineering changes Permit system, Driver Permit System, ATC Ground.

5.3 What safety devices are currently em- ployed? (A-SMGCS; Airport Movement Area

5.4 Are you required to have dedicated de- icing vehicles that ensure nothing is sprayed onto grass areas or re-applied to treated areas.

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? Airside Driver Training with testing undertaken by a member of our own team (Airside driver awareness leaflets produced by local ATM 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 par- ties 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.

5.7 What is the designated period of win-
teredness? 1 October till 31 March.

5.8 Average annual days of snow: 30 days.

5.9 Average snow depth: 4cm.

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

6. BIRD AND WILDLIFE CONTROL

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

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

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

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

6.5 Do your staff log all their bird con- trol activities (to manage success in deal- ing with the problem, and to use in defence in case of lawsuits?) Yes – ‘real time’ log.

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

6.7 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 MN 10.224 4x4, 2 x Mitsubishi Shogun 4x4.

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

7.3 Do you have experienced a Fire Training Simulator, is this available to other air- ports for training purposes? Yes.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. Recent winter conditions

8.1 What is the designated period of win-
teredness? 1 October till 31 March.

8.2 Average annual days of snow: 30 days.

8.3 Average snow depth: 4cm.

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

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

9. Winter Organisation

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

10. Winter equipment inventory

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, comp- pact jet sweeper, Schmidt, CIS 720, 4 units): Runway Sweepers, Schmidt, Cleating P21 x 2.

10.2 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 clear- ance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: Runways, taxiways, passenger areas, roadways, apron areas.


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: Kansin used for very low temperatures – up to 24 hours hold over time. Safegrip also used – 4-hour hold over time.

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

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

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

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

13. Ice warning systems

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

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

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

14. Aircraft de-icing

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

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

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

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Mk4 Mu-meter.

15.2 Have you any comments on the reli- ability of friction indexes? N/A.

16. Future developments

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

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

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

8.1 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, CIS 720, 4 units): Runway Sweepers, Schmidt, Cleating 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.
2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other; Runway 04: TORA – 2,014m x 60m, width – 45m, LDA – 2,014m, Runway 22: TORA – 2,014m x 60m, width – 45m, LDA – 2,014m, ILS – CAT III/E, PAPI – Y. Runway 06: TORA – 3,500m x 60m, width – 65m, LDA – 3,250m, ILS – CAT III/E, PAPI – Y, Runway 24: TORA – 3,500m x 60m, width – 45m, LDA – 3,500m, PAPI – Y. Runway 09: TORA – 3,453m x 60m, width – 45m, LDA – 3,453m, Runway 27: TORA – 3,453m x 60m, width – 45m, LDA – 3,453m, ILS – CAT III/E, PAPI – Y. Runway 18B: TORA – 3,300m x 60m, width – 45m, LDA – 3,300m, ILS – CAT III/E, PAPI – Y. Runway 36C: TORA – 3,300m x 60m, width – 45m, LDA – 3,250m, ILS – CAT III/E, PAPI – Y. Runway 18L: TORA – 3,400m x 60m, width – 45m, LDA – 2,850m, LDA – 3,400m x 60m, width – 45m, LDA – 2,850m. RWY 36L: TORA – 3,400m x 60m, width – 45m, LDA – 2,850m, ILS – CAT III/E, PAPI – Y. Runway 18R: Width – 60m, LDA – 3,350m, ILS – CAT III/E, PAPI – Y. Runway 36L: TORA – 3,800m x 75m, width – 60m, Taxways: 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 buffeting and parking. 2.2 LANDING aids for each RWY 

2.3 POTENTIAL FORUMS AND INCIDENTS

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? No, from October until May for de-icing aircraft, from November until April for de-icing RWy.

5.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Green laser equipment, dis- tress calls, pyrotechnics, Falconer, shotguns.

5.4 Do you carry out a bird strike risk assessment? At the moment we are doing a risk assessment about the presence of geese; Regular hunting days is performed in cooperation with our home carrier AF-KLM; We are au- dited every year by several organisations; Recently we have made a very detailed bow-tie to point out what barriers are in place and who is responsible for what.

5.5 What specific procedures are there for training and investigation. There is not a specific training procedure. Every runway incursion gets discussed in the Runway Safety Team. Most investigations are jointly done by investigations of the involved air traffic control tower to warn ATC that a RI might occur (RIMCAS, RIASS; or ASDE-X, the Model X Airport Surface Detection Equipment); All runways are protected by RIASS (Runway Incursion Alert System Schiphol). RIASS is an ADS-B network and an alert in the con- trol 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).

5.6 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’ and ‘no-adversarial’ reporting? Yes, we are trying to decrease the overall number of incursions by investi- gation to find out the root cause. After investigation there could be recommendations to take infrastruc- tural 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.

5.7 What safety devices are used, are they trying to decrease the overall number of incursions by investi- gation to find out the root cause? From October until May for de-icing aircraft, from November until April for de-icing RWy.

AMSTERDAM

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readi- ness? From October until May for de-icing aircraft and from November until April for de-icing RWy.

8.2 Average annual days of snow: 7 days per snow season.

8.3 Average snow depth: Less than 1cm.

9. 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 special winter snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, com- pact jet sweepers, Schmidt, CJS 720, 4 units): Truck + plough + blow-sweeper – 18; Truck + blow-sweeper – 12; Truck + plough + spray de-icing system – 9; Sprinkle-devices Salt – 9; Sprinkle-devices ICA – 5; Runway de-icing vehicles – 3; Frontloader – 1; Wheeled shov- el-loader – 14; and Trucks snow-transportation – 20.
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, 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 ice and snow build-up. For the RWY we use the sprinkle-devices of 33m width and for RWY and Aprons 16m width.
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? On average it takes 30 minutes to clear the RWY that is including the exits.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: KHC02, NAC.
12.2 Comment on storage capabilities of the chemicals that you use: We store up to 480,000 litres of KHC02.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: We use solid de-icer NAC granules with glazed frost.
12.4 Have you experienced any corrosion problems with de-icers? Yes, but it is hard to measure the influence of de-icers and prevent corrosion. All vehicles are coated to minimise the effect of the de-icing materials.
12.5 Have you employed any special means to economise on chemical use? The usage of weather-stations and sensors for precise temperature readings to decrease the amount of used chemicals.
12.6 Do you have any other comments on experience with chemicals? No, but the environmental issues will become even sharper in the near future.
12.7 Do you use other chemicals or sand on operational areas? At this moment we only use KHC02 and we are using more sand as well.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: Every RWY has its own weather-station with sensors. With these sensors it is possible to measure the surface temperature, ground temperature at -30cms, dew point and the amount of liquids still available. This helps to determine the use of spraying or not.
13.2 Have you plans to purchase further ice warning systems? Yes.
13.3 Comment on your experiences with the benefits/disbenefits of ice warning systems: Due to the information gained from the weather-station sensors it is far more accurate to determine the necessity and amount of surface de-icing chemicals. This enables us to reduce the costs for winter operation.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/ de-icing operations? If so, please state vehicle or other facility manufacturer, and number of units: No.
14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We use dedicated de-icing positions primarily. This is so we can manage the spills and glycol on the parking area.
14.3 Is glycol recovered? If so, please state method(s): 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 WW Sharman’s with Airport Surface Friction Tester from Sweden.
15.2 Have you any comments on the reliability of friction indexes? No comment.

16. FOD GUN
16.1 Are you about to change any of your airport’s methods? Yes, we started a more selective spraying method more based on RWY use.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes, a new RWY-sprayer with more accurate dosing and less usage of chemicals with better results.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

11.5 Have you any comments on the use of innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Guard lights on the Taxiways.
11.6 What specific procedures are there for training and awareness among pilots, controllers, mechanicals, airport vehicle operators, and other people who work at the airport? Every person working airside must follow special training with safety lessons.
11.7 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.

6.1 Are you de-icing operations? If so, please state vehicle or other facilities that you use.
6.2 Are your airport staff working on the airfield continuously, hourly, less than hourly? There is very little de-icing operations.
6.3 What specialist equipment do you employ for bird control? Please state relevant supplier/manufacturer: Gun fire, birdscare cartridges, alarm scream noise from several species.
6.4 Do you carry out a bird strike risk assessment? Yes.
6.5 Do your airport staff hold all their bird control activities (to manage success in dealing with the problem, and to use in defence in 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/litres and type); year of manufacture: FAUN 6x6 12,000 litre water 1,200 litre foam (year 1997), PANTER 6x6 12,000 litre water 1,500 litre foam 500kg extinguish powder (year 2008), SIDES 6x6 9,000 litre water 1,100 litre foam 250kg extinguish powder. Mercedes 4x4 fire and rescue equipment.
7.2 Future development plans of new or modern vehicles 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.

8.1 What is the designated period of winter readiness? 1 November to 31 March.
8.2 Average annual days of snow: 46 in 2010-2011.
8.3 Average snow depth: 3cm.
8.4 Maximum snow in 24 hours: 15cm.
8.5 Annual number of days of de-icing activities: 55.

9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter service personnel are available per shift? 6 persons per shift, no sub-contracted winter service.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist de-icing, 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, 2 self-propelled deicing units, various types.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways,
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1. AIRPORT NAME: Athens International Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): There are two runways the design of which complies with ICAO Aerodrome Reference Code 4E with a width of 45m, plus shoulders of 7.5m on each side. The runways are designated as follows: Runway D3R/21L with physical length 4,000m, Runway 03L/21R with physical length of 3,800m. The runways are parallel and the distance between their centrelines is 1,575m. According to the physical characteristics as published in the AIP Greece the declared distances are: Runway 03R TORA (m): 4,000m, Runway 21L TORA (m): 4,000m, Runway 03L TORA (m): 3,800m, Runway 21R TORA (m): 3,800m, Ramp area: 45,975sqm + non-effective areas: 11,853sqm = total apron area: 57,828sqm.

2.2 Lading aids for each RWY (e.g., CAT II): The RWYs landing aids are able to serve CAT II approaches. Approach lighting: Precision approach CAT II. Lighting system, 900M, all RWys. PAPI, left side / 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, LHI), RWY end: (Red,THR lights: (Green), TDZ lights: (White).

3. SAFETY MANAGEMENT SYSTEMS

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

4. FOREIGN OBJECT DAM-

4.1 Describe your airport’s programme to control FOD in terms of: a) Training: Airport provided training to ground handling personnel. Also in Airside Driving Permit (ADP) training, b) Inspection by airline, airport, and airline handling agency personnel: Ramp monitoring performed by Athens International Airport (AAI) Company’s staff: Ground Handling Services Dpt personnel, Airside Monitoring & Inspection Specialists (AMIS) and Airside Sweepers. There is an external contractor which can provide ad-hoc FOD control upon AIA’s request, c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Daily apron sweeping, FOD – boss blanket, magnet bar, FOD bins and special containers for toxic and hazardous waste, d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Through the Airside Safety Committee, brochures, apron banners, inci-
dent reporting/investigation, “FOD Collection Days” at the airside, relevant meetings for FODs, Airside Safety Campaign, and Aviation Safety Newsletter. Moreover special care is pointed out regarding the appropriate sweeping measures from incidents at the apron as well as proper handling and placement of chocks and cones causing a FOD source (relevant meetings, correspondence etc.)

4.2 General: Are there any special systems or soft-

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

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitor-

ing vehicle and aircraft movements on the ground? GND and TWR ATC control. 5.2 Are any design of runway centerline changes being un-
dertaken/required to eliminate perceived hazards? No. 5.3 What safety devices are currently em-

ployed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Ground Radar, magnetic loops, stop bars. 5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Enhanced RW centreline warning and additional RWY holding positions plus RWY guard lights at one particular RWY entry. 5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanic-

ics, 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 Has the reporting of runway incursion safety incidents been set up jointly with other par-
ties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? A Local Runway Safety team has been established dealing with those issues.

6. BIRD AND WILDLIFE CONTROL

6.1 Detail your habitat management policy and how it reduces the attraction of the airfield to birds: All habitats inside the airport are treated in a way to minimise wildlife attraction. Food, water, and roosting/resting/placing activities 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. drain-
age 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 com-
ponents of the ecosystems like flora and vegetation. University institutions and the Heliconian Ornithological Society are cooperating with the airport for this task.

6.2 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 participa-
tion in the meetings of the International Bird Strike Committee in order to enhance their knowledge on problem solving. These members organise and provide training on annual basis to other airport personnel that support wildlife management.

6.3 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 when appropriate. At least one dedicated personnel from the Airfield Services Department trained for applying wildlife measures is supporting the Wildlife Control Team 24 hours, when necessary.

P10

ATHENS

PART 1: GENERAL AIRSIDE SAFETY

1. EXPERIENCE WITH CHEMICALS

1.1 State model and number of ice warn-

ing systems: 2 sensors on the Rwy.

1.2 Have you plans to purchase further ice warn-

ing systems and if so, which models(’s)? No.

1.3 Comment on your experiences with the benefits/disbenefits of ice warning systems: The ice warning system is a second warn-

ing indication for us. In the first place personal control of the pavements is necessary.

2. AIRCRAFT DE-ICING

2.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and num-

ber of units: Done by a private company.

2.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No.

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

3. FRICITION TESTING

3.1 What model(s) of friction tes-

ter do you use? SAAB friction tester.

3.2 Have you any comments on the reliabil-

ity of friction indexes? Reliability is good.

4. FUTURE DEVELOPMENTS

4.1 Are you about to change any of your airport’s methods? No.

4.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: New liquid kiloumacetate spreader and a new friction tester.

4.3 Do you have any equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

4.4 Do you have any winter services equip-

ment that you would like to sell? No.

taxiway, aprons etc) stating identity of each facility: Runway 03R with (Red), THR lights: (Green), TDZ lights: (White).

Join the 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 when appropriate. At least one dedicated personnel from the Airfield Services Department trained for applying wildlife measures is supporting the Wildlife Control Team 24 hours, when necessary.
10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stat- ing purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJIS 720, 4 units): Airport Equipment: Schmidt TJS 630 4 units, Schmidt CJIS 4 units, Vehicle Actros MB2640 with Schmidt Airport Sprayer (ASR) 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 Atago 1823 Schmidt brush 2 units, Vehicle Tractor John Deere Schmidt plough 1 unit, Vehicle Kramer Schmidt plough Lunet, Vehicle Sk151 Schmidt plough 2 units.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clear- ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: According to prevailing weather conditions, ILS operation status priority as follows: Rwy, adjacent Tey, at least three high speed exits and a taxi lane towards MBT and STB Simultaneously apron taxiways by different teams. 11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Vehicles as above with extended compa- rison (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: Clarisant SAFEWAY IA HOT (liquid), and Safeway SF (solid) as pre-wet. 12.2 Comment on storage capabilities of the chemicals that you use: Inside warehouses. 12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Mainly liquids are used. 12.4 Have you experienced any cor- rosion 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 runways? No.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warn- ing systems: No such system is installed. 13.2 Have you plans to purchase further ice warn- ing systems and if so, which model(s)? N/A. 13.3 Comment on your experiences of the ben- efits/deficiencies of ice warning systems: N/A.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti- de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Athens International Airport S.A., (the Airport Company) does not provide aircraft de-anti-icing operations. 14.2 Are you required to have dedicated de- icing positions or do you de-ice on the park- ing area? De-icing operations take place on each aircraft parking stand. 14.3 Is glycol recovery required? If so, please state methods: The glycol is not recovered.

15. FRICITION TESTING
15.1 What model(s) of friction tester do you use? SARSYS FrictionTester, SAAAB 9-5 Wagon Surface Friction Tester. 15.2 Have you any comments on the reli- ability of friction index(es)? 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 equip- ment that you would like to sell? No.

BARCELONA
PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Barcelona-El Prat Airport

2. MOVEMENT AND MANOUV- VRING AREA DATA
2.1 Please list the identities of primary opera- tional facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): See AIP LEBL

2.2 Landing aids for each RWY (e.g. CAT II): See AIP LEBL

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reporting of risks and haz- ards identified by internal/external SMS audits? Yes, we have the SMS (SSGO) implemented in the airport. Currently, the airport is involved in the certification process. All facilities and procedures have been subjected to internal and external audits for hazard identification and risk assessment. The results of these exercises concurrent with the improvement of safety standards, reaching and maintaining ALoS (Acceptable Level of Safety). In addition, the main premise SSGO is continuous im- provement. The internal procedure BCN-PGS01 “Risk Management System” requires a semi-annual moni- toring of all identified situations, facilitating the control of hazards at the airport and the implementation of specific operations. Also, the above procedure has an associated operational instruction: TSOL1 “Change Management”, each unit responsible for risk management enabled with the following events: Changes in operating proce- dures, Implementation of new procedures, infrastruc- ture projects in the area of movement, Commissioning of new infrastructure, Organisational changes.

4. FOREIGN OBJECT DAM- AGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training: Handling agents train their staff and we the airport has a company that surveys the handling agents, one of the things monitored are the control of FODs. The airport trains the marshals.
   b) Inspection by airline, airline, and airline handling agency personnel: The handling agents inspect the parking before clearance and the airport inspects con- tinuously by marshals and a cleaning company H24, c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): The airport uses sweeping and FOD containers.
   d) Co-ordination of marshalling and han- dling (airlines, handling agents etc): CGA: Airport Co-ordination Centre.
   e) General: Are there any special systems or soft-
7.1 Please detail your CFR vehicle inventory stating each team). Blank pistols. Blank pistols character for bird control? (Please state relevant supplier/

6.3 What specialist equipment do you employ during daylight hours. That is from sunrise to sunset. The Wildlife Control Service consists of three teams preventing and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport! Local Safety Runway Committee and Safety Apron Committee.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘non-blame’ and ‘non-reprisal’, our system safeguards the ‘non-punitive’ principles.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. Actions that are performed: performance cards attached. They explain the actions carried out to minimise bird hazards.

6.2 Your bird control staff working on the airfield continuously, hourly, less than hourly? The Wildlife Control Service consists of three teams preventing activities carried out to minimise bird hazards.

6.3 What specialist equipment do you employ for bird control training? (Provisional). Training at the airfield to all components of Animal Control Service. Specific formations in case of need.

5.2 Are any design or engineering changes being undertaken to prevent runway incursions? The dogs that enter in the airport grounds escapeamping to the centreline. Tandem behind the Snowplough priority:

5.1 Runway Incursion Prevention
5.1.1 Please state here order of priority of snow clearing of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility:

11.1 Please state here order of priority of snow clearing of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility:

11.2 State any assumptions and general method of runway, taxiway and apron clearance: The vehicles work in tandem along the track and parallel to the centreline. Tandem behind the Snowplough trucks work and a SPP vehicle supervises all work.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 24 min.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Currently used for preventative treatment solid urea (dampened with potassium acetate) and liquid potassium acetate corrective treatment. Any product used last season.

12.2 Comment on storage capabilities of the chemicals that you use: Now 20t of solid urea, and 25 Tn of liquid potassium acetate.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Solid de-icers are effective if they are humidified and mainly for preventative treatments. The time it takes to start acting is too high (30 min).

12.4 Have you experienced any corrosion problems or do you de-ice the parking area? Yes.

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

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? SARSYS Saab-95 Nº74.

15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? No.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

16.4 Do you have any winter services equipment that you would like to sell? No.

BASEL
PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Basel Mulhouse Airport

2. MOVEMENT AND MANOEUVRING AREA DATA
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System (SMS) 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, mag: netic bars, rumble strips, FOD contain- ers etc). Visual inspection (3 x / day)
   d) Coordination of multiple agencies using airport (airlines, handling agents etc): Coord- ination in airport safety committee

4.2 General: Are there any special systems or soft- ware solutions you employ for FOD control? (Please specify product name and add any comments): no.

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

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

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.

6.1 Do your staff attend recognised bird control training courses? Yes.

6.2 Are your bird control staff work- ing on the airfield continuously, hourly, less than hourly? Hourly and on request.

6.3 What specialist equipment do you employ for bird control (mention relevant supplier/ manufacturer): Bird scouting from “STERELA”.

6.4 Do you carry out a bird strike risk assess- ment? Yes we have one new risk assessment.

6.5 Do your staff log all their bird control ac- tivities? (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); axes (4x4, 6x6); capacities (kg/ltre and type); year of manufacture: SIDES VM 90: 9000 litres water, 1100 litres foam product, 250 kg powder, (6x6 year: 1995); SIDES VM 90: 9000 litres water, 1100 litres foam product, 250 kg powder, (6x6 year: 1997); SIDES VM 60: 6000 liti- tres water, 900 litres foam product, (6x6 year: 2001).

7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes for the vehicle for 2012 and a sec- ond for the year 2013-2015 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 with an aircraft F27. It’s small equipment, that’s why it’s not programmed to be available for other airports for training.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? The winter’s organisation is opera- tional from 15 November to 15 March.

8.2 Annual average days of snow: During win- ter 2010-11: we had 22 days of snow.

8.3 Average snow depth: During the winter 2010-11: we accumulated 42cm of snow.

8.4 Maximum snow in 24 hours: During winter 2010-11: the maximum depth of snow was 11cm.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-con- tracted winter services personnel are available per shift? We have 19 airport-employed for the winter services and 4 employee’s subcon- tractors for the evacuation of the snow.

9.2 WHAT 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 swepper, SIDES VIM 60: 3 units, Jetbroom, sweeper and spreader, Boschung, 2 units, Snow blower, ZAugg, Rolba 600, 1 unit, Spreader, Schmidt, width spreading 24 m, 1 unit, Trucks with snow plow, unimog, 3 units, Snow blowers, 2 units.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (run- ways, taxiway, aprons etc) stating identity of each facility: We have 2 teams: one for the runways and taxiways and one for the aprons. For the runway and taxiway’s team, the priority is the main runway and its taxiways. For the apron’s team, the prior- ity depends of the movements of planes.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Be- fore each intervention, all vehicles are full fuel and full de-icing. Before each season’s winter, all employed- airport are trained about the vehicle’s driving with its equipments. We have some instructions about the method of clearance of runways, taxiways and aprons.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 1 hour.

12. EXPERIENCE WITH CHEMICALS

12.1. State which pavement de-icers you use, along with the quantities used last season. Com- ment on effectiveness of chemicals at low tem- peratures and achieved holdover times etc: We have runways and aprons in concrete and taxiways in macadam. Last season, we used 142,2 litters of liquid de-icing and 10 tonnes of solid de-icing. We use solid de-icing only with ice or risk of ice- rain. We use liquid de-icing in the others situ- ations and by low temperatures.

12.2. Comment on storage capabilities of the chemi- cals that you use: We have 2 tanks of 50 000 litres and we stock on site 6 tonnes of solid de-icing.

12.3. Comment on your experience with solid de-icers, for example mixing ratios with liquids, “low-away factor” etc: The solid de-icing is always used with liquid de-icing in order to paste on the ground. Our ratios are: Liquid 20 g/m2, Solid: 40 g/m2.

12.4. Have you experienced any corrosion prob- lems with de-icers? Our de-icing products are very corrosive. All our equipments (tank, pipes, …) are in stainless steel or polymer.

12.5. Have you experienced difficulties on how to economise on chemical use? We check our spreaders each year by the builder.

12.6 Do you have any other comments on experience with chemicals? No.

12.7 Do you use other chemicals or means of operational methods for de-icing?

14. AIRCRAFT DE-ICING

14.1. Does the airport directly provide aircraft anti- de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No.

14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No.

14.3. Is glycol recovered? If so, please state methods: We’re sweeping and aspir- ing area every 2 hours on average.

15. FRICATION TESTING

15.1. What model(s) of friction tester do you use? We have 2 SARYSYS SFT.

15.2. Have you any comments on the reli- ability 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 equip- ment or vehicles? If so, please provide details: Not for this new year 2012.

16.3 Do you currently have equipment or other products on order? If so, please provide details regarding manufacturer, type, quantity and its availability: No.

16.4 Do you have any winter services equip- ment which you would like to sell? No.
5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Radio communication, and special cal. 2 and 3 procedures. 5.2 Describe any changes being undertaken to ensure the continued safety of your airport? The use of 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, the vehicle has a water capacity of 11,000 litres and 1,000 litres foam concentrate. Acceleration from 0-80 kph in 25 sec. 1987. Two Scammell Nabian 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.

5.2 Future developments – are there plans to purchase or dispose of any equipment? We have ordered two new Panther 6x6 to be delivered in October 2011. Training of staff has begin in November 2011, and we expect to have them in operation January 2012. 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We are not in possession of a simulator, but we often frequent other airports that are in possession of a Mock-Up simulator.

PART 2: WINTER SERVICES QUESTIONNAIRE

6.1 Please detail your CFR vehicle inventory stating: For example: compact jet sweeper, Schmidt, CIS 720, 4 units): Blower sweeper, Schrödinger P 12, 3.3m/23 km/h, 6 units; Snow plough, Mercedes, 3m/220 HP, 1 unit; Tractor/sweeper, Stensballe, 3m, 2 unit; Tractor/flushes, Voleo 320, 2 units; Snow plough, Belhach HS 230, 1600 T/h, 1 unit; Snow plough, Schmidt VF3, 2000 T/h, 1 unit; Tractor/trashers, Danline, 2.6m, 1 unit; Tractor/trashers, Stensballe, 2.6m, 1 unit; Tractor/trashers, Kubota, 1.5m, 1 unit; Sand, Epoke ITM 35, 1 unit, Sand spreader, Epoke SKE2000, 2m, 1 unit; Tractor/trashers, Partner, 2.5m, 1 unit; Tractor/trashers, Stensballe, 2.5m, 1 unit; Loaders, BBA, 1m, 1 unit; Wheel Loader, CASE 695, 2.5 m, 1 unit; Rw Liquid/Epoke Runway, 15m/30k/m/5500, 1 unit; Solid De-icer, Combi 450 2T, 15m/30k/m/v3 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 buy Delta / Kilo, 2. RWY F00trot, 3. Apron, 4. RWY’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 a 4-6 sweepers from the edge of runway and across the centre line to a distance of approx 400m 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. 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 used as the main de-icing anti-icing material on RWY and TWy’s, but we have to remove a thick layer of black ice, it is allowed to use Aviform Solid. Used quantities of Aviform Liquid last season: 330 tons. Used quantities of Aviform Solid last season: 168 tons. Aviform Solid and Aviform Liquid are used on apron. We use more Aviform Solid in order to extend the holdover time, with a good result and saving Aviform Liquid, especially in situations with ice and heavy snow.

12.2 Comment on storage capabilities of the chemicals which you use: No storage problems.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: We have not had any problems with “blow-away”, but we have had some problems with moistening of the dry matter to a degree where the holdover time became acceptable.

12.4 Have you experienced any corrosion problems with de-icers? We have corrosion on parts of the de-icer vehicle and on lamp. We have never had corrosion problems with Urea.

12.5 Have you employed any special means to economise on chemical use? It is very important to know exact surface temperature and weather forecast.

12.6 Do you have any other comments on experience with chemicals? All the new chemicals seem to be corrosive – and very expensive in use.

12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Ice warning system, own construction. Sensors: 4 m/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 use of ice warning systems the benefits/disbenefits of ice warning systems: It saves chemicals and is a very efficient tool.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-icing operations? If so please state vehicle or other facility manufactures, and number of units. Liquid de-icer, own, 23m/0000 l., 1 unit; Mu / Vesteråld, 11m/5000 l., 3 unit; BETA/Vesteråld, 13.5m/5000 l, 2 units.

14.3 Is glycol recovered? If so, please state methods: De-ice platform with recovery tank. From the tank the glycol is pumped to a mobile tank, and transported to the municipal sewage treatment plant.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? Skidometer BV-11.

15.2 Have you any comments on the reliability of friction index? No, from Aviform 50.

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: No.
including manufacturer and number of units: No. 16. Do you have any winter services equipment which you would like to sell? Yes.

BRATISLAVA

PART I: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Airport Bratislava

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Runway declared distances: RWY 13: TORA 2950 m, TODA 3010 m, ASDA 2950 m, LDA 2950 m, RWY 04: TORA 2900 m, TODA 3200 m, ASDA 2900 m, LDA 2900 m, RWY 22: TORA 2900 m, TODA 2960 m, ASDA 2900 m, LDA 2900 m. Runway width: RWY 04/22: 60 m, RWY 13/31: 45 m + asphalt shoulders 7.5 m on each side. Runway bearing strength: RWY 04/22: PCN 54/R/B/X/T, RWY 13/31: PCN 50/R/B/X/T, total apron: PCN 50/R/A/X/T, total apron width and bearing strength: TW A: 24.4 m PCN 48/R/A/X/T or PCN 54/R/A/X/T, TW B: 22.5 m PCN 30/R/A/X/T, TW C: 22.5 m PCN 54/R/A/X/T, TW D: 22.5 - 24.4 m PCN 54/R/A/X/T or PCN 30/R/B/X/T, TW F: 22.5 m PCN 48/R/A/X/T, TW G and GG: 22.5 m PCN 50/R/B/X/T, 2.2 Landing aids for each RWY (e.g. CAT II): RWY 04: non-precision APP only, RWY 22: CAT I, RWY 13: non-precision APP only, RWY 31: CAT IIIA.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes. A little changes following the reappraisal of risks and hazards identified by internal/external SMS audits. Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? We preferred “No-Penalty” principles of reporting on safety incidents. The safety incident reports are collected and they are regularly updated on in-tranet of our company. Further, the airlines and other company which have base on the Bratislava airport and to report about all the incidents.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

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

a) Training of staff and any internal operational document.
b) Inspection by airline, airport, and airline handling agency personnel: Inspection of movement area by airport personnel (airport dispatch, maintenance, ramp handling) during the regularly inspection or internal audit.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Our company uses the sweeper, rumble strip, jet blower (only in exceptional conditions) and FOD containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Our company cooperates with other handling agents which use the airport, and with personnel of the airline, which have the base on the Bratislava airport.

4.2 General: Are there any specific systems or software solutions you employ for FOD control? (Please specify product name and add any comments): no.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? The control of vehicle and aircraft movements by the TWR controller assistant (local ANS provider) is the main method of controlling the movements. Are any design or engineering changes being undertaken/reported to eliminate perceived hazards? For a consideration conclusion of the investigation the runway incursion in 2009, was implemented the changes of the traffic order the Bratislava airport.

5.3 What safety management plans are currently employed? (A) SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Procedural control of the vehicles on the movement area. 5.4 Common problems on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: The airport is equipped by the runway guards light and the STOP bars on the primary RWY (13-31) according to the requirements of provision L 1.4, 1.Volume (the national provision of ANNEX 1.4, 1.Volume).

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? The all personnel which wants drive the vehicle on the movement area must success- fully passed the airport traffic order course.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties ac- tive in these processes? Further, do they safeguard the ‘non-purist’ principles such as ‘no-penalty’ reporting? We preferred “No-Penalty” principles of reporting safety incidents. The safety incident reports are collected and they are regularly updated on intranet of our company. Further, the airlines and other company which have base on the Bratislava airport and to report about all the incidents.

6. BIRD AND WILDLIFE CONTROL

6.1 Do your staff attend recognised bird control training courses? Falconry and hunting have made Falcon hawkers, who in the performance of scaring properly design an organizational norm. 6.2 Do your staff attend recognised bird control training courses? Falconry hunting have made Falcon hawkers, who in the performance of scaring properly design an organizational norm. 6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): The airport employs secondary education done by falcons hunting with a falcon test. The condition is a good exam discern all kinds of birds. In addition, the airport employs university-trained birdsologist who methodically directs the activities of prevention and scaring.

6.4 Do you carry out a bird strike risk assessment? Airport staff regularly monitor species composition occur- ring in birds, their numbers in the different periods of the year and the date and cause of their presence. We also follow the birds with animals, identify the type of animal that caused the conflict. These data are then assessed level of risk with respect to the number of movements.

6.5 Do you staff log all their bird control activities to maintain a log of the bird control activities? To maintain a log of the bird control activities? To maintain a log of the bird control activities? Are any staff trained to the number of movements.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? The airport is fenced all around, so the deer do not have access to the area. Deer can get only in case of damage to fencing, in which case the fencing repaired immediately and if they get into the area that is chased out of the airport area. Problems sometimes arise with the rabbits at night. During the day they are put out hunting dogs, or trained hunting predators.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Type of vehicle: CAS – 70; Chassis: SIMON; Axles: 6X6; Water (L): 12,500; Foam: (L) 1,500; Powder: (kg) 250; Year: 1995. Type of vehicle: CAS – 60; Chassis: SCANIA; Axles: 6X6; Water (L): 8,500; Foam: (L) 500; Powder: (kg) 200; CO2 (kg) 60; Year: 2019. Type of vehicle: CAS – 32; Chassis: TATRA; Axles: 6X6; Water (L): 8,200; Foam: (L) 800; Year: 1989. Type of vehicle: CAS – 32; Chassis: TATRA; Axles: 6X6; Water (L): 8,200; Foam: (L) 800; Year: 1989. Type of vehicle: CAS – 60; Chassis: SIMON; Axles: 6X6; CO2 (kg) 1,500; Year: 1989.

7.2 Future developments – are there plans to pur- chase or dispose of any equipment? We are planning to purchase a special airport fire truck with a charge: approximately 10,000 euros, which have adequate amounts of foam and powder fire in the year 2012.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Our airport does not have a simulator for training firemen. Training is pro- vided at the airports in Vienna and Frankfurt.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of win- ter readiness? 1 December to 31 March.

8.2 Average annual days of snow: 39 days.

8.3 Average snow depth: 1.41cm.

8.4 Maximum snow height in 24 hours: 10cm.

8.5 Average annual number of days of de- icing activities: 30 days.

9. WINTER ORGANISATION

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

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS T20, 4 units): Jet sweepers: BUCHER Schörling P21-6 units, Schörling P12-2 units, BUCHER Schörling P21C-1 unit. Snowblowers: BUCHER Rolba 1500-1 unit, MB Unimog Schmidt-1 unit, Zetor Nová Paka-2 units. De-icing spreaders: T-Rex 10m-1 unit, Giletra 10 CBU-1 unit, T-815 FLEX-1 unit, Kuhn 3000-1 unit, Š-706 Nová Paka-2 units. Snow plough: Zaubg 6m-6 units, Beilhack 4m-1 unit, Traktors plough-8 units.

11. PROCEDURES AND METHODS

11.1 Please state how your airport ensures snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Priority:RWY, TWA, APRON, fire house, landside termi-
nails, approach roads to petrol station and store, ap-
proach roads to radio navigation equipment, parking.
11.2 State the vehicles, names of gen-
eral method of runway, taxiway and apron clear-
ance; RWY: Mechanical clearing of surface with combi
sno snow sweepers (plough + sweeper + air
blower) in arrow chain formation 5-7 units, if then
required, application of de-icing material.
TWA + Apron: mechanical clearing only. Chemical
fluids application on critical friction movement.
11.3 After moderate snow, how quick-
ly do you expect to achieve “black top”
on the runway? approx. 30-40 min.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along
with the quantities used last season. Comment
on effectiveness of chemicals at low tempera-
tures and achieved holdover times etc; Transheat
(liquid -18,7C) -125tons- short reaction time.
Urea (pall -5C) -53tons- 15-20min. Tech. salt
(-5C) - 19 tons -10min (not for Airside).
12.2 Comment on storage capabili-
ties of the chemicals that you use: Liquid
max: 92,000 ltr. Pall max: 55 tons.
12.3 Comment on your experience with solid
de-icers, form of application with liquids, “blow-away factor” etc: No solid de-icers in use.
12.4 Have you experienced any corrosion prob-
lems with de-icers? Corrosion effects on metal.
12.5 Have you employed any special means to
economise on chemical use? Personnel trained
yearly on handling & economic usage of fluids.
12.6 Do you have any other comments
on experience with chemicals? No.
12.7 Do you use any de-icers or
sand on operational areas? No.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: Vaisala.
13.2 Have you plans to purchase fur-
ther ice warning systems and if so, which
model(s)? Boroma by Boschung.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Vaisala has not had active sensors. Bor-
oma has not had visibility sensors.

14. AIRCRAFT DE-ICING
14.1. Does the airport directly provide aircraft anti/de-
iccing operations? If so, please state vehicle or other
facility manufacture, and numbers of units: Airport
BTS directly provide aircraft de-/anti-icing operations.
14.2. Are any design or engineering changes be-
teing 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.
14.3 What is your procedure related to cold?
(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.
14.6 Does your airport have problems with other
wildlife (sheep/deer, for example) and, if so, how
are these issues being addressed? Field rabi-
bits. Control by state approved hunting on a
yearly basis and daily / weekly monitoring.

15. BIRD AND WILDLIFE CONTROL
15.1 Do your staff attend recognised
training courses? yearly Training for mechanics,
and awareness among pilots, controllers, mechan-
s, signage and lighting installed iaw. ICAO
ANNEX 14. RWY guard lights are installed.
15.2 What specific procedures are there for training
and awareness among pilots, controllers, mechan-
s, aircraft vehicle operators, and other people who
work at the airport? Yearly Training for mechanics,
aircraft vehicle operators, and other people who
work at the airport (instructions, wireless-communications etc). Airport duty manager at airport traffic
center, is this available to other airports for
training purposes or to purchase any of equipment? No.
7.3 If your airport possesses a Fire Training
Simulator, is this available to other airports for
training purposes? Fire Training Simulator Train-
ing procedure externe in Rotterdam and FRA.

16. BIRD AND WILDLIFE CONTROL
16.1 Please detail your habitat management policy and how
it reduces the attraction of the airborne to birds.
16.2. Do your staff attend recognised
bird control training courses? Yes, inter-
nal trainings (on the job training).
16.6 Are your bird control staff working on
the airfield continuously? No, only the bird con-
trol staff is employed by the airport and famil-
lar with the area and airport procedures.
16.7 What specialist equipment do you employ for bird
control? (Recorded distress calls, py-
rotechnics, shotguns, dogs, lasers, falcons).

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

9. WINTER ORGANISATION
9.1 How many airports employ winter services
personnel are available per shift? Ca. 15.
9.2 How many sub-contracted winter services
personnel are available per shift? Sub-contracted
winter services personnel.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other
relevant winter equipment stating purpose, manufac-

BREMEN

CITY AIRPORT BREMEN

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Flughafen Bremen GmbH
2. MOVEMENT AND MANOEUV-
RING 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
(TOR), RWY width, shoulder widths, total apron area,
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: 1. RWY 09/27, 2. TWy’s A, F, C (CATIII-TWys), 3. Aprons (Ramp 1, Ramp 2), 4. Other TWys, 5. Other Movement Areas.
11.2 State which de-icer and in 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 LSO. YARA Aviform S Solid. Very good effectiveness! [low temp. and holdover time]. Very effective with short reaction time; holdover time is weather dependent after application. 12.2 Comment on storage capabilities of the chemicals which you use. Max 80m³ Fluid (LSO) 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-ics? No, we have not.
12.5 Have you employed any special means to economise on chemical use? Yes, we have, user information how to handle Anti- De-icing Procedures in the BRE-Winteroperation – Handbook. Personnel trained yearly on handling and economic usage of fluids and solids. 12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? Sand: in extreme situations only. But not for the RWY!

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems. In BRE not available.

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

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? SHH (Skiddometer High Pressure) BV 11 with Computer MI 90.
15.2 What are the reference values between friction tests? 1-10 times/day or more. As required depending on traffic and weather conditions.
15.3 Have you any comments on the reliability of friction indexes? Friction coefficient – Reporting in conditions like specially 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 air-port’s methods? (snow clearing vehicle formations, for example) No changes intended for now.
16.2 Are there areas of your winter operations which require improvement? No changes intended for now.
16.3 Do you plan to purchase new equip- ment or vehicles? If so, please provide details. Airport operations is always evaluating potential for new vehicles and equipment.
16.4 Do you currently have equipment or other produc- ts on order? If so, please provide details including manufacturers and equipment.
16.5 Do you have any winter services equipment which you would like to sell? No, we have not.

INTRODUCTION
b) Inspection by airline, airport, and airplane handling agency personnel: 4. Airdrome operator, FOD 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 FOD bins installed near each aircraft stand and preven- tion on tool management for our partners available.

d) Coordination 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 com- ments) Reviewed FOD action plan and trend monitoring system being under construction.

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual observation, SMR, Multilateration, Radio contact.
5.2 Are any design or engineering changes be- ing undertaken/required to eliminate perceived hazards? Use of stopbars 24H. Renewing 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 MMSAS are about to be implemented. Air- port 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 RW line-up confusion between RW 25R and RW 20. Use of stopbars 24H.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? RT and standard ICAO phrseol- ogy course in aviation English for vehicle drivers. Procedure: Driving on the maneuvering area – take a safe start. Refresher courses and awareness campaigns, safety management program. Implementation of the “European Guidelines for the Prevention of Runway 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’ report- ing? The Civil Aviation Safety Occurrence Report- ing 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. Brus- sels Airport has implemented a voluntary reporting system, available online via www.brusselsafety.be.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airborne wildlife: Long-term measures: 6.2 Are your bird control programmes designed to reduce the attraction of the airborne wildlife: Long-term measures: 6.3 What specialist equipment do you employ for bird
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:

<table>
<thead>
<tr>
<th>CFR VEHICLES INVENTORY STATING:</th>
<th>FGK 4105, Kronenburg chassis, 8x8 axles, 16.000 litre water</th>
<th>3.000 litre foam, Monitor-output: 4.000 – 7.000 L/min, bumber turret-output: 2.000 L/min, 1997.</th>
</tr>
</thead>
<tbody>
<tr>
<td>KR50.1100.60.Bx8, Kronenburg chassis, 16.000 litre water</td>
<td>1.000 litre foam, 500 kg powder, Monitor-output: 3.000 – 6.000 L/min, bumber turret-output: 1.000 L/min, Monitor-output powder: 15 – 30 kg/sec.</td>
<td></td>
</tr>
<tr>
<td>KR50.1125.10 axle, 8x8 axles</td>
<td>Powder output: 300Kg/min (snozle), 2007.</td>
<td></td>
</tr>
<tr>
<td>KR50.1100.60.Bx8, Kronenburg chassis, 16.000 litre water</td>
<td>1.000 litre foam, 500 kg powder, Monitor-output: 3.000 – 6.000 L/min, bumber turret-output: 1.000 L/min, Monitor-output powder: 15 – 30 kg/sec. 2000.</td>
<td></td>
</tr>
<tr>
<td>TL 80/125-15+250P Z6 “Advanceur”; Thomas chassis; 6x6; 12.500 litre water; 1.500 litre foam</td>
<td>250 kg powder; Monitor-output: 3.000 – 6.000 L/min, bumber turret-output: 1.200 L/min, 2010.</td>
<td></td>
</tr>
<tr>
<td>7.2 Future developments – are there plans to purchase or dispose of any equipment? No.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.3 If you possess a Fire Training Simulator, is this available to other airports for training purposes? No Fire Training Simulator.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PMT 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS
8.2 Average annual days of snow: 7 days.
8.3 Average snow depth: ± 3 cm.
8.4 Maximum snow in 24 hours: ± 15 cm.
8.5 Annual number of days of de-icing: 14 days.
8.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Rabbits, other wildlife hunting is organised.

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

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJ5 720, (4 units)

| Convoy 1: Compact jet sweeper Schmidt TJS-C500, 4 units, Convoy 2: Schmidt Supra 5000 snow blower/cutter, 2 units, Convoy 3: Schmidt ASP12000 on Actros, 2 units, Convoy 3: Compact jet sweeper, Schörling CJ520, 2 units, Convoy 4: Compact jet sweeper, Schmidt CJ5 720, 2 units, Convoy 5: Multi purpose vehicles, LADOG, 4 units, Convoy, S. Schmidt RSP3000 on Unimog, 1 unit, Convoy 6: Spreader, S. Ardena on Mercedes, 1 unit, Convoy 7: Nido Stratos on Atego, 1 unit, Convoy 8: Activecon, on Man, 1 unit. |

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: Snow clearing according to one of two predefined minimum airport scenarios: Minimum airport 25R/ 07L: RWY: 25R / 07L; Entries: A1, A7, A1, B1, B6, F5, W4, Exits: B7, B9, P1, TWY: OUT1, IN2N-10, OUT6, Z; Intersections between RWY exits, entries and TWY listed above. Minimum airport 02R / 20W: RWY / 02L / 20R; Entries: P7, C6, D2, Exits: B1, E6, E5, TWY: IN2N-10, Z; Intersections between RWY, exits, entries and TWY listed above. In parallel with the cleaning of the minimum airport, one convoy (5 vehicles) focuses on individual stand cleaning, priorities defined according to stand allocation planning. After cleaning of minimum airport main aprons, cargo apron and other TWY are cleaned in function of priority and needs (defined with ATC and Airport Inspection).
11.2 State the vehicles, formations and general method of runway, taxiway and apron cleaning: Snow removal is performed according to standard minimum airport scenarios. The choice in scenario is based on weather conditions, priorities and the status of the airport. Each type team consists of 5 convoys (composition see question 10.1). Each convoy carries its own particular tasks within the scenarios, catching their capacities and limitations. On top of the scenarios, standard procedures have been developed for snow removal on each part of the airport (RWY, TWY exits, TWY intersections, RWY intersections and apron).
11.3 After moderate snow, how quickly do you expect to achieve “black top” on the runways? One day after a moderate snowfall.

12. EXPERIENCE WITH CHEMICALS
12.1 State what pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures. Which de-icing positions or do you de-ice on the parkings? It is done by handling companies.
12.2 Comment on storage capabilities of the chemicals that you use: Liquids: 220.000 L. Solids: ± 500.000 L; no critical limitations: bought in bulk and stored in hangar. Road salt (applied landside and service drives airside): 168 ton (264 ton as of December 1st). 12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. See question 12.1. 12.4 Have you experienced any corrosion problems with de-icers? Only on galvanized equipment, not on aircrafts.
12.5 Have you employed any special means to economise on chemical use? GPS is used to economise on liquids. Discussions with supplier are ongoing to fine-tune concentration politic.
12.6 Do you have any comments on the benefits/disbenefits of ice warning systems? It is helpful as an indicator.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: Varisala iceviewer 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 name of airline or other facility manufactures, and number of units: No. It is done by handling companies.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? It is done on both, on a dedicated de-icing area and on aircraft stands.
14.3 Is glycol recovered? If so, please state methods: No.

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

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

BUDAPEST

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Budapest Liszt Ferenc International Airport
2. MOVEMENT AND MANOEUVRING AREA DATA

| RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 13L/31R: TORA / LDA: 3707 m, Width: 45 m + 7.5 m shoulders on both side: RWY 13R/31L: TORA / LDA: 3201 m, Width: 45 m + 7.5 m shoulders on both side: RWY system: width: 23m, except A1 is 19m. All taxiways have paved shoulder with 3.5 m width, 2.2 Landing aids for each RWY (e.g. CAT II); RWY 13/31/R CAT II operations are available on 13L and CAT II/a on 31R. RWY 13R/31L: CAT II operations are available on 13R and 31L as well.

3. SAFETY MANAGEMENT SYSTEMS

| The CAD Manual 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 system following the reappraisal of the benefits, other SMS audits? The first edition of SMS manual for Budapest Airport was published in January 2010 following the structure.
recommened by ICAO. From this time all relevant process is following the SMS system included construction works, and new procedures. The system running well, no recent changes are planned.

4. FOREIGN OBJECT DAM-
AGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control Foreign Object Damage (FOD).

a) Training: FOD awareness campaigns periodi-
cally, FOD leaflets are circulated periodically also.
The FOD is a part of all kind of movement area safety trainings included handling companies, airport operator and subcontracted partners as well.
b) Inspection by airline, airport, and airline handling agency personnel; The FOD is a rel-
vant part of the daily inspection routine of Airfield staff. Every month an FOD collection is organized by the Airside management together with EHS team as well. Before and after the winter sea-
on an overall “FOD-Fishing” is organized.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc); Two “Apron sweepers” are in operations following a daily routine. These sweepers are equipped with magnetic bars.

There is weekly taxiway cleaning program using the Schmidt Jet-sweepers without plough. All defined
rumble strips, FOD containers etc): Two “Apron
sweepers” are in operations following a daily routine. These sweepers are equipped with magnetic bars, rumble
strips, FOD containers etc.

d) Co-ordination of multiple agencies us-
ing airport (airlines, handling agents etc); The FOD is a topic of monthly Airside Safety meetings defining the results and in-
forming all relevant airside users.

4.2 General: Are there any specific systems or software solutions you employ for FOD control?

(Please specify the vendor and add any com-
ments): Magnetic collectors for the sweepers.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground?

A-SMGCS was implemented by the ANSP to monitor all kind of traffic. All vehicles on the manoeuv-
ring area equipped with Squad by ERA system.

5.2 Are any design or engineering changes be-
ing undertaken to reduce the probability of runway hazards?
All runway holding points are indicated by Runway guard lights, and stop bars. The RETs are equipped with permanent stop bars. The safety strip of runways are marked by poles.

5.3 What maintenance is applied on the runway?

(A-SMGCS; Airport Movement Area Safety Sys-
tem - AMASS; or ASD-E, the Model X Airport Surface Detection Equipment); A-SMGCS.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other
lower-cost technologies: Airfield safety publica-
tions; High visible signs; NO ENTRY markings; H24
operations of RGLs; permanent stop bars on RETs.

A “RWY AHEAD” sign was painted at the most critical RWY holding point, (A1).

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechan-
ics, airport vehicle operators, and other people who work at the airport? All relevant companies included ANSP Handling companies underline the importance of runway safety. Maneuvering area inspections and maintenance procedures are in force published and defined in the manual. Awareness campaigns, trainings for mechanics and maintenance workers regularly organized.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other partners and the relevant agencies? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? The data sharing and a joint investigation process are established.

The information is continuously shared between partners as part of the regular IRST meetings.

6. BIRD AND WILDLIFE CONTROL

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
scarecrows, gas cannons (Zon Mark 4). Traps and shot guns with pyrotechnics and normal ammo.

6.4 Do you carry out a bird strike risk assess-
ment? Twice a year by internal audit.

6.5 Do you employ a system of bird control activities (to
manage success in dealing with the problem, and to
use in defence in case of lawsuits)? Yes, detailed bird
log is in use, including all kinds of activities, actions.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Yes, the rabbit population is criti-
cal mainly is between sunset and sunrise. The bird team is using traps and guns to minimize the risk.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating:

vehicle type; chassis (e.g. MAN); axles (4x4, 6x6);
capacities (kg/litre and type); year of manufacture:

Foam, Chassis: Rosenbauer, Frame: Titan, Ca-
cacity: 5000 l/min, year of manufacture: 1984: Type:
Foam, Chassis: Rosenbauer, Frame: MAN, Capac-
y: 6000 l/min, year of manufacture: 1996: Type:
Foam, Chassis: Protector, Frame: Simon, Capacity:
7250 l/min, year of manufacture: 1993: Type: Foam,
Chassis: Rosenbauer, Frame: Freitliner, Capacity:
6200 l/min, year of manufacture: 2004: Type: Foam,
Chassis: Rosenbauer, Frame: Mercedes, Capacity:
7250 l/min, year of manufacture: 2007: Type: Foam,
Chassis: Rosenbauer, Frame: Mercedes, Capacity:
6000 l/min, year of manufacture: 2011: Type: Foam,
Chassis: Rosenbauer, Frame: Rosenbauer, Capacity:
6000 l/min, year of manufacture: 2011: Type: Water,
Chassis: Rosenbauer, Frame: Mercedes, Capac-
cy: 30000/l/min, Year of manufacture: 2011: Type:
Water supplier, Chassis: Rosenbauer, Frame: Actross,
Capacity: 100000 l/min, Year of manufacture: 2005:
Type: Water, Chassis: Rosenbauer, Frame: Mercedes,
Capacity: 2400 l/min, Year of manufacture: 2001: Type:
Water, Chassis: Rosenbauer, Frame: Mercedes,
Capacity: 2400 l/min, Year of manufacture: 2001: Type:
Water supplier, Chassis: Rosenbauer, Frame: Actross,
Capacity: 100000 l/min, Year of manufacture: 2005:
Type: Water, Chassis: Rosenbauer, Frame: Mercedes,
Capacity: 2400 l/min, Year of manufacture: 2001: Type:
Water supplier, Chassis: Rosenbauer, Frame: Actross,
Capacity: 100000 l/min, Year of manufacture: 2005:
Type: Water, Chassis: Rosenbauer, Frame: Mercedes,
Capacity: 2400 l/min, Year of manufacture: 2001: Type:
Water supplier, Chassis: Rosenbauer, Frame: Actross,
Capacity: 100000 l/min, Year of manufacture: 2005:
Type: Water, Chassis: Rosenbauer, Frame: Mercedes,
Capacity: 2400 l/min, Year of manufacture: 2001: Type:
Water supplier, Chassis: Rosenbauer, Frame: Actross,
Capacity: 100000 l/min, Year of manufacture: 2005:
Type: Water, Chassis: Rosenbauer, Frame: Mercedes,
Capacity: 2400 l/min, Year of manufacture: 2001:
Type: Water supplier, Chassis: Rosenbauer, Frame: Actross,
Capacity: 100000 l/min, Year of manufacture: 2005:
Type: Water, Chassis: Rosenbauer, Frame: Mercedes,
Capacity: 2400 l/min, Year of manufacture: 2001:
Type: Water supplier, Chassis: Rosenbauer, Frame: Actross,
Capacity: 100000 l/min, Year of manufacture: 2005:
Type: Water, Chassis: Rosenbauer, Frame: Mercedes,
Capacity: 2400 l/min, Year of manufacture: 2001:

7.2 Future developments – are there plans to

increase the number of CFRs? No, there are no plans to increase the number of CFRs.

7.3 If your airport possesses a Fire Training Simula-
tor, is this available for use by the public?

Below this temperature or in case of heavy wind
mixing ratio at -6 is X % Urea- y % Clearway. The CACL2 is aggressive and corrosive re-
tracts of the chemicals that you use: no.

12.2 Comment on storage capabili-
ties of the chemicals that you use: No.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “slow-away factors” etc: Till -4°C achieving holdover times etc: Urea (1268 t) and Clearway-1 (13220 l) on the airside, CaCl2 (138 l), Sand on the landside and other non-airfield areas.

Last season the most important experience was that the Urea was ineffective below -6 -8°C which had extremely high quantity of Clearway was used. This year the Urea is used more due to it’s effectiveness at lower temperatures.

12.4 Have you experienced any corrosion problems with de-icers? no corrosion problems were detected
with de-icers?

12.1 State which pavement de-icers you use, along
with the quantities used last season. Comment on
effectiveness of chemicals at low temperatures and achieved holdover times etc: Urea (1268 t) and Clearway-1 (13220 l) on the airside, CaCl2 (138 l), Sand on the landside and other non-airfield areas.

12.2 Comment on storage capabili-
ties of the chemicals that you use: No.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “slow-away factors” etc: Till -4°C achieving holdover times etc: Urea (1268 t) and Clearway-1 (13220 l) on the airside, CaCl2 (138 l), Sand on the landside and other non-airfield areas.

Below this temperature or in case of heavy wind
the mixture of Urea and Clearway must be used.

The mixing ratio at -6 is 5 % Urea- 95 % Clearway.

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

12.5 Have you employed any special means

5.2 Are any design or engineering changes be-
ing undertaken to reduce the probability of runway hazards?
All runway holding points are indicated by Runway guard lights, and stop bars. The RETs are equipped with permanent stop bars. The safety strip of runways are marked by poles.

5.3 What maintenance is applied on the runway?

(A-SMGCS; Airport Movement Area Safety Sys-
}
P20 AIRSIDE SAFETY SURVEY 2012

BURGAS

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, surface width of apron area – 195 250m2. Construction works in progress. Estimated apron area after extension – 222 885 m2.

2.2 Landing aids for each RWY (e.g. CAT

II): RWY 22 CAT II, ILS category I; RWY 04 CAT II, Co-located VOR/DME

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 this guidance? Have any SMS hazards been 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 continuously evolving process and internal audits ensure that improvements are made where necessary.

4. FORTIFICATION AND AGE (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. Airplane handling agencies 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: Instruments and 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 vehicle, including signs. Airport constantly upgrades infrastructure.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards?

5.3 What safety devices are currently employed?

a) Artificial birds or scarecrows: Work in progress, Airport Safety Department is working on the introduction of this method.

b) Visual control from ATC Tower. All vehicle, including signs.

5.4 How often is the visual control system inspected?

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and subcontractors 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 em- ployees with continuous 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

6.1 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, repetitive sounds to speaker to speaker at controlled speeds and intervals. Bird X megablast-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 crater blast-3. Digital harassment sounds imitate animal calls so they learn not to return. Bird deterrents are 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 reinforcing life long PVC which is stretched over an easily assembled steel and aluminum frame to create an S shaped aeroflot, which has a full stainless-steel wind vane. The wind vane will be eliminated with all necessary changes. The SMS is working at the movement area is obligatory. Automatic Scarecrow working with Propane or Butane Gas - “GUARDIAN-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.

6.2 Do your airport make any recent changes to its SMS? No. 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 ASDX-X, the Model X Airport Surface Detection Equipment) No specific safety devices are currently employed.

5.4 Construction of early warning radar or perimeter fence? No. Alternate early warning or active warnings or guards – use of paint, signs, lighting and other low-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 subcontractors 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 em- ployees with continuous radio communication ICAO phraseology for the staff who is working at the movement area is obligatory.

6.4 Do you have any winter services equipment that is recorded and airfield maintenance service is advised accordingly. A software is used for statistical purposes to check the stored recorded values.
PART 2: WINTER SERVICES QUESTIONNAIRE

11. EXPERIENCE WITH CHEMICALS

11.1 Please state here your order of priority of snow clearing activities: 20–30 days.
11.2 Please list specialist snow clearing, de-icing and sanding operations: 20–30 days.
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 2 hours.
11.4 Have you employed any special means to control FOD in terms of: a) Training: Training of personnel every 6 months. b) Inspection by airline, airport, and airplane handling agency personnel: Inspections by airport personnel: every 3 hours. 11.5 Do you plan to purchase new equipment or vehicles? If so, please state models. No. 11.6 Have you any other comments on experience with chemicals? No. 11.7 Do you use other chemicals or sand on operational areas? No. 11.8 Please list your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam1500 L Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam 1500 L Panther, Rosenbauer, 6x6 CA-05 Stinger, 11800 water, foam 1500 L. 11.9 Future developments – are there plans to purchase or dispose of any equipment? No. 11.10 Please state here your order of priority of snow clearing activities: 20–30 days.
11.11 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam1500 L Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam 1500 L Panther, Rosenbauer, 6x6 CA-05 Stinger, 11800 water, foam 1500 L. 11.12 What is the designated period of winter readiness? 15 Nov–30 Apr.
11.13 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam1500 L Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam 1500 L Panther, Rosenbauer, 6x6 CA-05 Stinger, 11800 water, foam 1500 L. 11.14 Please state the vehicles, formations and general methods of runway, taxiway, apron and clearway. Depending on current weather situation, wind direction and velocity–2 snow sweepers will clear the RWY along the whole width. 11.15 After moderate snow, how quickly do you expect to clear ‘black top’ on the runway? 2 hours.
11.16 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 cut at +1 degree this year.
12.2 Comment on storage capabilities of the chemicals which you use. Storage is no problem.
12.3 comment on your experience with solid de-icers, for example mixing ratios with liquid, ‘blow-away factor’ etc. We use separately liquid deicer – SAFEWAY KA HOT and solid de-icers. No experience with mixing ratios.
12.4 Have you experienced any corrosion problems with de-icing equipment? No experience with corrosion pathmns.
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. 12.8 Please list your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam1500 L Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam 1500 L Panther, Rosenbauer, 6x6 CA-05 Stinger, 11800 water, foam 1500 L. 12.9 Future developments – are there plans to purchase or dispose of any equipment? No. 12.10 Please state here your order of priority of snow clearing activities: 20–30 days.
12.11 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam1500 L Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam 1500 L Panther, Rosenbauer, 6x6 CA-05 Stinger, 11800 water, foam 1500 L. 12.12 What is the designated period of winter readiness? 15 Nov–30 Apr.
12.13 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam1500 L Panther, Rosenbauer, 6x6 CA-05, 12500 water, foam 1500 L Panther, Rosenbauer, 6x6 CA-05 Stinger, 11800 water, foam 1500 L. 12.14 Please state the vehicles, formations and general methods of runway, taxiway, apron and clearway. Depending on current weather situation, wind direction and velocity–2 snow sweepers will clear the RWY along the whole width. 12.15 After moderate snow, how quickly do you expect to clear ‘black top’ on the runway? 2 hours.
12.16 EXPERIENCE WITH CHEMICALS

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 to which order of priority? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. Good.
13.4 AIRCRAFT DE-ICING

14.1.4. Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other factors in your de-icing operations? Yes. DAF FMC-1 unit. We use ‘Clariant’ de-icing product, trade name-Safewing MP II 1951 airc.
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 your airport covered if so, please state methods. No. 14.5. 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. 14.6. FUTURE DEVELOPMENTS

16.1. Are you about to change any of your airport’s methods? Depends on the purchase of new equipment, afterwards also the change of technology and methods.
16.2. Do you plan to purchase new equipment or vehicles? If so, please provide details including manufacturer and number of units. 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 yet.
16.5. Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. No. 16.6. Do you have any other comments on planning which you would like to sell? not yet.
vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture; “Mercedes Benz” 6x6, 9000 litre of water and 1200 litre of foam solution, 500 kg dry chemical powders. Year of manufacture is 2008, 2 units.

7. Future developments – are there plans to purchase or dispose of any equipment? Rapid response design of equipment.

7.3 If your airport possesses a Fire Training Simula-
tor, is this available to other airports for training purposes? UWX does not possess any FTS.

PART 2: WINTER SERVICES QUESTIONS/ANSWERS

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of win-
ter readiness? November – April.

8.2 Average annual days of snow: 15-20 days.

8.3 Average snow depth: 4-6cm.

8.4 Maximum snow in 24 hours: 20cm.

8.5 Annual number of days of de-
icing activities: 15 - 25 days.

9. WINTER ORGANISATION

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

9.2 Do you have any winter equipment? 3.50 hours.

9.3 Have you experience with chemicals? no.

10. WINTER 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, CJ5 720, 4 units); Compact Jet Sweeper, Schmidt, CJ5 B14 1 MB, 3 units. Snow Clearing Schmidt Supra – 4001, 1 unit. Snow ploughs DE – 224A, 2 units. Thermal machine TM – 59, 1 unit. Spreaders for solid de-icing material – 2 units. Bulldozer, 2 units. Scrap-
kers 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 facil-
ity: 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, park-
ing positions. 3. TWy C2, cargo apron, roads.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Front centre (between TWy’s C1, aprons) to edges, depending on direction and intensity of wind.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 3.30 hours.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Com-
ment on effectiveness of chemicals at low tem-
peratures and achieved holdover times etc: Traditionally we use effective solids; AHC, HRMM (Russia), and liquid (Nordiks – P) de-icers.

12.2 Comment on storage capabili-
ties of the chemicals that you use: Accord-
ning to manufacturer recommendations.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: No experience in this field.

12.4 Have you experienced any corru-
ption problems with the 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 plan to purchase any new equipment or vehicles? If so, please provide details.

12.8 Do you currently have equipment or other products on order? If so, please detail including manufacturer and number of units: No.

12.9 Do you have any winter services equip-
ment that you would like to sell? 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 warn-
ing systems in the near future? If so, please state vehicle or model? No.

13.3 Comment on your experiences of the benefits/ disbenefits of ice warning systems: No experience.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/
de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No.

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

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

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? ASP, AMF-2, skidimeter BV11.

15.2 Have you any comments on the reli-
ability 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 equip-
ment that you would like to sell? No.

17. b) Inspection by airline, airport, and air-
line mechanics, airport vehicle operators, and other people who work at the airport? Yes.

18.4 Disbenefits of ice warning systems: no experience.

18.5 What specific procedures are there for train-
ing and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All controllers, mechanics, airport vehicle operators, and other people who work at the airport shall attend a CPH airside training course and pass the appurtenant test before they must drive or walk airside.

19.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties ac-
tive in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes.

20.5 What specific procedures are there for train-
ing and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All controllers, mechanics, airport vehicle operators, and other people who work at the airport shall attend a CPH airside training course and pass the appurtenant test before they must drive or walk airside.

21.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties ac-
tive in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? No.

22.5 What specific procedures are there for train-
ing and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All controllers, mechanics, airport vehicle operators, and other people who work at the airport shall attend a CPH airside training course and pass the appurtenant test before they must drive or walk airside.

23.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties ac-
tive in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes.

24.5 What specific procedures are there for train-
ing and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All controllers, mechanics, airport vehicle operators, and other people who work at the airport shall attend a CPH airside training course and pass the appurtenant test before they must drive or walk airside.

25.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties ac-
tive in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes.

26.5 What specific procedures are there for train-
ing and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All controllers, mechanics, airport vehicle operators, and other people who work at the airport shall attend a CPH airside training course and pass the appurtenant test before they must drive or walk airside.

27.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties ac-
tive in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes.

28.5 What specific procedures are there for train-
ing and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All controllers, mechanics, airport vehicle operators, and other people who work at the airport shall attend a CPH airside training course and pass the appurtenant test before they must drive or walk airside.

29.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties ac-
tive in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes.

30.5 What specific procedures are there for train-
ing and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All controllers, mechanics, airport vehicle operators, and other people who work at the airport shall attend a CPH airside training course and pass the appurtenant test before they must drive or walk airside.
PART 2: WININTER SERVICES QUESTIONS

1. What is the designated period of winter readiness?  Nov-Mar.
2. Average annual days of snow: 32.
3. Average snow depth: 10 cm.
4. Maximum snow in 24 hours: 42 cm.
5. Annual number of days of de-icing activities: 91.

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

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJ7 2.0, 4 units): Sweeper: 8 units Øvreaasen RS400, 8 units Øvreaasen SB470 and 7 units Øvreaasen RS200. Snow blowers: 1 units Schmitt slygge TS5, 1 units Øvreaasen TV 110-150-825S, 2 units Oshkosh H2T188, Highspeed, 1 units Viking UT. Tractors: 4 units John Deere, 2 units Lundberg Hymas 7200 LSE, 2 units Cate Cate Cate 2000 LS, 5 units Kubota 135 hk, 9 units Kubota 95 hk, 4 units Holder/Kubota, 2 units SAAB Friction tester, 2 units anti-icer Damman spreader (40 meter) and 1 unit Epsho: 1520 SW/SH/551, 3 units Nido Stratos spreaders.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: 1. Runways, taxiways and second- ary aprons, roads and parking areas. with affiliated taxiways, de-icing platforms, apron and access roads from fire stations. 2. Second ILS runway with affiliated taxiways 3. Remaining.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: On runways and adjacent taxiways we normally use 12 sweepers, 2 blower and 2 multi de-icer. Runways are cleared in full length. A column of snow clearing equipment typically consists of a foreman in a leading car, 12 sweepers, 2 blower and 1 de-icer Damman (40 meter). To minimise operational disruptions, all operations on the runway system are coordinated by the snow clearing supervisor, who coordinates with the ATWR. The clearance operation is controlled by a foreman who maintain the radio contact with TWR. A cycle of snow clearing on a runway with adjacent taxiways, de-icing measures and friction testing may take from 15-20 minutes, depending on snow quantities, type of precipitation, runway-in-use, wind direction and speed, etc. Then the runway surface is checked by inspection foreman in a SAAB Friction tester, and then the column moves on to the adjacent primary taxiways. If the friction coefficient is below 0.4 on the surface, formate is sprayed on the runways and taxiways. Then the next taxiways and adjacent taxiways are cleared and subsequently checked.

APRON CLEARANCE: Snow clearance on aprons are coordinated between ATWR and the snow clearance supervisor, who is responsible for snow clearance on behalf of the airport, arranging the snow clearance operations in close contact with the handling companies and other operators. Snow clearance is led by a foreman, who coordinates the actions with ATWR and the snow clearance supervisor. The snow clearing team consist of 4 sweepers and up to 25 tractor-brushes/ploughs. Snow is removed from the apron by tractor-brushes/ploughs to the snow dump.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 15–20 min.

12. EXPERIENCE WITH CHEMICALS
12.1 Which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of the chemicals and achieved holdover times etc: The chemicals used Aviform L50, provide high efficiency and quick result. Aviform S-Solid shows less dust and better performance and low blow-away factor. It shows as well a shorter holdover time. Quantities used last year: Aviform L50 = 1,200,000 L. Aviform S-Solid = 235,000 kg, 12.2 Comment on storage capabilities of the chemicals that you use: Liquid de-icer is stored in 2 x 55,000 liters tanks, S-Solid in stock 30,000 kg, 12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Aviform S-Solid is mixed 50–50 % with Aviform to avoid “blow-away” and provide high efficiency. Experience has shown, it is important to mix Aviform L50 and Aviform S in ratio 1:1, 12.4 Have you experienced any corrosion problems with de-icers? We have not experi- enced 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 50% water in use in non Aircraft zones. 12.6 Do you have any other comments on experience with chemicals? We are test- ing the use of Aviform L52 – 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 condi- tions, the snow clearing supervisor can decide to use snow salt on parking areas.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: The Ice Warning System of Copenhagen Airport – Kasstrup 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 Den- mark. Data is viewed via the internet. VelVejr.
13.2 Have you plans to purchase further ice warn- ing systems and if so, which model(s)? 24-hour forecast module is added 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 or aircraft de-icing it is provided by handling agents.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/ de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units: No - aircraft de-icing it is provided by handling agents.
14.2. Are you required to have dedicated de- icing positions or do you de-ice on the parking area? We have dedicated de-ice positions.
14.3 Is glycol recovered? If so, please state methods: Drainage system in connected with de-icing platforms. Used glycol is collected in tanks and transported to local authorities for use in their plants. No re-use at the airport.
15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? 2 units of SFH Saab friction tester.
15.2 Have you any comments on the reli- ability of the friction testers? Full reliability.
16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? Different methods, different patterns are used. Example: SFH Saab friction tester.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Air- side Operations is continuously looking at new vehicles and equipment. No comment.
16.3 Do you currently have equipment or other prod- ucts on order? If so, please state manufacturer and number of units: No comment.
16.4 Do you have any winter services equip- ment that you would like to sell? No comment.

DORTMUND
PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Dortmund Airport
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary opera- tional facilities and the surface areas: (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY length: 2000m; 92,700m². RWY width: 45m. TORA: 5757ft. TW Y/A/C/D/M: 23m. TW B: 15m.
2.2 Landing aids for each RWY e.g. CAT II: RWY 06: CAT II. RWY 24: CAT II.
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System (SMS) with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. Practically running, for official introduction we are waiting for government response; Runway safety team has regular meetings. SMS Software is installed and in use.
3.2 Has your airport made any changes to its SMS following the recent renewal of digitization and hazard- identifications by internal/external SMS au- di ts? No changes necessary until now.
4. FOREIGN OBJECT DAM- AGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training: Staff concerned with removal of FOD objects as well as inspecting the movement areas are trained yearly.
   b) Inspection by airline, airport, and airline handling agency personnel: Inspections are done by airport duty manager and handling agents.
   c) Maintenance (use of sweeping, mag- netic bars, rumble strips, FOD containers etc): Airport uses FOD-BOSS and sweep- ers, FOD bins at every parking position.
   d) Co-ordination of multiple agencies using airport (air- lines, handling agents etc): Coordination and reporting done by duty traffic manager at airport traffic center.
4.2 General: Are there any special systems or soft- ware solutions you employ for FOD control? (Please specify product name and add any comments): FOD rounds are documented in SMS software.
5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Aircraft and vehicle movements are controlled and coordinated by local ATC (TWR) governed by memorandum containing applicable process instructions for airspace of airport.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Hazards will be eliminated with all necessary changes.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety Sys- tem - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Aircraft movement controlled by low visibility operations (CAT II) is accomplished by an active taxiway lighting guidance system with intermediate holding position mark- ings and lights, stop bars and induction queues.
PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Dubrovnik Airport Ltd

2. MANAGEMENT AND MANOEUVRING ARENA 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: 3300m x 45m, TORA 3300m, TODA 3300m, ASDA 3300m, LDA 3150m, RW30: 3300m x 45m, TORA 3300m, TODA 3300m, ASDA 3300m, LDA 3300m.

2.2 Landing aids for each RWY (e.g. CAT-II, RWY12: CAT II 900m V RBL LIH, PAPI 3 L/R, RW30: 5L 420m V RBL LR, PAPI 3 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 your SMS? Have you made any changes to your SMS? No.

3.2 Do you plan to make any future changes to your SMS? No.

3.3 Do you have any other comments on experience with chemical safety? No.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme...
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual and radio communication method.

5.2 Are there any developments 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.

6.1 Please state here order of priority of snow clearing 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.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than daily? 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, multispall)es); 3 gas cannons (Guardian 2), pyrotechnics, shotguns.

6.4 Do you carry out a bird strike risk assessment? Yes, according to the data collected during daily monitoring activities and birdstrikes.

6.5 Do your staff attend recognised bird control training courses? No.

6.6 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.

6.7 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: ZIEGLER MAN (FL 60/91-11), 6X6, 9100 L-water, 1100 L/foam, year 2002. ROSENBAUER – OSP-HID (FM 10/100L, 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, year 2009.

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: yes, IECO – BLUMENBECKER 100E15, 1 unit.

7.2 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.

13.3 Comment on your experiences of the benefit/sidebenefits of ice warning systems: No.

14. AIRSIDE FIRE PROTECTION

14.1 Does the airport directly provide aircraft anti-deicing operations? If so, please state vehicle or other facility manufacturers, and number of units: No.

16.1 Are you about to change any of your airport’s methods? Yes.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

16.4 Do you have any winter services equipment that you would like to sell? No.

DUSSERSDORF

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): Runway System: 4; Southern Runway: 3760m; Northern Runway: 50L/R23R, 2,700m; Apron: 722,329m².

2.2 Landing aids for each RWY (e.g. CAT II): 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? NOSIG.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

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

- a) Training: Permanent advising for Beginners.

- b) Inspection by airline, airport, and airplane handling agency personnel: Head loader-Loaders-Ramp Agent-every Person involved in Aircraft Handling.

- c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Sweeping bars, FOD Containers.

- d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Duty Traffic Manager.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Automatic detecting in Test, Singapore CORP Airport.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Traffic supervision by Instructors (Marshall) & Duty TRAFFIC Manager.

5.2 Are any design or engineering changes being undertaken/ required to eliminate perceived hazards? Point system at violations of the aerodrome rules.

5.3 What safety devices are currently employed? Yes, CMSV system - AMS; or ASDE-X, the Model X Airport Surface Detection Equipment.

8.2 Average annual days of snow: 1 - 2 days.

8.3 Average snow depth: 1 - 2cm.

8.4 Maximum snow in 24 hours: 5 cm.

8.5 Annual number of days of de-icing activities: 1 - 2 days.

9. WINTER ORGANISATION

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

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJ5720, 4 units): Snow plow 2 units, sweeper truck 1 unit, spreader (area) 1 unit.

11. PROCEDURES AND METHODS

11.1.1 Please detail the process of snow clear ance and maintenance 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 de-icing on the parking area.

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 temperature and achieved holdover times etc: Urea, 1000 kg.

12.2 Comment on storage capabilities of the chemicals that you use: None.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquid, “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: no.

13.3 Comment on your experiences of the benefit/sidebenefits of ice warning systems: No.

14. AIRSIDE FIRE PROTECTION

14.1 Does the airport directly provide aircraft anti-deicing operations? If so, please state vehicle or other facility manufacturers, and number of units: No.
These issues being addressed? To the Hunter.

wildlife (deer, for example) and, if so, how are

Does your airport have problems with other

ports for training purposes? no simulator.

Within the last years a stripe has parallel been
cut, removed far enough, however, diversion to.

Do your staff attend recognised

bird control training courses? No.

Are your bird control staff working on the airfield

continuously, hourly, less than hourly? Yes.

What specialist equipment do you employ

for bird control? (Please state relevant

supplier/manufacturer): Unknown.

Do you carry out a bird strike

risk assessment? No.

Do your staff log all their bird control activities

on the airfield? yes.

Do your staff attend recognised

(RWY, TWY, Centerline Apron, Parking positions, Main Apron).

State the vehicles, formations and general

methods of runway, taxiway and apron clearance: Read

Same at A2, G1 and G2 (CAT II/III holding points).

Do you have any winter services equipment?

that you would like to sell? No.

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

fOD testing: not available.

Do you have any winter services equipment

attached to operational ramp vehicle.

6.6 Does your airport have problems with other

birds? No.

6.5 Do your staff log all their bird control activities

on the airfield? yes.

6.4 Do you have a fire alarm system?

in place. As is well known, low grass attracts the birds.

6.3 Future developments – are there plans to

future developments in dealing with the problem?

5.1 What is the primary method of monitoring vehicle

use of sweeping, magnetic

11.2 Do you have plans to purchase further ice warn-

ing systems: not available.

11.1 Please state here order of priority of snow clear-

ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

11.1 Please state here order of priority of snow clear-

ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

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ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

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ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

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ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

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ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

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ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

11.1 Please state here order of priority of snow clear-

ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

11.1 Please state here order of priority of snow clear-

ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

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ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

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ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

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ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

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ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

11.1 Please state here order of priority of snow clear-

ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

11.1 Please state here order of priority of snow clear-

ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

11.1 Please state here order of priority of snow clear-

ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

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11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

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ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

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ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.

11.1 Please state here order of priority of snow clear-

ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY, TWY, Centerline Apron, Parking positions, Main Apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: read

the take off procedures. as is well known, Low grass attracts the birds.
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. CAA, OSPAR, or other local space 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 or on a rota basis? Continuously.

6.4 What specialist equipment do you employ for bird control? Please state relevant supplier/manufacturer: Digi-scare (recorded distress calls), Pyrotechnics, Shotgun, 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 law suits? 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); axes (4x4, 6x6); capacities (e.g. kg); combination of manufacture: 2 x Cobras 6x6, Detroit engines, 1200cc, year purchased 2000. 1 x Protector, Detroit engine, 1200cc, year purchased 1993. 1 x Snookie, Caterpillar engine, 18000 cc, year purchased 2007. 1 x Rosenbauer Panther, Caterpillar engine, 18000 cc, year purchased 2011. 1 x Toyota Hi-Lux, 2.4ltr Toyota engine, year purchased 2011. 7.2 Future developments – are there plans to purchase or dispose of any equipment? Not at present.

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

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 November to 31 March.

8.2 Average annual days of snow: 10.

8.3 Average snow depth: ~25mm.

8.4 Maximum snow in 24 hours: <12cm.

8.5 Annual number of days of de-icing activities: 22.

9. WINTER ORGANISATION

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

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CIS 720, 4 units): 1 x Schorling P21 with MAN prime mover + 16 foot plough; 1 x Schorling P17b with MAN prime mover + 16 foot plough. 1 x Shorty P17a with MAN prime mover + 16 foot plough. 1 x Danline 2000 with MAN prime mover + 16 foot plough. Additional 4 x Magnus Dutz plough reinforced discs 2 x Chaffter de-icer with JCB fast track. 6 x Sicard 540 with combination of JCB, and 2 X John Deere mowers + 16 foot plough. 1 x Leyland truck with bucket gripper mounted on top. 1 x Ford tractor with small Danline brush. 1 x Jglo 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 08/26 (with access to runway for de-icing operations) 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 the surface area of the runway, these priorities will depend on the time of day. During daytime operations access to the terminal (passenger) apron will be the priority route. Night-time operations would prioritise access to the east and west (freight) aprons. D. Aprons - taxiways and central 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. The 3rd combination works downwind of the runway and will arrive and commence its task on the runway. 1.1. 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. 

12.2 Comment on storage capabilities of the chemicals which you use: Safegrip stored in 1 x 40,000 litre capacity tank. Isomex is stored in 2 x 100,000 litre tank. Effective for about 2 hrs dependent of amount of chemicals which you use: Safegrip stored in 1 x 40,000 litre capacity tank. Isomex is stored in 2 x 100,000 litre tank. Comment on your experience with solid de-icers, for example mixing ratios with liq- uids, “blow-away factor” etc: Not used.

12.3 Have you experienced any corrosion problems with de-icers? No.

12.4 Have you employed any special means to economise on chemical use? No.

12.5 Do you have any other comments on experience with chemicals? None.

12.6 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 benefit/disadvantage of the existing 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 are 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 Griffield D Type.

15.2 Have you any comments on the reliability of friction index? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport's methods? In line with SMS principles, existing procedural methodology is maintained under constant review.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details. 1 x JCB 3200 with Bunche 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.

EXTER}

PART 1: AIRSIDE SAFETY SURVEY 2012

1. AIRPORT NAME: Exeter International Airport.

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take-Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Runway 08/26 2083x46m. RWY Designator: 08, TORA (m): 2047, TODA (m): 2283, ASDA (m): 2047, LDA (m): 2037. RWY Designator: 26, TORA (m): 2073, TODA (m): 2653, ASDA (m): 2073, LDA (m): 2037.

2.2 Landing aids for each RWY (e.g. CAT II): Cat I.

3. SAFETY MANAGEMENT SYSTEMS

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

4. FOREIGN OBJECT DAMAGE

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

a) Training: All Airfield Operations & Bird Control staff trained as required, and assessed annually. A member of the Airfield Operations team holds the role of FOD Officer to monitor FOD found, investigate and stop source and raise general FOD awareness around the airport.

b) Inspection by airport, airline, and aircraft handling agency personnel: Airport personnel.

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): FOD Basket 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

AIRSIDE SAFETY SURVEY 2012

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Users and Apron Users Safety Committees. 4.2 General: Are there any special systems or soft-
ware solutions employed 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 Do you employ any special systems for tracking changes being un-
dertaken/required to eliminate perceived hazards? No. 5.3 What safety devices are currently em-
ployed? (A-MSGCS; Airport Movement Area Safety System – AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): N/A. 5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: All runway hold points have enhanced markings installed as per CAP168. Runway Ahead markings to be installed at all hold points. 5.5 What specific procedures are there for train-
ing and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Airfield training and campaign awareness to all airside users. A two tier airfield driver permit scheme in place. 5.6 Have the reporting procedures for runway safety incidents been set jointly with other parties ac-
tive in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes via the Local Runway Safety Team and promotion of a ‘no-blame’ safety culture. 6. BIRD AND WILDLIFE CONTROL 6.1 Please list the identities of primary operational staff active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes. 6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Yes. Continuously during daylight hours. 6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manu-
facturer): Recorded distress calls from Scarecrow Bio Acoustic Systems, pest control wildlife management. 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 any training exercises): Yes. 6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Com-
bined wildlife management programme. 7. CRASH FIRE RESCUE 7.1 Please detail your CFR vehicle inventory stat-
ing: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture. 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 Train-
ing Simulator, is this available to other air-
ports for training purposes? N/A. PMT 2: WINTER SERVICES QUESTIONAIRE 8. RECENT WINTER CONDITIONS 8.1 What is the designated period of winter aircraft control? Nov – Mar. 8.2 Average annual days of snow: 2. 8.3 Average snow depth: 6mm. 8.4 Maximum snow in 24 hours: 17mm. 8.5 Annual number of days of de-icing activities: 7. 8.6 Have you any plans to purchase further ice warn-
ing systems and if so which model(s)? No. 8.7 Do you have any winter services equip-
ment that you would like to sell? No. 8.8.1 What is the designated period of snow clearance? e.g. March – November 8.8.2 Average annual days of snow: 2. 8.8.3 If your airport possesses a Fire Train-
ing Simulator, is this available to other air-
ports for training purposes? n/A. 8.9.1 What is the designated period of snow clearance? e.g. March – November 8.9.2 Average annual days of snow: 2. 8.9.3 If your airport possesses a Fire Train-
ing Simulator, is this available to other air-
ports for training purposes? n/A. 9. WINTER SERVICES PERSONNEL 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, manu-
facturer and number of units. For example: compact jet sweeper, Schmidt, CIS 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 for any changings facilities (runway, taxiway, aprons etc) stating identity of each facility: 08/26, Taxiway Bravo, main Apron, Taxiway Charlie, Taxiway Echo, Taxiway Alpha, Taxiway Golf. 11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 2 – 6 hours. 12. EXPERIENCE WITH CHEMICALS 12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Konsin and Isomex. 12.2 Have you experienced any corro-
sion problems with de-icers? No. 12.3 Have you employed any special means to economise on chemical use? Improved Metering. 12.4 Do you plan to purchase new equipment and vehicles? If so, please provide details: no. 13. ICE WARNING SYSTEMS 13.1 State model and number of ice warning systems: N/A. 13.2 Have you plans to purchase further ice warn-
ing systems and if so which model(s)? No. 14. AIRCRAFT DE-ICING 14.1. Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle details, markings, signage, and number of units: Provided by Flybe Engineering. 14.2. Are you required to have dedi-
cated 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. FRICITION TESTING 15.1 What model(s) of friction tester do you use? N/A. 15.2 Have you any comments on the reli-
ability of friction indexes? N/A. 16. FUTURE DEVELOPMENTS 16.1. Are you about to change any of your airport’s methods? No. 16.2. Do you plan to purchase new equipment or vehicles? If so, please provide details: No. 16.3. Do you currently have equipment or other produ-
cts on order? If so, please provide details including manufacturer and number of units: No. 16.4. Do you have any winter services equip-
ment that you would like to sell? No.
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 280kg. OSHKOSH STRIKER 00-007: Water 12000L, Foam 1500L, Dry Chemical Powders 250kg. OSHKOSH T1500 00-002: Water 6000, Foam 776, Dry Chemical Powders 320. TITAN E-ONE 00-003: Water 12000, Foam 1500, Dry Chemical Powders 230.

7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes. 1 Command vehicle – end of 2017. Complementary rescue equipment for mud waters – end of 2017. 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? ANA Airports will have a corporate Fire Training Simulator in Lisbon Airport.

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 Safety Management System for the aerodrome.”

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

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? ANA Airports will have a corporate Fire Training Simulator in Lisbon Airport.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? ANA Airports will have a corporate Fire Training Simulator in Lisbon 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. Fraport AG is interested in installing an FOD detection system.

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 conduct- ing vehicle traffic control in the apron area. ACFT ground traffic is controlled visually and per radio guidance. Additionally ACFT ground traffic is controlled utilizing system described in section 5.3. 5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Changes in the traffic scheme such as markings, signs and lighting are made when real or perceived hazards exist or to improve vehicle and aircraft traffic flow. 5.3 What safety devices are currently employed? a) STRIXER: Airport Movement Area Safety System - AMSAS; or ASDE-X, the Model X Airport Surface Detection Equipment; FRA Apron Control and German ATC Tower utilises a combined SMR and multilatera- tion radar system for tracking aircraft and vehicle movements in the manoeuvring area. FRA requires all vehicles that are designated to drive in the manoeuvr- ing area to be equipped with Mode-S Transponders. 5.4 Comment on the use of any innovative warnings or guard systems – use of markings, lighting and other lower-cost technologies: Frankfurt Airport constantly upgrades infrastructure such as lighting, stop bars and markings designed in part to prevent runway incursions and increase safety. FRA has installed RWY vacated signs at the illuminated runway when aircraft have vacated the RWY and are visible for the pilots. 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? Frankfurt Airport Apron Operations regularly open their doors to the public, conducts runway safety workshops with German ATC and airlines to find solutions designed to reduce the risk of runway incursions. 5.6 Have the reporting procedures for runway safety incidents been set up and are they being used ac- tive in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Frankfurt Airport Apron Operations has a good working relationship with German ATC and airlines concerning reporting procedures and finding solutions. FRA in general cultivates a “No Blame” culture unless naturally the incur- ring incident or demand demands disciplinary action.

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 proce- dures, and keep operational staff informed.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Our staffs conduct continuous monitoring of the airfield and initiate action when necessary.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/ manufacturer): Frankfurt Airport utilises py- rocaccoustics 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 input for further risk as- sessment for our aerodrome is carried out by our Bird Control Officer according to experience gathered.

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

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Frankfurt Airport has modified the perimeter fencing to minimise wildlife enter- ing the movement area and is inspected regularly. This has eliminated past difficulties with wildlife.

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6X6); capacities (kg/litre and type); year of manufacture: 2x Z8XXL, 5x Simba 6x6, 5x Simba 8x8 plus a multitude of CFR vehicle types, equipment for fire fight- ing, salvage power generation, mobile emergency operations coordination, HAZMAT Contol etc.

7.2 Future developments – are there plans to purchase or dispose of any equipment? Additional crashes for our airport as the runway in front of the new runway are to be delivered this year. 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training?
purposes. Our Fire Brigade has a Fire Training Simulator and does offer training to other airports. P30 AIRSIDE SAFETY 8. RECENT WINTER CONDITIONS 8.1 What is the designated period of winter readiness? November 15 to March 31. 8.4 Maximum snow in 24 hours: 24.5m. 8.5 Annual amount of de-icing activities: 105 days Surface clearing and/or surface de-icing. 9. WINTER ORGANISATION 9.1 How many airport-employed or subcontracted winter services personnel are available per shift? 105 plus depending on actual weather conditions. Number of personnel includes airport-employed and contracted. 10. WINTER EQUIPMENT INVENTORY 10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Compact Jet Sweepers/co. Schmidt; Jet Sweepers RS200/400/co. Overaasen, Snow Blowers/co. Schmidt, Overaasen and Kuepper-Weisser: Diverse deicing vehicles for spreading sand, solid and fluid deicing materials/co. Schmidt, Ivecco and Kuepper-Weisser: Diverse trucks, tractors, fuel tanks Schmidt, Fuels Schmidt, Kuepper-Weisser and Ivecco, 4X Surface Friction Tester (SAAB). 11. PROCEDURES AND METHODS 11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, 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. XTC landing aid sender areas 3. Taxiway and non-main servicing areas 5. Passenger bridge manoeuvring areas 6. Areas used for parking ground servicing vehicles, equipment and transfer cargo and post 7. Main apron roads 8. Public roads, pedestrian paths, and parking areas. 11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: 1. RWY clearing convoy consisting of 14 snow sweeper-plough vehicles, 2 snow blowers, 2 de-icers and 2 guidance vehicles (back and front) lined up diagonally to clear the runway in one run. After Vehicles have vacated the RWY a Friction Tester (SFT) run is conducted. 2. Smaller convoys and flexible vehicle combinations for clearing and de-icing taxiways and apron areas. 11.3 After clearing vehicles which 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 LSO and AVIFORM S-Solid, Clearway F1 and Clearway SF3, SafetyKF-Hot. Holdover times generally vary according to temperatures and snowfall intensity and can only be quantified according to day of operations. 12.2 Comment on storage capabilities of the chemicals that you use: Our operational capacity is 700,000 litres with 1.9 million litres in reserve, stored at the aerodrome. The chemicals are stored in tanks that meet German environmental and safety regulations. 12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: We use only the 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 which we adjust for the use. We only use solely solid chemicals in emergencies (ice build-up). 12.4 Have you experienced any corrosion problems with de-icers? We generally experience the usual problems that every airport has with GSE etc. To minimise corrosion we paint and wax our winter service vehicles. The products we use have corrosion inhibitor additives. 12.5 Have you employed any special means to economise on chemical use? We have installed a GPS based Surface Management System in order to document all activities and gain live operational control over vehicle movements and chemical application. We are also restricted to 25gr m² by our Environmental Authority. We also utilise an Ice Early Warning System, friction measuring results and weather forecasts from the German Weather Service to optimize the use of surface de-icing chemicals. 12.7 Do you use other chemicals or sand on operational areas? Due to environmental issues some sections of the Movement area are sanded. We use only the chemicals mentioned above. 13. ICE WARNING SYSTEMS 13.1 State model and number of ice warning systems: VASALA ROSA system "Ice View" and is in operation. 13.2 Have you plans to purchase further ice warning systems: No. 13.3 Have you plans to purchase further ice warning systems and if so, which model(s)? We have expanded our system to cover our new RWY and TWR Bridges. 13.3 Comment on your experiences of the benefits/ disbenefits of ice warning systems: It is a good tool for assessing the condition of RWY surfaces but is only secondary information for decision making. We still depend primarily on weather forecasts and actual conditions to determine ice surface conditions. 14. AIRCRAFT DE-ICING 14.1. Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Aircraft de-icing is carried out by our service provider N*ICE. N*ICE can conduct aircraft de-icing operations up to A380 aircraft. 52 vehicles are available for operations. 14.2. Are you required to have dedicated de-icing positions or do you device on the parking areas? Frankfort Airport has 2 active De-Icing Pads and 2 dedicated de-icing surfaces with no towing required. Otherwise aircraft de-icing is carried out on aircraft parking areas. 14.3 Is glycol recovered? If so, please state methods: To the most part glycol is captured along with drainage run-off and retained in special reservoirs, treated on site before being released to the city sewage plant. Position areas are cleaned of glycol using surface sweeper vehicles and is considered to be chemical waste and treated accordingly. The sweeping of positions also helps reduce related safety risks. 15. FRICTION TESTING 15.1 What model(s) of friction tester do you use? SAAB 9.5 "Safsys" Surface Friction Tester (SFT) vehicles. 15.2 Have you any comments on the reliability of friction indexes? An international standard for friction indexes and reporting of such would be invaluable for the Aviation Industry. 16. FUTURE DEVELOPMENTS 16.1. Are you about to change any of your airport’s methods? FRA is continuously working on reducing clearing and de-icing times by improving and settling standard driving routes used in the manoeuvring area. 16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: This year we ordered and received a new Clearing Convoy consisting of 14 snow sweeper-plough vehicles to service our new RWY. 16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No. 16.4 Do you have any winter services equipment that you would like to sell? No. FRIEDRICHSHAFEN Bodensee-Airport Friedrichshafen GmbH 2. MOVEMENT AND MANOEUVRING AREA DATA 2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY length: 2,356m, 106,020sqm; RWY width: 45m; TORA: RWY06: 2,210m; RWY24: 2,146m, TWY A: 22.5m, TWY B/E/F/N: 18.0m, TWY C: 15.0m, TWY D/S: 12.0m, Apron: 30 x 30m; 900m², Apron: 250 x 60m; 15.000m², Apron3: 270 x 30m; 8,100sqm. New anti-skid, 2.2 Landing aids for each RWY (i.e. CAT II/ III RWY 06; CAT I RWY 24). 3. SAFETY MANAGEMENT SYSTEMS 3.1 The ICAO Manual on Certification of Aero-dromes specifies that: “The aero- drone 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; Proved 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 airline 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 contain- ers etc), FOD Container, sweeping mat. d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). Co- ordination meetings take place monthly. 4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Only teaching software and procedure for apron and runway check list. 5. RUNWAY INCURSION PREVENTION 5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visible, On CATIII/conditions by contact loops at stopbars for monitor/entering/exitation RWY. Alert in case of unallowed crossing red stopbar. 5.2 Are any design or engineering changes being undertaken/required to eliminate per- ceived hazards? Not for the time. 5.3 What safety devices are currently employed? (A-SMCGS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment); The single build system of a local company is replaced (2009) by a Honeywell system. No detailed description available for the time. 5.4 Comment on the use of any innovative warn-
6. BIRD AND WILDLIFE CONTROL
6.1 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.
6.2 Do your staff log all their bird control activities? Yes. Details regarding number of birds inhibited and strategy in dealing with the problem, and to use in defence in case of law-suits: All carcasses findings are logged, pyrotechnics usage is not logged. For the time bird/wildlife control works with expected success.
6.3 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: 1 x PANHET Bx8 A/R / HRET 12000/1500/5000 Foamiacat 120/1500/500; 1x VFAEG/6x6; 1x FLF 60/88-12 Mercedes-Benz 3255 AF/38/6x6, 1x Ambulance (Mercedes Benz), 1x Truck with technical equipment (Mercedes-Benz), 2x ELW (Mercedes-Benz 220T, Mitsubishi 220K – 4x4).
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Fire Brigade is given Fire Fighting Training for Regional Airports every year 1-2 courses.

PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? 1 November – 30 April.
8.2 Average annual days of snow: 18.
8.3 Average snow depth: 5cm.
8.4 Maximum snow depth: 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? 12 full-time staff.
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); 7x Air Blast Sweeping P12 (trailer); 7x Snow Ploughs; 3x MAN, 2x Mercedes-Benz, 1 IVECO, 1 Magirus-Deutz. On standby (old equipment): 2x Air Blast Sweeping Schoener P12 (trailer); 2x Snow Ploughs (1 MAN, 1 Magirus-Deutz); 1 new Rotary Snow-plough FS SL; 2 de-icing units ASP 6 by Schmidt; 1 airport de-icer with 45m sprayer – Küpper/Weisser; 2 aircraft de-icers Vestergaard Elephant µ.
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc.) stating identity of each facility. First the RWY then main TWys, 2 positions on main apron, then rest of movement area.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. First mechanical clearing of surface with snow ploughs in combination with Air blast sweepers in formation of 7 vehicles, then if required, application of chemical fluids (“Safetyway” from Clairant).
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? After max. 1hr clearing between surface and snowcover detected.
11.4 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.
12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season, Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. 90,000kg “Safetyway HA HOT” from Clairant (delivery receipt doesn’t show it anymore, no longer used).
12.2 Comment on storage capabilities of the chemicals which you use. 30,000litr for aircraft de-icing fluid; 20,000litr 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 methods of runway, main TWys and main apron. No time for “only RWY” available, as far as the rotate on RWY and main TWys.
13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems. Not installed but electronic measure system on airport de-icing unit for ground temperature.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Not at the moment.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. None.
14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. 2 x Vestergaard Elephant µ Aircraft de-icing trucks.
14.2. Are you required to have dedicated de-icing positions or do you de- ice the parking area on stand? On stand.
14.3 Is glycol recovered? If so, please state methods. No recovery.
15. FRICITION TESTING
15.1 What model(s) of friction testers do you use? 2 x Saab.
15.2 Have you carried out tests on the reliability of friction indexes? None. According to A/C-crews it seems to be okay. Calibration of friction testing equipment is done prior winter season by service staff, during heavy use daily calibration by airport staff.
16. FUTURE DEVELOPMENTS
16.1 Are you planning 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 de-icer 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.
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 III holding points (used only in LVC); ICAO standard signage and markings are in place. 5.3 What safety devices are currently employed? (A-SMGS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface De- tection Equipment) An A-SMGS level 2 is implemented. 5.4 What specific procedures 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-punalty’ reporting? Reporting procedures for specific activities of the agents (time, person, radio calls, intervention, solution) in a special log report. 6.1 Do your staff attend recognised bird control training courses? 6.2 Are your bird control staff working on the programme for Wildlife Hazard Prevention Centre (www.airtrace.ch): International master’s management training courses through the “Airtrace” training courses but also provides special wildlife management training courses? yes, the staff attends specific training. 6.3 What specific systems or software solutions 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 scarer (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 Manage- ment). A general report including all the activities of the wildlife hazard prevention unit is published every two weeks. The reports 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, certi- fied 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 strike prevention 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 environ- mental 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 in the local communities to control the animal and the elimination (if necessary) of the animal (depart- ment for the protection of nature and landscapes). 7. CRASH FIRE RESCUE 7.1 Please detail your CFR vehicle inventory stat- ing: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manu- facture: Subaru For., Command vehicle, 2003, 4x4, Subaru For., Headquarters vehicle, 2004, 4x4, Ford, Duty officer’s vehicle, 2011, 4x4, Mercedes, PCI “Transmission” vehicle, 1992, Mercedes, Fire duty officer’s vehicle, 1997, 4x4, VW T5, Escort vehicle, 2010, Opel, Transport and escort vehicle (12 places), 2007, Toyota, Vigilance duty officer’s vehicle, 2007, Ford, Transport and escort vehicle (15 places), 2006, Smart, Escort vehicle, 2004,Opel,Transport and escort vehicle, 2007, Suzuki, Head-quarter vehicle, 2006, 4x4, Smart, Infirmary vehicle, 2003, Toyota Avensis, Escort Vehicle, 2011, Toyota Aygo, Escort Vehicle, 2011, Rosenbauer MAN, Extinguishing vehicle, 12.500 l water, 2005, 8x8, 1,500 l extinct, Rosenbauer MAN, Extinguishing vehicle, 12.500 l water, 2000, 8x8, 1,500 l extinct, Rosenbauer MAN, Extinguishing Type Snootze, 11,000 l water, 2008, 8x8, 1,500 l extinct, Bridge, 2006, Vogt, Mercedes vehicle, 4,000 l water, 2004, 4x4, 500 l extinct, 250 kg of power, Mercedes, Loading vehicle for Berces, 2004, 6x8, Rosenbauer MAN, Extinguishing vehicle, 12.500 l water, 2003, 8x8, 1,500 l extinct, Ford, Ambulance, 2006, Ford, Ambulance, 2006, Ford, Ambulance, 2003, 4x4, Hänni, Berce Sanitary, 2000, Vogt, Berce moss, 2004 , Mercedes, “Ponner” vehicle, 1996, 4x4, Dodge Ram, Replace- ment vehicle, Saturne, 2000, Mercedes, Loading vehicle for Berces, 2000, 8x8, Mercedes, Materiel ve- hicle, 1984, Deschamps, Berce ground carpet, 2002, Hänni, Aircraft Recovery, Berce of leavage, 2002, Boston, Boat of rescue, 2 engines of 130 HP, 1994, Whaler, 2 nacelles de 65 places each, 1999, Teklit, Fighter with auxiliary engine, 2002, Teklit, Fighter with auxiliary engine, 2002, Luxomobile, Fighter with auxiliary en- gine, 1985, Bosch, Honda diesel GD 410 4.7 kW, 1998, Hatz, Hatz diesel 1D142 4.2 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 3: WINTER SERVICES QUESTIOnnAIRE 8. RECENT WINTER CONDI- TIONS (2010-2011) 8.1 What is the designated period of winter readiness? November 1st to April 15 8.2 Average annual days of snow: 25 days (between Nov. and Dec.) 8.3 Average snow depth: 72cm (be- tween Nov. and Dec.) 8.4 Maximum snow in 24 hours: 19cm 8.5 Annual number of days of de- icing activities: 119 days. 9. WINTER ORGANISATION 9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Command personnel x 3, Command vehicles x 3, Snow removal Runway + Twys x 12, Snow re- moval Apron x 16, Snow removal line x 4, Fric- tion Measurement x2, Maintenance (2 stand by) x4, Snow removal access roads x4 10. WINTER EQUIPMENT INVENTORY 10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number per unit: (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): Equipment for snow removal on runway: Truck, 4x4, Mercedes Unimog, 1 Truck, 4x4, Mercedes 360cv, 2, Truck, 6x4, Mercedes 400cv, 2, Sweeper blower, Bucher P21, 7, Sweeper blower with snow blade, Boschung (Jet Broom) Runway, 3, Sweeper blower with snow blade, 3 (soon), Sweeper blower with snow blade, Boschung (Jet Broom) with Sprayer, 1, Rotary snow plows, Rotlaw, 4 (+1 soon), Snow blade, Boschung 6m, 2, Snow blade, Boschung 8.4 m, 2, Snow blade, Zaugg 6m, 11, Snow blade, Peter 6m, 2, Snow blade, Zaugg 4.25m , 2 Snow blade, Zaugg 1.5m, 1, Sprayer, Boschung, 2, Equipment for snow removal on other surfaces:Truck, heco, 1, Vehicle FORD 4X4, Ranger, 1, Tractor, Terratrack, 1, Tractor, Reform pavot, 3, Tractor, Boschung Pony, 5, Snow blade (pusher), Zaugg 2m, 2 Snow blade (pusher), Zaugg 4m, 1, Snow blade (pusher), Zaugg 7m, 3, Snow blade, Zaugg 1.5m, 1, Snow blade, Zaugg 2m, 2 Snow blade, Zaugg 4.25m, 3, Snow blade, Zaugg 3m, 1, Snow blade, Boschung 2.02m, 2, Rotary plows, Boschung Pony, 1, Sprayer, Boschung, 2, Snow snow plows, Rolla, 4, (1 soon), Snow blade, Boschung 1.5m, 2, Rotating Sweeper, Boschung 1.5m, 2, Blower AFI from R.P.M.TECH INC, 1, Tractor with special blade for runway lights, New
Holland, 1, Trax Caterpillar 930, 1. Gycol absorb-ers: 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 (run-ways, taxiways and aprons etc) stating identity of each facility. Priority 1 Runway, Priority 2 Taxiways, Priority 3 Apron South and Apron North “General aviation”, Priority 4 Parking area and hangars.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance.
Runway: Vehicles are aligned diagonally; Snow is pushed to both edges of the runway by trucks equipped with snow-blades and sweeper-blowers. The operation of snow sweeping including friction measurement takes 30 to 45 minutes. The duty officer coordinates the operation with the ANSP Taxiways: Vehicles are aligned diagonally. Trucks equipped with snow blade and sweeper-blower push the snow to the edge of the taxiway. Apron: Vehicles are aligned diagonally; Trucks equipped with snow blade and sweeper-blower push the snow from the edges to the center of the Apron and 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 run-ways? 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 at low temperatures and achieved holdover times etc. De-icers quanti-ties use during winter season 2010-2011: For RWY and TWY: Safeway KF Hot, 144,400 l. Safeway SF, 44,000 Kg.
For Aircraft: Gycol type 1, 430,021 l. Gycol type 2, 192,111 l. Gycol type 4, 448,527 l.
12.2 Comment on storage capabilities of the chemicals which you use. 75,000 liters of Safe-way KF Hot in Tank, 50 Tons of Safeway SF.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. GA has reliable experience with solid de-icers or mixing ratios with liquids.

12.4. Have you experienced any corrosion problems with de-icers? GA has experienced some corrosion problems on de-icers.

12.5 Have you employed any special means to economise on chemical use? Since two seasons, we have reduced the amount of chemicals which we use. 75,000 liters of Safeway SF , 44,000 Kg.
12.6. Do you currently have equipment or other products which you would like to sell? no. win-dows to guide the snow plow during the deicing operations? If so, please state vehicle or other facility manufactures, and number of units.

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.

15. EXPERIENCE WITH CHEMICALS
15.1. What model(s) of friction tester do you use? 2 ASFT Thermomat systems that spread the chemical after the RWy is usually achieved in 15 minutes.
15.2. Have you any comments on the reliability of friction indexes? No comment is made on the reliability of GVA’s friction index. The two ASFT friction testers are certified before each winter season and the service reports send to FDCA.

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 way of working.

16.2. Are your bird control staff working on the airfield continuously, hourly, less than hourly? According to need. High activity, especially during early springtime, during bird migration.
16.3. What specialist equipment do you employ for bird control? (Please state relevant supplier/ manufacturer): Recorded distress calls (mo- bile and fixed), laser (test), shotguns, warning-shots via gasoline cannon. Inflatable scarecrow called “the Hulc”. Use of prototype equipment.

16.4. Do you carry out a bird strike risk assess-ment? According to need. High activity, especially during early springtime, during bird migration.
16.5. Do your staff log all their bird control ac-tivities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): yes - regular documentation.
16.6. Does your airport have problems with other wildlife such as deer, badgers from time to time - catch in traps. yes.

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 opera-tional 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/147,6R, SHOULDER 2x7,5M, TOT-AL APRON/RAMP AREA 275,100sqm.
2.2 Landing aids for each RWY (e.g. CAT II): CAT II - RWY03/21.
3. SAFETY MANAGEMENT SYSTEMS
3.1. The ICAO manual on Certification of Aero-dromes 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 worked out in our airport’s “Safety Management Sytem” and is supported by the move of the ionisation system during winter.}

from airline pilots, ATS, mechanics, airport vehicle operators, airport authority etc. Identification and action on “hot spots” for runway sweeping areas and, should the occasion arise, the apron area.

4. FOREIGN OBJECT DAM-AGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of: a) Training: Airside safety introduction train-ing and airside driver licence training, b) Inspection by airline, airport, and airplane handling agency personnel: Due current audits.
4.2 General: Are there any special systems or soft-ware solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION
5.1. What is the primary method of monitor-ing vehicle and aircraft movements on the ground? SMR Surface Movement Radar.
5.2. Are any design or engineering changes being un-der consideration? No. SMR Surface Movement Radar.
5.3. Comment on the use of any innovative warnings or guards – use of paint, signs, light-ing and other lower-cost technologies.
5.4. 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 situa-tions, with occupational groups with missions at the manoeuvring area, including to identify “hot spots”. Implementing of EAPPI – European Ac- tion Plan for Prevention of Runway Incursions.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds.

6.2. Do your staff attend recognised bird control training courses? Yes.
6.3. Are you required to have dedicated de-icing operations? If so, please state vehicle or other facility manufactures, and number of units.

6.4 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.

6.5. Do you have any comments on the reliability of friction indexes? No comment is made on the reliability of GVA’s friction index. The two ASFT friction testers are certified before each winter season and the service reports send to FDCA.

6.6. Does your airport have problems with other wildlife such as deer, badgers from time to time – catch in traps. yes.

6.7. Are you about to change any of your airport’s methods? Currently no major changes are planned in the airport’s way of working.

6.8. Do you carry out a bird strike risk assess-ment? According to need. High activity, especially during early springtime, during bird migration.

6.9. Do your staff log all their bird control ac-tivities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): yes - regular documentation.

6.10. Does your airport have problems with other wildlife such as deer, badgers from time to time – catch in traps. yes.

6.11. Are you about to change any of your airport’s methods? Currently no major changes are planned in the airport’s way of working.


6.13. Do your staff log all their bird control ac-tivities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits): yes - regular documentation.

6.14. Does your airport have problems with other wildlife such as deer, badgers from time to time – catch in traps. yes.

6.15. Are you about to change any of your airport’s methods? Currently no major changes are planned in the airport’s way of working.

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PART 2: WINTER SERVICES QUESTIONNAIRE

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

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

10. WINTER EQUIPMENT INVENTORY
10.1 Please list all 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 Clearence:TJS (Towed Jet Sweepers): 5x Schmidt - TR 560 D, 2x PSB 4500 H – Vammas, 2x PSB 5500 H – Vammas. Snow Blower: 1x Rahtinko 381-S Schmidt - Supra 5001, 2x Overaasen – 430, De-icing: 2x Schmidt ASP – Liquid, 1x Falkoping CL 5 – sand/granulate solid de-icing, 1x Epoke SH 3500 -sand/granulate solid de-icing.

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

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: Vaisala Ice Warning and Prediction System.
13.2 Have you plans to purchase further ice warning systems and if so why do you consider this necessary/ desirable of ice warning systems: Not always reliable.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-/de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units: Other handling companies provide aircraft anti-de-icing operations.
14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Gate/parking area de-icing.
14.3 Is your airport equipped to handle all the stated methods: Airport use two vacuum-cleaner vehicles for soak up liquid - and deliver it into a new structure/house – and follow a system for reprocessing and cleaning.

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

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

GRAZ
PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Flughafen Graz
2. MOVEMENT AND MANOEUV- VRING AREA DATA
2.1 Please state 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, vehicle parking area: Dimensions 3000 x 45 m (left and right 7.5m shoulders), (17C / 35C) with shoulders 3000 x 60 m, TORA 17C: 3000m, TODA 17C: 3060m, TORA 35C: 3000m, TODA 35C: 3000m, Grasrunway: 17L/35R and 17R/35L, Taxiways: A width 23m; B width 23m; D width 23m; X width 10m; Y width 15m.
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 purposes? We have no fire training simulator.
PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? From 1 October to 31 May.
8.2 Average annual days of snow: 12 days aircraft de-icing.
8.3 Average snow depth: 10cm.
8.4 Maximum snow in 24 hours: 30cm.
8.5 Annual number of days of de-icing activities: 90 days.

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

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): 5 units airblast sweepers Bucher Schörling P17; 4 units airlift sweepers Overasen RS 400; 1 unit snow blower Steyr TK 93 +Kahlbacher; 1 unit snow blower Bucher Guyer; 1 unit snow blower Grizzly D1
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clear-
ance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: 1. runway 17/35, 2. Apron 3, Apron 4. taxiway X, Y, Z.
11.2 State the vehicles, formations and general meth-
od of runway, taxiway and apron clearance: 5 airlast
sweepers for runs necessary for runway sweepers.
11.3 After moderate snow, how quickly do you expect
to achieve ‘black top’ on the runway? 12 minutes.
12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along
with the quantities used last season. Com-
ment on effectness of chemicals at low tem-
peratures and achieved holdover times etc:
Runway de-icer: 60,000kg Harmsstoff UREA,
7,000kg SafeWay KA Hot (Fa. Clariant).
12.2 Comment on storage capabilities of the
chemicals that you use: For Runway de-icer we
have ni rotor tanks with 12,000lt. capacity. For
aircraft de-icer we have ni rotor tanks with 24,000lt.
capacity, Harmsstoff (solid de-icer) 60 Tonnen.
12.3 Comment on 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 Safe-
eway KA is very aggressive to metal parts.
12.6 Do you have any other comments on experi-
ence with chemicals? Ice warning system.
12.7 Do you use or experience ice warning systems
on sand on operational areas? No.
13. ICE WARNING SYSTEMS
13.1 State model and number of ice warn-
ing systems: Typ: Boschung SCU 2002 and
GPS 2000 with 4 Measuring action ions.
13.2 Have you plans to purchase further ice warn-
ing systems and if so, which models? No.
13.3 Comment on your experiences of the ben-
efits/disadvantages of ice warning systems: Ice
warning system help to economy control cost.
14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/de-
icing operations? If so, please state vehicle or other
facility 2, facilities, and number of units: Yes. 1 unit
aircraft de-icing vehicle Stalder Mercedes 1820; 1
unit aircraft de-icing vehicle Stalder Mercedes Atego 18;
1 unit aircraft de-icing vehicle Eisbär Steyr 19524.
14.2. Are you required to have dedicated de-
icing positions or do you de-ice on the park-
ing 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 reli-
bility of friction indices? No.
16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your air-
port’s methods? Yes, we would change the
airplast sweepers with large working with, so we
need less time for the clearing of the runway.
16.2 Do you plan to purchase new equipment or
vehicles? If so, please provide details: Yes,
we change the airplast sweepers (Buch Schör-
ling P17) with 3 meters working width to air-
plast sweepers with 5.5m working width.
16.3 Do you currently have equipment or other
products on order? If so, please provide details
including manufacturer and number of units: No.
16.4 Do you have any winter services equip-
ment that you would like to sell? No.

HAMBURG

PART I: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Hamburg Airport
2. MOVEMENT AND MANOEUV-
RING 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,
rama area, other): RWY:’s 3:315,800sqm, (RWY 05/23
and RWY15/33), TWY:’s 320,600sqm, Aprons:
491,300sqm, RWY-Shoulders: 92,000sqm.
2.2 Landing aids for each RWY (e.g. CAT II):
RWY 05: ILS CAT I, PAPI, RWY 23: ILS CAT II/
llb, PAPI, RWY 15: ILS CAT I, PAPI, RWY 33: LLL /
/OME, 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
nomination and appointment is available, Safety
relevant processes have been identified and docu-
mented, Additional Runway Guard Lights have been
installed at critical intersections, Additional Runway
designator markings on floor at critical intersec-
tions. 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 DAM-
AGE (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 inspec-
tions are carried out as part of the mandatory
ICAO airport 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 main-
tenance 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): Coordina-
tion and information via AOC (Airlines Operators
Committee), Airport Users Committee, the Air-
port Safety Committee (ASC) and bilateral.
5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring
vehicle and aircraft movements on the ground?
Guidance by means of RT (Aron Control, ATM)
- Traffic Supervisors/Follow Me vehicles.
5.2 Are any design or engineering changes be-
ing undertaken / required to address identified
hazards? Installation of Runway Guard Lights,
regular quality checks on signage and mark-
ings. Additional Runway Guard Lights have been
installed at critical intersections.
5.3 What safety awareness campaigns / pro-
cements are 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 Run-
way Incursion and carried out jointly with Deutsche
Flugsicherung and pilots (Runway safety team
Hamburg). Regular meetings (four times a year)
take place. “Hot Spot” projects.
6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy
and how it reduces the attraction of the field
birds to: Keep the grass high where possible;
avoid clusters of bushes or hedges; destroy nests
of cowbirds, avoidance of waste water reservoirs to
water birds away, counting/statistical records every
fortnight.
6.2 Do your staff attend recognised bird con-
counting/statistical records every
fortnight.
6.3 What specialist equipment do you employ
for bird control? (Please state relevant sup-
glier/vendor): Pyrotechnics, shotguns.
6.4 Do you carry out a bird strike risk assess-
ment? 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, engine, units, capacities
(litre and type); year of manufacture:
4 Ziegler Z8, 8x8, Water: 12.400l, Foam: 2x400l,
engine: MAN classic 12xyl, year of manufac-
ture: 2008, 2 Mercedes HLF MW200 (Water:
4000, Foam: 400lt, Year: 2000, 1 Rescue Staircase TECHÜNERT 7.1817-/01-
Hamburg Airport
Hamburg Airport

AIRSIDE SAFETY SURVEY 2012 P36
8. Recent winter conditions
8.1 What is the designated period of winter readiness? 01 November – 31 March.
8.2 Average annual days of snow: 20 – 25 days.
8.3 Average snow depth: 4-6cm.
8.4 Maximum snow in 24 hours: 12 – 15cm.
8.5 Annual number of days of de-icing activities: 35 – 40 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, CJS 720, 4 units; 11 snow ploughs, 11 air blast sweepers, 1 rotary snow ploughs, 3 Bucher Schoerling P25, 2 Bucher Schoerling P17, 2 Overasen RS 400, 3 front loaders, 2 snowploughs with centre sweepers, 2 turbine snow loaders, 2 spreaders for solid substances, 3 spreaders for mixed substances (solid/liquid), 1 liquid de-icer.
11. Procedures and methods
11.1 Please state here order of priority of snow clearing on primary 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 snow ploughs and sweepers will clear the RWY in one direction forming a diagonal line. Firstly the mainly used TWY`s are cleared 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 the runway surface to be cleared: On the runways 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 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 Do you experience any unusual means to economise on chemical use? Good results achieved using "multi-de-icing vehicles". Spread-ap 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 de-icing agents 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 facilities manufacturers, and number of units: Yes. 8 units, manufacturer: “Vestegaard”.
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? 2x SHARAN Friction Testers (ASFI).
15.2 Have you any comments on the reliability of friction index? Higher liability of ASFT compared to SFT.
16. Future Developments
16.1 Are you about to change any of your airport’s methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.4 Do you have any winter services equipment which you would like to sell? No

KATOWICE

PART 1: General airside safety
1. AIRPORT NAME: Katowice Airport
2. Movement and manouevring 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 “X” (3,408 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 - 26m, TWY “G” (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, LH. RWY 27 - Precision approach category I lighting system (Calvert system). LH radio aids: RWY 27 - ILS instrumental landing system and glide path, meteorological Vaisala’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 02-2014, 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)
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: Marshall, Duty Officer, Fire Training Simulato-
   r. TWYs, RW Marshaller, Duty Officer
   c) Maintenance (use of sweeping, mag- netic bars, rumble strips, FOD containers etc): We use sweepers and FOD containers.
4.2 General: Are there any special systems or software solutions you employ for FOD con- trol? (Please specify product name and add any comments): We do not have any software solutions. FOD control by using DHL-4500 “Ma- dro” runway sweeper and visual checks.
5. Runway Incursion Prevention
5.1 What is the primary method of monitor- ing vehicle and aircraft movements on the ground? The method we use is SMGCS & vis- ual observation maneuvering area by TRW.
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 observations 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 warn- ings or guards – use of paint, signs, lighting and other lower-cost technologies: We use road signs, light signs and high-visibility vests.
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? 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 par- ties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes they have been in- cidents, which were reported to duty officer & Safety Manager. SM and internal Commission are responsible for information handling.
6. Bird and Wildlife Control
6.1 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 con- trol training courses? We will attend in such bird control training courses every year.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Operation team (Marshaller, Duty Officer & FAL- CONER ) 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 AFR GAG CANONNS, PYROTECHNIC PISTOLS.
6.4 Do you carry out a bird strike risk assess- ment every month and bird clearance every landing/take-off respectively second hour. 6.5 Do your staff log any bird interactions 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.
13. Comment on the 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, use your own facilities, and if not, please list any relevant facilities that you use.

14.2 Is glycol recovered? If so, please state methods: We do not recover glycol.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? We use the three friction tester for aircraft de-icing.

15.2 Do you have standards or targets for friction testing?

16. FUTURE DEVELOPMENTS

16.1 Do you plan to purchase new equipment or vehicles? If so, please provide details: We do not plan to purchase any new equipment or vehicles.

16.2 Do you have plans to purchase new equipment or vehicles? If so, please provide details: We do not plan to purchase any new equipment or vehicles.

17. EXPERIENCE WITH CHEMICALS

17.1 State what you consider to be your most effective de-icer.

17.2 What de-icer do you use most frequently?

17.3 How are you ensured that the de-icer you use meets the required standards and regulations?

17.4 What are the main challenges you face when using de-icers?

17.5 What are your recommendations for improved de-icing practices?

18. MOVEMENT AND MANEUVRING AREA DATA

18.1 Describe the type of movement and maneuvering area data you collect and how you use it.

18.2 How do you ensure the accuracy and reliability of your movement and maneuvering area data?

18.3 What measures do you have in place to protect your movement and maneuvering area data from unauthorized access or misuse?

18.4 What are the main benefits you derive from collecting and analyzing movement and maneuvering area data?
such as snow removal, WIP in the airfield, etc.
5.6 Have the reporting procedures for runway safety incidents been discussed with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes, we’re establishing investigations together with safety committee members and airport users. At the incident and then deciding what measures we should take.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds; 6.1.4 Do your staff attend recognised bird control train ing courses? In our airport are well known species so where are no special trainings how to recognize them.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Yes, 24/7
6.3 What specialist equipment do you employ for bird control? Please state relevant supplier/manufacturer:
We have Scarecrow Patrol Two and two of gas guns Gepaval Guardian 2 (which we found very effective).
6.4 Do you carry out a bird strike risk assess ment? No, just we have audits from the CAA and air companies according to the records 6.5 Do your staff log all their bird control ac tivities to monitor the success in dealing with the problem, and to use in defence in case of law suit? We have insurance in those cases
6.6 Does your airport has problems with other wildlife (deer, for example) and, if so, how are these issues being addressed?

7. CRASH-FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6), capacities (kg/centre and type); year of manufacture:
1. HAMAZ 3x3, Water - 4000 l. Foam AFFF 6% - 250 l. Year 1988;
2. URAL 3x3, Water - 4000 l. Foam AFFF 6% - 220 l. Year 1983;
3. URAL 3x3, Water - 4000 l. Foam AFFF 6% - 220 l. Year 1983;
4. KRAZ 1x1, Water – 20000L, Foam AFFF 6% - 20000L. Year 1977;
5. KRAZ 1x1, Water – 20000L. Foam AFFF 6% - 20000L. Year 1977.

7.2 Future developments – are there plans to purchase or dispose of any equipment? The on-going purchase of a new airport fire fighting vehicle is not our field.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We do not have the Fire training simulator, for all firefighter’s trainings we are going to Fire and Rescue Department under the Ministry of the Interior of the Republic of Lithuania, firefighter’s training school.

PART 2: WINTER SERVICES QUESTIONNAIRE

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

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

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units); Towed jet sweeper TJS630 Schmidt, 1 unit (second is ordered), Compact jet sweeper CJSS14 Schmidt, I unit, Compact jet sweeper BB4000 Booshng, 1 unit, Runway sweepers DE224, 3 units, Runway jet sweeper Schmidt, 1 unit.

11. PROCEDURES AND METHODS
11.2 State the vehicles, formations and general meth od of runway, taxiway and apron clearance: All vehicles start their cleaning job from their garage in the fire sta tion, then all goes to clean new, txy and acf stand.
11.3 After moderate snow, how quickly do you expect to achieve “black top” on the runway? 10- 20min (it depends from weather conditions).

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season.

12.2 Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: We’re using UREA, last season we used about 120t of it. We’re preparing it as a liquid (50% water-50%UREA) and mixing with the solid UREA. It’s effects up to -8/9 degrees C. But it is also very important how quickly and effectively you clean the ice and salt from the bit.
12.3 Comment on storage capabilities of the chemicals that you use: We have ca pability to store about 100t.

12.4 Have you encountered corrosion problems with de-icers? No.
12.5 Have you employed any special means to economise on chemical use? No.
12.6 Do you have any other comments on experience with chemicals? We tried one of worldwide systems: Mu-Meter Mk6. (ADR-FM as a auxiliary).

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

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No, this is GHC responsibility.
14.2. Are you required to have dedicated de-icing positions or do you de-ice 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 Who is responsible for performance of the friction tester do you use? Mu-Meter Mi6. (ADR-FM as a auxiliary).
15.2 Have you any comments on the reliability of friction indexes? Reliability is ok.

16. FUTURE DEVELOPMENTS
16.1 Are you aware of any new technology that could help your airport’s methods? In future plans we have remote deicing pads.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: ARFF 6x6 for CAT7 (not less), TJS630 – towed jet sweeper, Runway deicer (solid and liquid Operations) for CAT 16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units:
16.4 Do you have any winter services equip ment that you would like to sell? No.

KEFLAVIK

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Keflavik International Airport
2. MOVEMENT AND MANOEUV-ERING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas; RWY 02/20 length 3054m, RWY 11/29 length 3065m, both 60m wide. RESA 90 X 120 m for all RWYs. All approaches obstacle free. Terminal Apron 120,695qm. East Apron 443,270sqm. Taxiways 475,198sqm. 2.2 Is this available for training purposes? Yes.

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.”
3.2 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 DAM-AGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
- 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.
- 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 addi tion the most critical areas are inspected at the beginning of each shift, three times a day also.
- 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 sweep ers are also available for major clean-up. FOD containers are positioned in strategic places.
- 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.
- General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments):

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 visualized 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 local airfield with reduced vehicle 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 – Next Generation of the above, but future plans include A-SMCGS.)

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 hardwood 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 local safety and security training, including ICAO and EUROCONTROL stipulations and recommendations. The Keflavík Airport Aviation Safety Committee, with members representing not only the FAA but also 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 incidences published in 2003 by EUROCOnTROL. Ensured these are developed and tailored to local circumstances. Further, do they safeguard the ‘non-punitive’ principles so as to help improve safety?

6. BIRD AND WILDLIFE CONTROL

6.1 Do your staff attend recognised bird control training courses? An annual training is performed at the beginning of the bird migratory 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? Continuous during April through September.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Our BASH team uses recorded distress calls (home made), pyrotechnics (crackers), shotguns and dogs. Lasers are being considered.

6.4 Do you carry out a bird strike risk assessment? If a risk assessment model is part of the BASH regulation. The assessment is carried out as often as dictated by circumstances, often many times a day. The process is audited twice a year.

6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? All activities are accounted for in daily log books and fed into the Opscom Aerodrome Operations system.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating:

- vehicle type; (example: MAN); axles (4x4, 6x6);
- capacities (kilogramme and litre); year of manufacture and litre; number of units. 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 Airport Superintendent: None. Of the above, but future plans include A-SMGCS.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? It is used by other airports in Iceland.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1 October – 30 April.

8.2 Average annual days of snow: 80 days.

8.3 Average snow depth: 290 m (accumulated snow through one winter).

8.4 Maximum snow in 24 hours: 34cm.

8.5 Annual number of days of de-icing activities: 36 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Total 37 people: five men on each shift and 12 on a regular day shift with stand-by responsibilities at nights and weekends. No personnel are sub-contracted.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CIS 720, 4 units); Snow sweeper Schmidt, Model 560, 6 units; Snow sweeper, towed, Danline, 450, 4 units; Snow sweeper, towed, Schörling, P-17T, 2 units; Truck, tow- ing, Scania, P400 with Schmidt MS 72.1 snowblade and Monroe SCPR 12th underbody scraper, 6 units; Truck, towing, Oskosh, P series with Schmidt MF 9.3 snowblades, 4 units; Snow blower, Oshikos, HB 2218-3P, 3 units; Snow blower, Oskosh, H 2218, 1 unit; Snow blower, Rolla 3000, 1 unit; Front end loader, Hough, H-100-C, 3 units, 6 units; Front end loader, John Deere, 744/844, 2 units; Front end loader, Komatsu, 540, 1 unit; Front end loader, Case, WCW20/CW24, 2 units; Front end loader, Ich, H-65-C, 1 unit; Snowploughs, Friuly/Ramphog, 6.1 meters, 4 units; Snowploughs, CTS, 10.1 meters, 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, Grademeko, VP-360, 2 units; Snowblade, Schmidt, M-33, 2 units; Truck, DAF, FASCF 75, 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility:

Priority One: Runway in use, minimum 45 m wide and braking action 38 MB or better. Priority Two: Taxiways to and from the active runway from and to the main terminal. Priority Three: Apron and aircraft stands at the main terminal (Terminal Apron). Priority Four: The East Apron and associated taxiways. Priority Five: The runway not in use and remaining taxiways/aprons.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Runway: At least four and up to six “snowcombinations” (ploughs towing sweepers) in tandem working out from the centerline if wind allows. One plough pushing (ploughs towing sweepers) in a tandem working out from the centerline if wind allows. One plough pushing, 4 units; Two ploughs pushing, 8 units;

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: Clearway SF3 (potassium formate) from Kemira. Average annual usage is 80,000 litres. Clearway SF3 (potassium formate, solid) from Kemira. Average annual usage is 80 tons. Clearway SF1 is very effective at low temperatures as anti-icer and has a long holdover time if not diluted with participation. 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 capabili- ties of the chemicals that you use. We have 280,000 litres storage capacity for liquids and a heated warehouse for the solids.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. In most cases solids 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 com- mension problems with de-icers? Because of rumours we have checked this thoroughly, but haven’t discovered any problems yet.

12.5 Have you experienced any problems with de-icers? Because of rumours we have checked this thoroughly, but haven’t discovered any problems yet.

12.6 Do you use other chemicals or sand on operational areas? Yes, we use black sand, as much as possible where it is allowed. We do not use other chemicals or sand on operational areas. Yes, we use black sand, prewetted with de-icing fluid on taxiways and aprons.

13. Icing

13.1 State model and number of ice warning systems: SCAN, system 16 EF from Surface Systems Inc. USA.

13.2 State model and manufacturer and number of units (For example: Schmidt, M-33, 2 units; Truck, DAF, FASCF 75, 1 unit.

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 manufacturers, 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 have an area that can be used without delays? Yes, we have an area that can be used.

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

14.4 Is glycol recovered? If so, please state methods: no.

14.5 Do you employ any special means to economise on chemical use? 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.

14.6 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.

14.7 Do you use other chemicals or sand on operational areas? Yes, we use black sand, prewetted with de-icing fluid on taxiways and aprons.

15. FRICTION TESTING

15.1 State model(s) of friction tester(s) you use? The MK6 MU Meter (2ea) and the KJ Law T6810 friction tester.

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

16. FUTURE DEVELOPMENTS
16.1 Are your views concerning the design of your air-
port’s methods? We are constantly trying to im-
prove our methods in snow/ice control.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: 70% of
our equipment is overage. Following a world-wide
tender the airport authority has purchased six new
“snow combinations” (a Scania P400 plough-
ing truck towing a Schmidt TJ5 560 sweeper) and
has the option to buy more in 2012.
16.3 Do you currently have equipment
or other products on order? No.
16.4 Do you have any winter services equip-
ment which you would like to sell? No.

KENT

PART 1: AIRPORT SECURITY

1. AIRPORT NAME: International Airport

2. MOVEMENT AND MANOEUV-
URING 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 1: TORA 2752m, TODA
3169m, ASDA 2752m, LDA 2752m, RWY 28: TORA
2752m, Lod 2752m.
2.2 LANDING aids for each RWY (e.g. CAT I): 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 identi-
died by internal/external SMS audits? Manston Kent
International Airport has an established SMS System
in place – this is an ever changing and growing docu-
ment - subject to an established internal audit system.

4. FOREIGN OBJECT DAM-
AGE (FOD) PREVENTION

4.1 Describe the FOD prevention programme to
control FOD in terms of:
a) Training: Included in Airports Induction brief-
ing to both new staff and WP Contractors Safety
briefing – also supported by information in the
Airports Tenants and User Manual – along with
Safety Poster Campaign to both staff and air-
port users – targeting FOD awareness.
b) Inspection by airline, airport, and airline
handling agency personnel. The airports poli-
cies and procedures are subject to review from all
based operators during each airlines audit schedule
requirements. c) Maintenance (use of sweeping,
magnetic bars, rumble strips, FOD containers etc):
FOD Bins on each handling Apron – FOD BODS
in regular use around the airfield accordingly.
d) Co-ordination of multiple agencies us-
ing airport (airlines, handling agents etc): Included
At Airports Induction briefing to both new staff and WP Contractors Safety
briefing – also supported by information in the
Airports Tenants and User Manual.
4.2 General: Are there any special systems or software
available for FOD control? (Specify please) (Product name and add any comments): FOD BOSS –

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring
vehicle and aircraft movements on the ground?
All radio Communication and movement con-
trol taken as a part of ATC flow control.
5.2 Are any design or engineering changes
being undertaken/required to eliminate per-
ceived hazards? Stop bars are in place at
both runway and taxiway holding points.
5.3 Are you currently using any innovative warn-
ings or guards – use of paint, signs, lighting and
other lower-cost technologies: Runway Guard
lighting, and Stop bar systems are in place at both
main runway holds and taxiway holding points.
MABS are in use at airports southern vehicle ac-
cess points in IVP conditions with Glimm light-
ing to further complete a ‘ring of red’ Policy.
5.4 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? Airside Driving Permit Programme
- training completed for an airside permit includes
familiarisation with airport markings and runway
hold locations – stop bars etc – inclusion of the
use of these warning systems are included on both
these and practical testing programme. These
permits are reviewed after a set period – along with
an incident recording system monitoring any possible
problem drivers or departments – all closely monitored
by Airfield Operations – any WP FOD is undertaken
after a full airside safety brief to the contractor – with
an escort provided at all times to any temporary pass
issued agency requiring to work in airside area’s.
5.5 Are you currently using any innovative
use of these warning systems are included on both
these and practical testing programme. These
permits are reviewed after a set period – along with
an incident recording system monitoring any possible
problem drivers or departments – all closely monitored
by Airfield Operations – any WP FOD is undertaken
after a full airside safety brief to the contractor – with
an escort provided at all times to any temporary pass
issued agency requiring to work in airside area’s.
5.6 Have the reporting procedures for runway safety
incidents been set up jointly with other parties ac-
tive in these processes? Further, do they safeguard
the “non-punitive” principle as described in the
SMS Policy – the airport has an established Runway Safety Team Meet-
ing – that specifically monitors any reported runway
related incidents – feeding in to the Airport Users
Group accordingly. – MGR system utilised – inter-
nal incident reporting system also supports this.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your bird management policy and
how it reduces the attraction of the airfield to birds:
6.1.1 Do your staff attend recognised bird con-
trol training courses? Yes – and specially for-
warding or other products on order? No.
16.4 Do you have any winter services equip-
ment which you would like to sell? No.
effective for airside walkways using similar application – good visual reference for passengers using walkways.

12.2 Have you experienced any contravention problems with de-icers? No

12.5 Have you employed any special means to economise on chemical use? Received training for staff on best use of the Safe Grip Products, how they work, on chemical use to further raise awareness and mitigate against any over application and possible was of fluid unnecessarily

12.6 Do you have any other comments on experience with chemicals? No.

12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: VASSAL System.

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

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-de-icing operations? Yes.

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

14.3 Is glycol recovered? Yes. The airport has an ice warning system: Vorhau, Calibre 9mm and shotguns.

14.4. Do you use other chemicals or on experience with chemicals? no.

14.5 Have you employed any special means to improve your safety performance in your airport? 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 large number of bird strikes occur.

14.6 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): All bird control activities are documented in detail.

6.1 Do your staff attend recognised bird control training courses? Yes, the new Fire Training Simulator (B747) is available to other airports for training purposes.

6.2 Are your bird control staff working on the airfield during bird control activities: 144 days.

6.3 What safety devices are currently employed? (Please state relvant 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.

6.4 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.

6.5 Do you 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 a policy on birds 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: (Weihrauch, Calibre 9mm) and shotguns.

7.2 Please state relvant 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.

7.3 Future developments – are there plans to purchase or dispose of any equipment? Currently no purchases are planned.

7.4 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.

8. Recent winter conditions

8.1 What is the designated period of winter readiness? 01 November until 31 March (if necessary, until 18 April).

8.2 Average annual days of snow: 175 days

8.3 Maximum snow depth: 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? 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, CJ5 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/ WF Sharani, 3 units; Portable Friction Tester, ASFT T2G0, 1 unit; winter operation control vehicles 4x4, 6 units; several small-sized equipment.

11. PROCEDURES AND METHODS

11.1 Please state how you ensure the priority of snow clearing of main operational facilities (runways, taxiways, 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 Taxiing de-icing system consists of 6 TUS 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 TWRs serving RWY in use.

12. EXPERIMENTAL 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 2F hot (Clariant).

12.2 Comment on storage capabilities of the chemicals which you use: 175 m3 de-icing fluid for movement area; 300lt de-icing salt; 569.000 litre deicing fluid for aircraft deicing.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: We use SafeWay SF (30g/m2).

12.4 Have you experienced any corrosion problems with de-icers? Yes, corrosion problems on vehicles and equipment.

12.5 Have you employed any special means to economise on chemical use? No special.

12.6 Do you have any other comments on experience with chemicals? No.

12.7 Do you use other chemicals or sand on operational areas? We use explanted shale for the operational areas.

12.8 Have you experienced any problems with de-icers? Yes, corrosion problems on vehicles and equipment.

12.9 Have you any comments on the effectiveness of chemicals at low temperatures? Yes.

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

12.11 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.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: GFS 2000, Boschung Metacaton 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 manufacturers, 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 Vestengaard Beta; 3 units Vestengaard Gamma.

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: Type of order: Units: No.

16.4 Do you have any winter services equipment that you would like to sell? No.
ing: vehicle type; chassis (e.g. MAN); axes (4X4, 6X6); capacities (kg/litre and type); year of manufacture; Fouquet (2007); the assumption 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 clearly on the area 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. After the operation of snow clearance, he track state is checked by the SSLIA under the authority of the Civil Aviation (in expectation of the signature of the protocol between the SNA and exploiting it). c) Traffic areas: It is necessary to release the parking lot to assure the airplane departure in parking or allow moving them. Total release of the parking lot without blocking the aircraft. On the parking areas, the snow is repressed towards the exterior one: extremities, sides, way of the deposit of fuels. A storage zone is created to each of the extremities. It suits equally to release the access ways between the sheds, as well as the access ramps to the terminal basement.

**9. WINTER EQUIPMENT INVENTORY**

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

9. WINTER ORGANISATION

9.1 What is the designated period of winter readiness? The period is November to March.

9.2 Average annual days of snow: 10 days.

9.3 Average snow depth: 7-10 cm.

9.4 Maximum snow in 24 hours: 20-25cm.

9.5 Annual number of days of de-icing activities: 50 days.

9.6 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, CIS 720, 4 units): Material of snow clearing: Vehicle 1: 1 tractor VALTRA of 200 CH and equipped of has blade of snow and of has rotary broom. The VALTRA will be equipped of year expander VICON. Vehicle 2: 1 tractor ZETOR of 56 CH and equipped of has blade a snow. 1 sleeps it off épanage of 2000 L of product déverglacant. 1 sleeps it off de-icing of 4000L of product déverglacant. Equipment used for the de-icing/anti-icing. A de-icer FMC type Tempest 2 ret: 0.011; blade of anti-icing of 151lts capacity, 1 de-icing tank 75/25 of 605lts capacity.

**11. PROCEDURES AND METHODS**

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, apron, area of each function). The operations of snow clearance and of déverglacage 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, Entropy of the parking lot had., Entropy of the parking lot adólitos.

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 airplane organisation, it suits 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 it height attains 30 cm), while avoiding the critical zones (glide, PAR,...). Lateral fires of track. It uses the lateral ROLOBA 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 PAR of 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 bea-
ing undertaken/required to eliminate perceived hazards? Integrated inductive loops on the STOP bars. 6X6.4 by the help of contracted hunting organisation. 5.3 What safety devices are currently employed? A-SMGCS; Airport Movement Area Safety System - AMSS; or ADSE-X, the Model X Airport Surface Detection Equipment; No special safety devices. 5.4 Comment on your experience with solid de-icing. Minimum spreader capacity 3000 l/min. or guards – use of paint, signs, lighting and other lower-cost technologies: Paint signs at TWy / RWy intersections as required by ICAO Annex 14 and guard lights on TWy / RWy intersections. 5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Pilots, controllers, airport vehicle operators are obligated to act in accordance with the local standards and procedures. Special training (driving licence) is performed for vehicle operators that entering RWy. 5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the “non-punitive principle” such as “o-penalty o-reporting? Yes. 6. BIRD AND WILDLIFE CONTROL 6.1 Do your staff attend recognised bird principles such as “o-penalty ο-reporting? Yes. 6.2 Are your bird control staff working on the critical season of bird appearance they are working frequently even continuously. 6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Pyrotechnics, Shot guns, Scarce crow (Premier). 6.4 Do you carry out a bird strike risk assessment? Yes. 6.5 Do you have any comments on the bird control activities to manage success in dealing with the problem, and to use in defence in case of lawsuits? Yes. 6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? We have a few cases yearly that fox has been observed on the airfield with the help of the infrared cameras for night monitoring. Each such case has been eliminated by the help of contracted hunting organisation. 7. CRASH FIRE RESCUE 7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 1. Rosenbauer PANther – 8x8, year of manufacture: 1998/ 13.500 l water, 1,500 l foam, 500 kg dry powder, pump: Rosenbauer RH360, capacity 6000 l/min. 2. FAUN – 6x6, year of manufacture: 1981 / 3000 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 R208 AHN, capacity 3000 l/min. 4. Rosenbauer TLF3000/200 / 4x4, year of manufacture 2002 / 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 UPHS M 400, capacity 38 l/min at 100 bars. 6. Renault TRAFFIC – 4x4, year of manufacture 2001 l water, 20 l foam, 20kg dry powder, pump: Rosenbauer UPHS M400, capacity 38 l/min at 100 bars. 7. Future developments – are there plans to purchase or dispose of any equipment? No. 7.3 If you have a Fire Fighting Training Simulator, is this available to other airports for training purposes? There is a Fire fighting training polygon at the airport. For now it is not intended for other airports. PART 2: WINTER SERVICES QUESTIONNAIRE 8. RECENT WINTER CONDITIONS 8.1 What is the designated period of winter readiness? From the Nov 1 until 30 Apr. 8.2 Average annual days of snow: 40 days. 8.3 Average snow depth: 25cm. 8.4 Maximum snow in 24 hours: 40cm. 8.5 Annual number of days of de-icing activities: 15 days. 9. WINTER ORGANISATION 9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 1. 4 to 6 employee for a/c de-anti / icing. 2. For snow clearing (runway, taxiways, aprons, stands and service roads), there are in three groups with 12 members in each. In case of heavy snow there is a deal for help with outsourced partner. 10. WINTER EQUIPMENT INVENTORY 10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating manufacturer, number and units of (for example, compact jet sweepers, Schmidt, CJ5, 720, 4 units): 1. Snow clearing - aiside: 1x Friction tester SaAB, 1x Renault and 2x truck with snowplough groups with 32 members in each. In case of heavy snow there is a deal for help with outsourced partner. 11. PROCEDURES AND METHODS 11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 1. Runway 2. Emergency way for RWy 3. Taxiways 4. High speed intersection 5. Main apron 6. GA apron 7. Navigation systems 8. Service roads inside the airport perimeter 9. Other areas 11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: 1. During the standby readiness: The number of vehicles and its formation during standby position is a part of snow management programme that is issued each year. 2. In the time of snow removal action on manoeuvring areas: The snow removal coordinator is responsible for monitoring the MET conditions. He performs RWy and taxiway 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 is removed by snow plough – 3 units. 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 plough sweeper. 4. Along with the quantities used last season. 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. 12.2 Comment on storage capabilities of the chemicals that you use: Chemicals storage capabilities are suitable. 12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “slow-down” factor etc. 12.4 Comment on your experience with solid 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: environmental impact on effectiveness of chemicals at low temperature. 12.7 Do you use other chemicals or sand on operational areas? Yes. 13. ICE WARNING SYSTEMS 13.1 State model and number of ice warning systems: There is freezing point detector at RWY touchdown zone (ILS / approach at effective at lower temperature, blow factor. 13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? There is a plan for installing an advance ice warning system on RWY in future. 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 manufacturers, and number of units: 2x De-anti/ ICER, Vestergard, Elephant Beta, 1x De-anti/ ICER, TB 8000, 1x De-anti / ICER, Vestergard, Elephant Gamma. 14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-anti icing is at most performed at the dedicated de-anti icing pad. In some circumstances the de-anti icing are performed at a/c stand. 14.3 Is glycol recovered? If so, please state methods: No. 15. FRICTION TESTING 15.1 What model(s) of friction tester do you use? Saab friction tester, SARSYS friction tester. 15.2 Have you any comments on the reliability of friction indexes? No comments. 16. FUTURE DEVELOPMENTS 16.1 Are you about to change any of your airport’s methods? No. 16.2 Do you plan to purchase new equipment.
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 Awareness course once every 12 months.
b) Inspection by airline, airport, and airline 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 vehicle and aircraft movements on the airfield. We also employ the services of an external consultant to audit our processes and procedures.

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 - AMSASS; 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

London City Airport. LCY also host a Pilot Forum twice a year. 5.6 Have the reporting procedures for runway safety incidents been reviewed with all parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-punalty’ reporting? NATS operate a system of ‘Open reporting’ in addition to MOR’s.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Constant bird patrols. Manage- ment of the horticulture on the airfield. We also employ the services of an external consultant to audit our processes and procedures.

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, gyrotechnics, shotguns, very pistol, lures, 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 their effectiveness and to use in defence in case of lawsuits)? Yes.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Yes.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 1 x Kronenburg 4X4 Foam Tender carrying the following amounts of extinguishing media: 6000 litres of water and 720 litres of FFTP foam liquid, 35Kg Monnex Dry Powder tender unit, 50Kg Halon 1211 B.C.F. trolley unit. 3 x Sides VMA 112 6 x 6 Foam tender carrying the following amounts of extinguishing media: 10,000 litres of water and 1200 litres of FFTP foam liquid, 75Kg Monnex, 75Kg Halon 1211 B.C.F. unit.

7.2 Future developments – are there plans to upgrade or replace any of this equipment? No.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Not currently but could be.

8. RECEN'T WINTER CONDITIONS

8.1 What is the designated period of winter readiness? November to March.

8.2 Average annual days of snow: 4

8.3 Average snow depth: 5mm.

9. WINTER ORGANISATION

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

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): 2 x Schmidt TJSS60 Snow Sweeper (primary), 1 x Danline 2000 Snow Sweeper (secondary), 1 x Schorning Snow Sweeper (secondary), 1 x Danline E540 DM5009 Snow Sweeper.

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, aprons, stand-still centre apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: 2 x Schmidt TJSS60 Snow Sweeper (primary), 1 x Schor- ning Snow Sweeper (secondary) are deployed to clear snow from runway for a three line stagger formation. 1 x Danline E540 DM5009 Snow Sweeper, are deployed to remove snow from the Taxiway, 2 x Danline E540 SC Snow Sweepers along with mini gem spayer units are used for stand clearance and Jet centre apron.

11.3 After moderate to heavy snowfalls, should you expect to achieve ‘black top’ on the runway? Varies dependent upon situation, however de-sired time scale is as soon as possible.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Kilfrost runway, holdover time up to 3 days if there is no following precipitation.

12.2 Comment on storage capabilities of the chemicals that you use: 1 x 25,000lt bunded tank.

12.3 Have you experienced any corrosion problems with de-icers? No.

12.4 Have you employed any special means to economise on chemical use? No.

12.5 Do you have any other comments on experience with chemicals? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: None at present.

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

14. AIRCRAFT DE-ICING

14.1 How many airport-employed or sub-contracted anti/de-icing operations? If so, please state vehicle or other facility and manufacturer, and number of units: Yes – 4 deicing vehicles.

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

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

14.4 What model(s) of friction testing do you use? Grip Tester.

14.5 Have you any comments on the reliability of friction indices? 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 have any winter services equipment that you would like to sell? 1 Schor- ning brush/blower towable unit.
AIRSIDE SAFETY SURVEY 2012

Enclosed. Airfield Projects work sites must conform to the safety guidelines. Airline cleaning contractors trailers must be totally enclosed. FOD bins are provided on aircraft stands for collection of small foreign object debris (FOD). FOD is disposed of in the correct way. Three Tier representation from Airlines, Handling Agents and the Managing Corporate Responsibility Board. They specify that: "The aerodrome operator shall establish a Safety Management System to control FOD in terms of:

- Educational (specific training for FOD control activities (to manage success in dealing with the FOD hazard));
- Monitoring (monitoring and detecting FOD); and,
- Corrective (removing and dispersing).

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? RTF, A-SMGCS, RIMCAS. Airfield Operations vehicles are fitted with transponders for operating on the runway. 5.2 Are any design or engineering changes being undertaken to aircraft or the environment to prevent FOD hazards? Possible introduction of RTF safety guidelines stop bars, LED lighting on taxiway and hold points. 5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System – AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A-SMGCS, RIMCAS, controlable runway guard bars.

6.3 What specialist equipment do you employ for bird control training courses? See above.

6.1 Do your staff attend recognised bird control training courses? Yes – via FERA (The Food and Environment Research Agency).

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


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? See above.

6.6 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds:

Bird 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, who work in conjunction with those below to control birds on and around the aerodrome in accordance with CAP 772. Birdstrike Hazard Map – A bird hazard safeguarding map is maintained. This is based on an Ordnance Survey map and highlights the assessed local hazards and also shows on a wider scale such sites as landfills, gravel extraction, and water bodies; Local Bird Calendar – Gatwick Airport have an aerodrome specific bird calendar. The calendar is based on statistical data and known bird activity over a number of years. The calendar is used on a monthly basis as a predictive tool during the year to assess any likely change to the bird strike hazard; UK CAA Birdstrike Committee – Gatwick Airport has representation on this Committee; All Airfield Operations personnel who carry out bird hazard management duties are trained and hold a firearms certificate which must be revalidated every 3 years; All staff attending approved firearms training course and to ensure competency, periodic refresher training is undertaken in the use of firearms, bird hazard management operations and local ornithology. Comprehensive records are kept of all bird control activities and firearms training and assessments; All vehicles involved in bird hazard management activities are suitably equipped and maintained; Bird Patrols are carried out to ensure that: a) the presence of birds on the airfield and in the surrounding area is minimised; b) an environment not conducive to the presence of birds is created; c) birds on the airfield are detected and dispersed; d)warming can be passed to aircraft and ATC about the presence of flocks of birds on the airfield; e) the formation of night roosts is prevented. Bird patrols are carried out across the active airfield. All areas are patrolled, with emphasis rather than concentration being on the active runway. Bird Hazard Assessment / Warning: Bird hazard assessment is carried out via the tactical bird patrols and strategic analysis by the Bird Co-ordinator and Operations Management. Air crew are warned whenever the presence of birds in large numbers is thought to constitute an immediate hazard. This is done directly or via 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 aircrew 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? See above.

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 FOD hazard); Monitoring (monitoring and detecting FOD); and, Corrective (removing and dispersing).

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? RTF, A-SMGCS, RIMCAS. Airfield Operations vehicles are fitted with transponders for operating on the runway. 5.2 Are any design or engineering changes being undertaken to aircraft or the environment to prevent FOD hazards? Possible introduction of RTF safety guidelines stop bars, LED lighting on taxiway and hold points. 5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System – AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A-SMGCS, RIMCAS, controlable runway guard bars.

6.3 What specialist equipment do you employ for bird control training courses? See above.

6.1 Do your staff attend recognised bird control training courses? Yes – via FERA (The Food and Environment Research Agency).

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


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 FOD hazard).

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? RTF, A-SMGCS, RIMCAS. Airfield Operations vehicles are fitted with transponders for operating on the runway. 5.2 Are any design or engineering changes being undertaken to aircraft or the environment to prevent FOD hazards? Possible introduction of RTF safety guidelines stop bars, LED lighting on taxiway and hold points. 5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System – AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A-SMGCS, RIMCAS, controlable runway guard bars.

6.3 What specialist equipment do you employ for bird control training courses? See above.

6.1 Do your staff attend recognised bird control training courses? Yes – via FERA (The Food and Environment Research Agency).

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


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 FOD hazard).

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? RTF, A-SMGCS, RIMCAS. Airfield Operations vehicles are fitted with transponders for operating on the runway. 5.2 Are any design or engineering changes being undertaken to aircraft or the environment to prevent FOD hazards? Possible introduction of RTF safety guidelines stop bars, LED lighting on taxiway and hold points. 5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System – AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): A-SMGCS, RIMCAS, controlable runway guard bars.

6.3 What specialist equipment do you employ for bird control training courses? See above.

6.1 Do your staff attend recognised bird control training courses? Yes – via FERA (The Food and Environment Research Agency).

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


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

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 edge
(b) runway centerline
(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 applying the chemicals 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 your experience with de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: CLEARYARD 3 – Liquid acetate chemical.

CLEARWAY 65 – Solid acetate chemical. Brotherton's Solid formate chemical.

KONSIN – Liquid Glycolic chemical (Will only be used at the discretion of the Airfield Duty Manager in line with London Gatwick Airport – Airfield Operations – Konsin Usage Checklist.).

GRIT – Conforming to the latest published version of BS 812, 1973, Part 3.

12.2 Comment on storage capabilities of the chemicals that you use: We have six storage tanks each capable of storing 85,000 litres. Total storage capacity 510,000 litres. We also have mobile storage capacity of 90,000 litres.

12.3 Comment on your experiences of the benefits/disbenefits of ice warning systems? None. Are there any comments on the reliability of friction indexes? No.

13. EXPERIENCE WITH ICE WARNING SYSTEMS
13.1 What model(s) of friction tester do you use? A-CDM Implementation Programme.

13.2 Have you any comments on the reliability of ice warning sensors on the runway? None.

13.3 Have you any comments on the reliability of friction indexes? No.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-de-icing operations? Yes, 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? No.

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? A-CDM Implementation Programme.

15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? A-CDM Implementation Programme.

Release 1, 2 and 3 implemented. Release 4 and 5 – future development.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes – Fire Appliances.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: Fire Appliances – Rosenbauer Panthers x 3 – 2011 – an additional 3 in 2013.

16.4 Do you have any winter services equipment that you would like to sell? No.
and above the current management processes.

There are no specific systems or software solutions in use at STAL which 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, contractors and the like. This process is set to continue as new learning comes from the statistical data of reports and reviews. There is also a quarterly Manoeuvring Area Safety Team chaired by STAL and NATS representatives. Beyond these forums, the driver training packages now contain content around incursion awareness for staff who operate on the manoeuvring areas. ‘Runway’ driving permits are only issued if the need is legitimate. All staff nominated to attend these specific driving courses are chosen after careful selection and sign-off process. 5.6 Have you had any instances of FOD 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 incident awareness 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

6.1 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 – Avian Bird Control) requirements. The BAA policy supports all of the recommended best practices in relation to the reduction of bird attractants by controlled methods i.e. herbicide and insecticide treatment together with the grass management process. 6.1.1 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 relating to their initial competency requirements and every 3 years thereafter in accordance with CAP 700 (Civil Aviation Publica-
tion 700 – Operational Safety Competencies) and BAAs own requirements. Further to this all staff are required to undertake the Forestry Commissions Firearms licences issued by the Police Authority for the use of the pistols and shotguns which are owned by STAL and undertake an on-airport bird control competency check.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? A bird control- ler availability continues to be based on the 24/7/365 basis. It 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 etc) Please state relevant supplier/manufacturer.

STAL currently utilise the following resources for the control of birds: ‘Scaracrow digital bird distress call units installed in all operations vehicles (6 units), 2 x 12 bore Beretta double barreled shotguns, 1 x 0.410” calibre “Hush Power” silenced single barrelled shotgun, 1 x 0.22” calibre Single shot air rifle with scope, 4 x 1.5” calibre ‘Apsley’ Flare pistols with 12 bore adaptors.

6.4 Do you carry out an bird strike risk assessment? STAL are audited annually by FERA (Food, Environ-
ment 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 Coordina-
tor will review the risk as required and will make adjustments to the daily operational control procedures to mediate the changing situation.

6.5 Do your staff log all their bird control activities (in case of lawsuits)? All bird control duties are routinely logged by the operators in accordance with the requirements of the CAP 772 recommended practise.

6.6 Does your airport have problems with other wildlife (sheep/deer, for example) and if so, how are these issues being addressed? Although we have had periodic sightings of other wildlife i.e. rabbits, there have not been any problems with these other wildlife.

6.7 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. We are currently looking to replace the Kronenburg Mac 08, 4X4, 2 Axles, Landrover Discovery 4x4 2 Axles 01/02, Kronenburg Mac 4x4 2 Axles 09/10, Sahon Hosleyer 4x2 2 Axles 00/01, Sahon ALP (Aerial Ladder Platform) 6x3 Axles, Kronenburg Mac 08 4x4 2 Axles, Kronenburg Mac 11 6x3 2 Axles 2015, Kronenburg Mac 11 6x3 2 Axles 06, Kronenburg Mac 11 6x3 3 Axles 96.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g: MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture: Landrover Discovery 4x4 2 Axles 01/02, Kronenburg Mac 11 6x3 3 Axles 96, Kronenburg Mac 11 6x3 3 Axles 96.

7.2 Future developments – are there plans to purchase or dispose of any equipment? We are currently looking to replace the Kron-
enburg fleet over the next 3 years.

7.3 If your airport possesses a Fire Training Simula-
tor, 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 QUESTIONS

8. RECENT WINTER CONDITIONS

8.1 What is the desigated period of win-
ter readiness? Winter readiness period is 1 November to 31 April (inclusive).

8.2 Average annual days of snow: Aver-
egage 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: Maxi-
mum 20cm snow fall in 24 hours.

8.5 Annual number of days of de-icing ac-
tivities: Throughout the winter season this period we have on average 60 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-con-

equipment), IRVR (Instrumented runway visual range equipment), Full CAT III ground lighting incl: SASs (supplementary airside systems), 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 Incursions Control System, Collision Avoidance System), ASMGCS (Ad-
vanced Surface Movement Guidance Control System), 24hr Runway Guard Bars at each runway entry point.
12.2 Comment on storage capabilities of the application rate of 20g/m² or 40g/m² was 350,000 with the quantities used last season. Comment on
12.1 State which pavement de-icers you use, along with the quantities manufactured and used last season. Comment on the quantities manufactured and stored. We have
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, 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 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, operations 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 as associated areas as follows: a) Runway and taxiway areas - Prime Movers and Snow Blowers, b) Taxi lanes - Prime Movers, Brushes and Blades, c) Apron areas - Brushes, Blades and Walkway Brushes. 11.3 After clearing snow, how quickly do you expect to achieve "black top" on the runway? Dependent 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: Isomes 3 Liquid, Kennis Liquid. The quantities used last season (2010/11) at an application rate of 20g/m² or 40g/m² was 350,000 litres Isomes 3 and 45,000 litres of Kennis. 12.2 Comment on storage capabilities of the chemicals that you use: The existing storage capabilities used for the storage of de-icing products at STAL are fit-for-purpose and meet with national legislation. 12.3 If bulk tanks are fully-bundled and the delivery systems for transferring media to the vehicle tanks are of good quality and reliability. We have increased the capacity by 150,000 litres for Winter 2011/12.
12.4 Have you experienced any corrosion problems with de-icers? No. 12.5 Have you employed any special means to economise on chemical use? No, however we are using technological solutions when with the new vehicles, which automatically switches off the spray bar when going over an area already treated, using GPS.
12.6 Do you have any other comments on experience with chemicals? No. 12.7 Do you use other chemicals or sand on operational areas? We used 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/ice operations? If so, please state vehicle or other facility manufacturing, 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 method of recovery: No, we have no Glycol recovery systems in use at STAL.
15. FRICITION TESTING
15.1 What model(s) of friction tester do you use? We currently use the Mu Meter M46 CFME device as manufactured by Douglas-Tugmaster in the UK, 15.2 Have you any comments on the reliability of friction index? 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 ATA and other relevant bodies.
16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of airport’s methods? (snow clearing vehicle formations, for example): No, although the snow plan is reviewed annually. 16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No – we have purchased 2 x new de-icers, 1 x snow blower, 1 x runway sweeper and 8 x tractors/brushes for Winter 2011/12. 16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No. 16.5 Do you have any winter services equipment that you would like to sell? No.

Madeira
Madeira Airports

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Aeroporto do Funchal, Madeira
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, the surface area of the apron, ramp area, other): RWY Length 2781m, RWY 05 TORA 2631mnts (including 150m of pavement before Threshold), RWY 23 TORA 2631mnts (including 150m of pavement before Threshold), RWY 05 Width 45m, separate runway, apron area 82.487,00 m2, ramp area 110.809,00smq. 2.2 Landing aids for each RWY (e.g. CAT II). Visual approach for both RWY's only. RWY 05 PAPI system with 3 degrees glide-scope on both sides of the RWY and RWY23 PAPI system with 3 degrees glide-scope on left side of RWY.
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? It was made an adjustment of risk levels initially defined and implemented a risk acceptability table.
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport's programme to control FOD in terms of: a) Training: It is mandatory to have training about this issue before starting to operate in the manoeuvring area. b) Identification by airline, airport, and airplane handling agency personnel: Airport duty manager does inspects to the runways and aprons in accordance to Doc.913.
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 monitor- ing vehicle and aircraft movements on the ground? Aircraft and vehicle movements are controlled and coordinated by airport and ground control.
5.2 Are any design or engineering changes being undertaken/requested to eliminate perceived hazards? The measures taken were effective until 2010 and, until now, no need to take other measures.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMSAS; or ASDX, the Model X Airport Surface Detection Equipment); Aircraft movement control is accomplished by a taxiway lighting/mark- ing 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 in place 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 ICAO requirements.
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
6. BIRD AND WILDLIFE CONTROL
6.1. Do you staff attend recognised bird control training courses? No.

6.2. Are your staff working on the airfield? Yes, as it is included in the Manual of the Airport.

6.3. What specialist equipment do you employ for bird control? shooters, pyrotechnics, gas canons and scarecrows to deter birds.

6.4. Are you going to change any of your air-friction indexes? In the overall results of the evaluation of the equipment GRIPTESTER MARK II. This unit defines the equipment that is used for determining the coefficient of friction were analyzed and approved.

6.5. Have the reporting procedures for runway safety incidents been set up jointly with other parties active in this process? Further, do you safeguard the non-punitive principles such as ‘no-penalty’ reporting? Jointly with other parties active in this process.

6.6. Are your bird control staff working on the airfield continuously, hourly, less than hourly? They are familiar with the intervention area and airport birds strikes and other wildlife-related incidents.

6.7. Future developments – are there plans to purchase or dispose of any equipment? Over 100 birds of prey to establish danger conditions to keep birds away from hazardous areas like runways and other; gas cannons to throw out perched birds at the sides of the runways; alarm calls (sirens) and devices to output elements to reduce the attraction of the airfield to birds.

6.8. Do you carry out a bird strike risk assessment? In Madrid-Barajas Airport. This study incorporated a working session that bringing together various air operators, Spain’s Air Navigation Safety Agency (AENA), pilots and airport managers to improve the airport’s ability to manage bird strikes and other wildlife-related incidents.

6.9. Are your bird control staff working on the airfield continuously, hourly, less than hourly? They are familiar with the intervention area and airport birds strikes and other wildlife-related incidents.

7. CRASH FIRE RESCUE

7.2 Future developments – are there plans to purchase or dispose of any equipment? Field Renewal (Oshkosh T 12) – Purchase in 2012.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Madeira airport doesn’t have training Camp.

8. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
8.1. Describe your airport’s programme to control FOD in terms of: a) Training: Annual refreshing of operators to Marshallers.

8.2. Inspection by airline, aircraft, and ground handling agency personnel: Four inspections a day per runway made by airport Marshallers. Continuous inspection of stands made by Airlines / Handling Agent (one per each stand use) to control FOD.

8.3. Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Sweeping & vacuum cleaning whenever needed.

8.4. Co-ordination of multiple agencies using airport (airlines, handling agents etc): Quarterly meetings with airlines and handling agents to coordinate FOD prevention.

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

9. RUNWAY INCURSION PREVENTION
9.1. What is the primary method of monitoring vehicle and aircraft movements on the ground? A-SMGCS based on mode-S transponders on-board, both vehicles and aircrafts.

9.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? There are plans to improve the movement area signaling of the airport.

9.3 What safety devices are currently employed? a) A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment System.

9.4. Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Use of paint, signs and lighting as stated and recommended in Annex 14, (ICAO certified airport).

9.5. What specific procedures are used to increase awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? We have established a Runway Safety Committee, as stated in EAPPRI, where all relevant issues are discussed among air companies / ramp handling agents, airport vehicle operators and air traffic control authority.

9.6. Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do you safeguard the non-punitive principles such as ‘no-penalty’ reporting? Of course, we have two reporting procedures based in SMS, safeguarding non-punitive principles; one is Airport Authority SMS, and the other one is Air Navigation Safety Agency SMS.

10. BIRD AND WILDLIFE CONTROL
10.1. Please detail your habitat management policy and how it reduces the attraction of the airport to birds?

10.2. Do your staff attend recognised bird control training courses? Yes, as it is included in the Manual of the Airport.

10.3. What specialist equipment do you employ for bird control? shooters, pyrotechnics, gas canons and scarecrows to deter birds.

10.4. Are you going to change any of your air-friction indexes? In the overall results of the evaluation of the equipment GRIPTESTER MARK II. This unit defines the equipment that is used for determining the coefficient of friction were analyzed and approved.

10.5. Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do you safeguard the non-punitive principles such as ‘no-penalty’ reporting? Of course, we have two reporting procedures based in SMS, safeguarding non-punitive principles; one is Airport Authority SMS, and the other one is Air Navigation Safety Agency SMS.
ment? Continuous fleet renewal policy.

7.3 If your airport possesses a Fire Training Simula-
tor, what are its acquired benefits for training purposes? We have a Fire Training Simulator, but until now it is used just for Madrid-Barajas training.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From 11-11 until 15-03

8.2 Average annual days of snow: 3.

8.3 Average snow depth: 0-2 cm.

8.5 Annual number of days of de-icing activities: 54.

9. WINTER ORGANISATION

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

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow cleaning, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Plough OVERASEN EP 15 units, Sweeper (trailer) OVERASEN R5400 Mk III 15 units, Liquid spreader GILETTA SCLA-BU 2 units, Blower Schmidt Supra 4000 2 units, Greadier Volvo L 180 2 units, Greadier Volvo L 120G 1 unit, and Bonder BOBCAT 3300E 25 units, Plough GILETTA MD60 10 units, Plough GILETTA MC35 3 units, Plough GILETTA MC45 4 units, Sweeper GILETTA U4000 17 units.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clear-
ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Route 1: RWY 18R-36L, Terminal area T4S2 y RWY 18L-36R. Route 2: RWY 06R, Terminal area T4S1 y RWY 15L-33R. Route 3 (North and South configuration): TWy A, M, B y N in T4-T4S y Terminal area T4 North. Route 4 (North and South configuration): TWy A y M in T223 y Terminal area T112 North. Route 5: Terminal areas T123 South and T4 South.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Guidance vehicle. Provides guidance and communica-
tion support with ATC to the other vehicles of their team. RWy operative vehicle team. 3 snowploughs, 1 spreading liquid de-icer truck and 1 snow cutter team. RWy operative vehicle team. 3 snowploughs, 1 spreading liquid de-icer truck and 1 snow cutter team.

11.3 After a major snowfall do you expect to achieve "black top" on the runway? The first two RWY are cleaned in 45 min. The three terminal areas are cleaned in 93 min. The whole RWY system (four RWY) are cleaned in 142 min.

12. EXPERIENCE WITH CHEMICALS

12.2 Comment on storage capabilities of the chemicals that you use: 150,000 Kg. area, 266,000 l potato formate, 25,000 Kg sodium formate. 12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: As temperatures are not maintained in vehicles, other lower-cost technologies: We are install-
ing A-SMGCS to monitor aircrafts and in all airfield elements are being carried out.

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? 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 you safeguard the "non-punitive" principles such as ‘no-punishment’ reporting? 5.7 Accidents / incident reporting procedure is coordinated with all entities involved in airport operations. Non-punitive principle has been imple-
mented in the occurrence reporting procedures.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: 6.2 Do you manage success in dealing with the problem, and to use in defence in case of lawsuits)? yes.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/ manufac-
turer): Falcons and sonic bird deterrents.

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

6.5 Do you staff log all their bird control activities (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?

6.7 What is the designated period of winter readiness? From November 1 to April 15. 6.8 Average annual days of snow: 0.5 days/year.

6.9 Annual number of days of de-icing activities: 3 – 4 days/year.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift?
13.3 Comment on your experiences of the ice warning systems and if so, which one(s)? Arrivals runway, emergency access roads, Exit taxiways, Taxiways to aprons, Apron areas for taxiway of aircrafts, Departure runway, Taxiway from apron to departure runway, Aprons, Other areas. Apron collapse risk: Departure runway, emergency access roads, Taxiway from apron to departure runway, Apron areas for taxiway of aircrafts, Arrivals runway, Exit taxiways, Taxiways to aprons, Aprons, Other areas.

13.4 Have you experienced any corrosion on the parking area? At parking stand, number of units: The service is provided by a handler/manufacturer: Acoustic Measure (Scare-crow UK), Firing of Blanks, Culling.

14.1.4 Do the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: The service is provided by a handler/manufacturer: Acoustic Measure (Scare-crow UK), Firing of Blanks, Culling.

15.3.2 Have you any comments on the reliability of the aircraft’s systems? From our experience, they are reliable but intermittent, as the temperature is not very low.

15.3.3 Have you any comments on the reliability of the aircraft’s systems? From our experience, they are reliable but intermittent, as the temperature is not very low.

16.4 Do you have any winter services equipment that you would like to sell? No.

1.1 Please state the vehicles, formations and general facilities and the surface areas (for example: total RWy length (or lengths), Take Off Runway Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWy 31: TORA 3355m, RWY 13: TORA 3543m, RWY 23: TORA 2377m. 

5.2 Are any design or engineering changes being undertaken? Other rare wildlife issues (eg dogs) are being addressed? Other rare wildlife issues (eg dogs) are being addressed? Other rare wildlife issues (eg dogs) are being addressed? Other rare wildlife issues (eg dogs) are being addressed?

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, aircraft vehicle operators, and other people who work at the airport? All personnel driving on the airside are periodically trained prior to the renewal of their Airfield Driving Permits and also a safety awareness programme is in place for those working around aircraft. 5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting systems? Breaches that are identified and reported by the Aerodrome Operator and Air Traffic Control. Persons involved in driving breaches appear in front of a specific board. The main objective of the Board is to punish individuals or to further educate and address any short comings from the individual.

16.4 Do you have any winter services equipment that you would like to sell? No.
1. AIRPORT NAME: Marseille Provence Airport

2. MOVEDMENT AND MANŒUVR- VRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWL length (or lengths), Take Off Run Available (TORA), RWL width, shoulder widths, total apron area, ramp (runways / taxiways) are in contact with navigation equipment). For example: 2000m, 2 unrestricted and 2 normal degrees, 25 collapsible hose with pistol for Dry Powder. Fiat Ducato Rescue Van - Qty 1.

2.2 Future developments – are there plans to purchase or dispose of any equipment? MIA is currently in the early stages of purchasing a new 4x4 chassis and we are gathering relative information from Fire Truck manufacturers.

3. SAFETY MANAGEMENT SYSTEMS


Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Civil Aviation Authority carried out a SMS audit on October 2011.

4. FOREIGN OBJECT DAM- AGE (FOD) PREVENTION

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

Airside safety is a new task for the airport, it has just began. Before, the airport did not have a FOD program. Friction tests are performed by the airport (this is a requirement by Sterella) lasers, shotguns, explosive cartridge pistols and CAPA. 7 bird scarers had been installed in airfield between the two runways.

5. RUNWAY INCURSION PREVENTION

5.1. What is the primary method of monitoring vehicle and aircraft movements on the ground? Each vehicle and aircraft in the movement area (runways / taxiways) are in contact with navigation controller which is in charge of the separation. In 2012 or 2013, a ground radar will be installed to improve the monitoring (installation in progress).

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? All markings and lighting follow ICAO recommendations to help pilots on the airport. Hot Spots are published to alert pilots on the specific points at MRS airport.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other technologies: In some places, signs are painted on the ground in order to show that old “taxiway” is closed.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? A specific license is mandatory to drive a vehicle in the airfield of the airport. This license requires training, each 3 years for airport vehicle operators for movement area.

6. BIRD AND WILDLIFE CONTROL

6.1 Does your staff attend recognised bird control training courses? The staff has a special training approved by the Technical Service of General Aviation (TAC). The bird control training courses are done by Civil Aviation Authority with airport manager, airline pilot and other users of the airport. The purpose is to check if drivers / pilots have special difficulties on the airfield and find solutions. There is a coordination protocol between ATC operator and airport operator, in order to analyse together incidents on airfield.

6.2 Are your bird control staff working on the field continuously, hourly, less than 15 hours before sunrise and +½ an hour after sunset. 6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier / manufacturer): The bird control vehicle is equipped with movable scarer bird with sound effects (made by Sterella) lasers, shotguns, explosive cartridge pistols and CAPA. 7 bird scarers had been installed in airfield between the two runways.

6.4 Do you carry out a bird strike risk assessment? The process is audited by Civil Aviation Authority every 18 months.

6.5 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, results of bird strike or runways reports are made and analysed monthly.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No, there are only problems with birds.

7. CRASH FIRE RESCUE

7.1 Please detail your CFT (crash vehicle inventory stating: vehicle type; chassis (e.g., MAN); axles (4x4, 6x6); capacities (kg/ltetre and type); year of manufacture: 2 x Camion incidensides Thomas VM 90 VMA 105, Camion incidensides Sides Thomas VM 102, Camion incidensides Sides Thomas VM 28 VMA 105, Vesette de sauvetage Durance, Vedette de sauvetage Bolmon, Renault Trafic fouro, Renault Masterambulance, Renault Kangoo 1.2 16v, Mitsubishi pick-up 1.200, Renault Kangoo 1.2 16v Flyco 2, Renault Kangoo 1.5 Dci 85 Flyco 1, Fiat Ducato 1.5 85 Flyco 1, Dacia Duster dCi 110, Nissan Navara 2.5DCI, Toyota Land Cruiser 90, Renault Kangoo D65 1.9L, Renault Clio 1.2 16v. 7.2 Future developments – are there plans to purchase or dispose of any equipment? Only for the change plan.

8.1 What is the designated period of winter readiness? From November 15 to March 15.

8.2 Average annual number of days of de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Aircraft de-icing are performed by handling agent. No de-icing is not very often performed in Marseille Airport.

9. WINTER ORGANISATION

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

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Snow Clearing: 3 trucks mounted clearance blade, 3 levelers, 1 sweeper equipped with a blade, 1 loader (< 2 if necessary), 5 trucks (< 4 if necessary).

11. PROCEDURES AND METHODS

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

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: No de-icing of runways and taxiways last year. Cf. point 10, use of 1 spreader with a capacity of 6000 l.

12.2 Comment on storage capabilities of the chemicals that you use: Cf. point 10: total de-icing agent reserves: 100,000 l.

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

12.5 Have you employed any special means to economise on chemical use? No. de-icing is not very often performed in Marseille Airport.

13. ICE WARNING SYSTEMS

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

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-/ de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units: Aircraft de-icing are performed by handling agent.

14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Some parkings (1 parking by handling agent) are used in winter for de-icing positions.

15. FRICTION TESTING

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

16. AIRSIDE SAFETY SURVEY 2012 P53
4.2 General: Are there any special systems or airport staff. In the monthly Safety Committees, all airlines, handling agents etc): The personnel are FOD bins have been placed on the apron. Rumble strips, FOD containers etc): Maintenance stands and the FOD for that stand is collected. LIn Airport, a SEA qualified agent inspects one agency personnel: Once a week, in the presence of professionals (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. Since 1 August 2010, SEA has been commissioning Bird Control Unit italy (BCI), Italy’s leader in the field, for the monitoring and bloodless removal of animals from inside the airport. 6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously. 6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): (Spacemaster) fixed dissuasion system with 2.5 kHz to 20 kHz sounds; 2000 W power; shotsguns, distress call, L-RAD. 6.4 Do you carry out a bird strike risk assessment, if so, when? 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 (furred animals, reptiles)? No. If so, how are these issues being addressed? Wild rabbits, hares, foxes and nutrias. Bloodless capture. 7. CRASH FIRE RESCUE 7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6) capacities (kg/ltitre and type); year of manufacture: Poseidon Autohydrofoam MAN 6x6, Dragon X 6 Autohydrofoam/Powder IVECO 6x6, Dragones Superdragont Autohydrofoam/ Powder IVECO 8x8, Rampini Sirmir 4x4, ASA Rescue Vehicle IVECO 4x4, APS Autopump IVECO, APS NBCR Vehicle BAI, Autostrada Support Tanker Mercedes 4x4. 7.2 Future developments – are there plans to purchase or dispose of any equipment? No. PART 2: WINTER SERVICES QUESTIONNAIRE 8. RECENT WINTER CONDITIONS 8.1 What is the designated period of winter readiness? 8.2 Average annual days of snow: 5-7 days. 8.3 Average snow depth: 7-10cm. 8.4 Maximum snow in 24 hours: about 20-25cm. 8.5 Annual number of days of de-icing activities: 9. WINTER ORGANISATION 9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? About 182. 10. WINTER EQUIPMENT INVENTORY 10.1 Please list specific equipment, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweep, Schneider, CIS 720, 4 units): SEA supplies: n. 2 snow type fresia 1,90 st. n. 3 turbo-tillers roba 1000 n. 3 fresia eff. 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. 11.1 State whether the airport has any special systems for snow management. 11.2 State which vehicles, formations and general method of runway, taxiway and apron clearance: Operations on runways and taxiways are performed with sweepers, snow plows and de-icing vehicles. Operations on Aprons are performed with blades. Snow is amassed and removed; after- wards pavement is treated with glycol liquid. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? About 20 mins. 12. EXPERIENCE WITH CHEMICALS 12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low-temperatures and achieved holdover times etc: Safety KA; Safety SD, Safety KA has been used to prevent deposit of snow on pavement. Safe- way SD has been used in case of pavement with ice and subsequent use with liquid. 12.2 Comment on storage capabilities of the chemicals that you use: Safety WA, 100.000 litres; Safety WD, 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 Vestergaard; 6; De-Icer Struwer, 2. 14.2. Are you required to have dedicated de-icing positions or do you de-ic 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 perform a calibration check and maintenance technical support. 16. FUTURE DEVELOPMENTS 16.1 Are you about to change any of your air- port’s methods? No changing in the short term.
AIRSIDE SAFETY SURVEY 2012 P56

MILAN MALPENSA

PART I: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Milan Malpensa Airport
2. CODE: MXP
2.1 AIRSIDE MANOEUVRE-URING AREA DATA
2.1.1 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 1TL-35L, 235,000 sqm; Runway 17R-35L, 235,000 sqm; Taxiway, 552,000 sqm; Apron T1, 1,150,000 sqm; Apron T2, 319,000 sqm; TOPA: 3.920m.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 35 R/L CAT III, 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, identifying the need for external SMS audits?

4. FOREIGN OBJECT DAM-AGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of: a) Training: An awareness campaign for the staff working at the airport has been carried out using posters focusing on safety issues. Information is also available on the ‘Airport Circulation and Safety Manual’ which is at all airport 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. One FOD BOSS sweeper has been purchased in order to remove FOD from apron in order to be analysed.

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

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

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

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

5.3 What safety devices are currently employed? (to manage success in dealing with the problem, and to use in defence in case of lawsuits?): Yes.

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

6. CRASH FIRE RESCUE
6.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/itre and type); year of manufacture: 10x Superdupron Autohydrofoam powder (IECOV 8x8, Dragon X 6 Autohydrofoam IECDO 6x6, 3x Ramppini Quick intervention Sirmac 4x4, Autros Support tanker Mercedes 6x4.

6.2 Future developments – are there plans to purchase or dispose of any equipment? No. PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.2 Average annual days of snow: 4-5 days.

8.3 Average snow depth: 7-10cm.

8.4 Maximum snow in 24 hours: About 30cm.

8.5 Annual number of days of de-icing operations? If so, please state vehicle or plier/manufacturer): (Spacemaster) fixed dissuasion with 2,5 kHz to 20 kHz sounds, 2000 plier/manufacturer: (Spacemaster) fixed dissuasion with 2,5 kHz to 20 kHz sounds, 2000

8.6 What specific procedures are there for train- ing and awareness among pilots, controllers, mechanics, airlines, airline staff and the public who work at the airport? For airport opera- tors a special driving license is issued by Air- port Authority after training and examination.

8.7 Have the reporting procedures for runway safety incidents been evaluated and, if so, by who? Yes.

8.8 Have the procedures and recommendations 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.

8.9. 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 T20, 4 units): SEBA supplies, n. T Truck Sweeper, n. T Bird cutters Schmidt n.1 self-propelled sweeper blower Schmidt n.2 snow Compactors n.1 blower driven sweeper n.2 Friction Tester n.4 Multi Spreaders de-icing n.7 self-propelled sweepers blowers n.3 suction sweepers with front roller n.30 Tractor blades with support n.2 tractor with rotary brush 2 m, Total: 62. Third parties supplies: n.10 Truck blade m. 4 n.12 trucks blades m. 6 n.53 Dumpers n.10 Farm Tractor w / trailer not exceeding 35 cubic n.35 Wheel loader m.8 tractor with blade n.10 mini-tractors with blade, Total: 138. Landside area n. 21Trac- tor with blade n.15 Farm Tractor dump from n.10. Wheel c / cubic capacity n. 7minis-tractors with a blade n.4 min Tractors scatter liquid, Total: 57.

11. PROCEDURES AND METHODS

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 spread- ers. Operations on Aprons and Landside area with blades. Snow is amassed and removed; after- wards pavement is treated with glycol liquid. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? Less than 30 mins.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Safety KA, 157,000 litres; Safety SD, 19,000 kg. Safety KA has been used to prevent deposit of snow on pavement. Safety SD has been used in case of pavement with ice and subsequently treated with liquid. 12.2 Comment on storage capabilities of the chemicals that you use: Safety KA, 220,000 litres; Safety SD, 34,000 kg.

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

13. AIRCRAFT DE-ICING
13.1 Does the airport directly provide aircraft anti/ de-icing operations? No, a third party is contracted winter services personnel are available per shift? About 393.

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


15.2 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 change in the short term.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Airside Operations Department is continuously looking at new vehicles and equipment.

11.2 State the vehicles, formations and general methods, wheel-loaders with front brushes/ploughs. Apron clearance is made by contractor with his ownStates a midfield operator shall establish 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.

11. PROCEDURES AND METHODS

11.1 Please state how often you check the airside safety manual: We perform continuous inspections of the airfield.

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

6.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, aircraft 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 manoeuvring area must have an additional radio communication course.

5.5 Where does the training take place? We clean a runway after snow and prepare the runway for the two groups joins together.

5.6 Have the reporting procedures for runway safety incidents been reviewed? No. We have an additional radio communication course.

5.7 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.

5.8 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? None at the moment.

5.9 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.

5.10 Do you have an additional radio communication course? Yes.

5.11 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.

5.12 Do you have an airport de-icing system? Yes.

5.13 What are the de-icing methods? Yes, we have dedicated de-icing positions.

5.14 Are you about to change any of your de-icing methods? No change in the short term.

5.15 Are you about to change any of your airport’s methods? No change in the short term.

5.16 Are you about to change any of your de-icing methods? No change in the short term.
effectiveness of chemicals at low temperatures and achieved holdover times etc: We use Aviform 1.50 and Aviform 2.000 / 46 000 kg last season. We have good results on effectiveness of the chemical within the temperature ranges we have experienced so far since the opening of the airport. However, chemicals keep the runway wet for a long time. This may cause problems, because snow then will stick to the surface and more chemicals are needed to get a black top again. We avoid using chemicals if it starts snowing on a cold and dry runway.

12.2 Comment on storage capabilities of the chemicals that you use: We have 4 * 30 m3 tank storage capacity at the airport. This lasts about a quarter of a normal season, depending of weather conditions. We also have a good support from the producer of the chemicals.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: We have experienced good results with a mix of Aviform liquid and solid de-icers. It is important that the liquid and solid are mixed before spreading.

12.4 Have you experienced any corrosion problems with de-icers? We have experienced some corrosion on electrical wiring and components of 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 de-icers in addition with weather radar that covers the southern part of Norway.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: We have a Vaisala system with 3 sensors on 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 the benefits or drawbacks 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 provide details: We do not have any anti-de-icing operations on order. If so, please provide details including manufacturer and number of units: No.

14.2 Are you required to have dedicated de-icing operations? If so, please state vehicle or equipment: We have experienced some corrosion on electrical wiring and components of winter services equipment, especially galvanized metal.

14.3 Is glycol recovered? If so, please state methods: We use a pre-ventive tactic with a strict system for registration of use of chemicals related to a daily and monthly "chemical budget".

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 the services for the coming season.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: The airport is considering a project with an operator that will expand the runway, increase the numbers of aircraft stands and the size of the maneuvering area. This will also demand more of all types of winter equipment.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.

16.4 Do you have any winter services equipment that you would like to sell? 1 ASFT SAAB 9-5 friction tester undertaken/required to eliminate perceived hazards? For implementation of ICAD CAT III/A operation on local authorities (CAA) and agencies (e.g. AMASS; or ASDE-X, the Model X Airfield Movement Area Safety System). The provider uses trained birds, firearms, dogs.

6. BIRD AND WILDLIFE CONTROL

6.1 Do your staff attend recognized bird control training courses? Outsourced service.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? From 5:00 till 21:00 continuously, then on ATCO request.

6.3 Do you carry out a bird strike risk assessment? When increased concentration of birds occurs notification is sent.

6.4 Do you have a wildlife (deer, for example) and, if so, how are these issues being addressed? Used to have 2-3 years for implementation of ICAO CAT III/A operation in this airport.

6.5 Do your staff log all their bird control activities to manage success in dealing with the problem, and to use in defence in case of lawsuits? Provider produces detailed statistic review. On its web site it publishes statistics, success stories and real 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 for implementation of ICAO CAT III/A operation in this airport.

7. CRASH FIRE RESCUE

7.1 Please detail your fire 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, 24 hours a day, 365 days a year. The provider uses trained birds, firearms, dogs.

7.2 Are 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 it publishes statistics, success stories and real information on actual bird situation at major airports in the country.

7.3 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 for implementation of ICAO CAT III/A operation in this airport.
Part 1: General Airside Safety

1. Airline Safety Statistics:

2. Movement and Maneuvering:

3. Reporting Procedures:

4. Foreign Object Damage (FOD) Prevention:

5. Runway Incursion Prevention:

Paris-Orly Airport

Airport Name: Paris-Orly Airport

Movement and Maneuvering:

Reporting Procedures:

Foreign Object Damage (FOD) Prevention:

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

Training: There is a FOD control training for flight crews, with regular meetings to discuss identified aeronautical issues. After these meetings, corrective actions are launched.

What safety devices are currently employed? The aerodrome includes ATP units and a FOD prevention system to control FOD in terms of:

FOD prevention is also enforced after infrastructure changes or repairs, and a FOD prevention system is adapted to permit more advanced safety logic.

Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: The crossing of runway 08/26 for the main runways and 02/20, a specific line (white and green) has been marked on runway 02/20 at the edge of runway 08/26 for service needs.

What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All vehicle drivers that passed the "M" licence are conscious of the runway incursion hazard thanks to the corresponding training, which is 100% focussed on this issue. To obtain their licence, they learn the meaning and consequences of platform users on the aerodrome surface, using data from a surveillance system, in order to predict and identify possible conflict situations within the surveillance area. It is a system that includes ADS (aircraft data) and is adapted to permit more advanced safety logic.

Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: The crossing of runway 08/26 (one of the main runways) and 02/20, a specific line (white and green) has been marked on runway 02/20 at the edge of runway 08/26 for service needs.

What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All vehicle drivers that passed the "M" licence are conscious of the runway incursion hazard thanks to the corresponding training, which is 100% focussed on this issue. To obtain their licence, they learn the meaning and consequences of platform users on the aerodrome surface, using data from a surveillance system, in order to predict and identify possible conflict situations within the surveillance area. It is a system that includes ADS (aircraft data) and is adapted to permit more advanced safety logic.

Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: The crossing of runway 08/26 (one of the main runways) and 02/20, a specific line (white and green) has been marked on runway 02/20 at the edge of runway 08/26 for service needs.

What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All vehicle drivers that passed the "M" licence are conscious of the runway incursion hazard thanks to the corresponding training, which is 100% focussed on this issue. To obtain their licence, they learn the meaning and consequences of platform users on the aerodrome surface, using data from a surveillance system, in order to predict and identify possible conflict situations within the surveillance area. It is a system that includes ADS (aircraft data) and is adapted to permit more advanced safety logic.

Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: The crossing of runway 08/26 (one of the main runways) and 02/20, a specific line (white and green) has been marked on runway 02/20 at the edge of runway 08/26 for service needs.

What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All vehicle drivers that passed the "M" licence are conscious of the runway incursion hazard thanks to the corresponding training, which is 100% focussed on this issue. To obtain their licence, they learn the meaning and consequences of platform users on the aerodrome surface, using data from a surveillance system, in order to predict and identify possible conflict situations within the surveillance area. It is a system that includes ADS (aircraft data) and is adapted to permit more advanced safety logic.

Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: The crossing of runway 08/26 (one of the main runways) and 02/20, a specific line (white and green) has been marked on runway 02/20 at the edge of runway 08/26 for service needs.

What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All vehicle drivers that passed the "M" licence are conscious of the runway incursion hazard thanks to the corresponding training, which is 100% focussed on this issue. To obtain their licence, they learn the meaning and consequences of platform users on the aerodrome surface, using data from a surveillance system, in order to predict and identify possible conflict situations within the surveillance area. It is a system that includes ADS (aircraft data) and is adapted to permit more advanced safety logic.

Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: The crossing of runway 08/26 (one of the main runways) and 02/20, a specific line (white and green) has been marked on runway 02/20 at the edge of runway 08/26 for service needs.

What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All vehicle drivers that passed the "M" licence are conscious of the runway incursion hazard thanks to the corresponding training, which is 100% focussed on this issue. To obtain their licence, they learn the meaning and consequences of platform users on the aerodrome surface, using data from a surveillance system, in order to predict and identify possible conflict situations within the surveillance area. It is a system that includes ADS (aircraft data) and is adapted to permit more advanced safety logic.

Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: The crossing of runway 08/26 (one of the main runways) and 02/20, a specific line (white and green) has been marked on runway 02/20 at the edge of runway 08/26 for service needs.

What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All vehicle drivers that passed the "M" licence are conscious of the runway incursion hazard thanks to the corresponding training, which is 100% focussed on this issue. To obtain their licence, they learn the meaning and consequences of platform users on the aerodrome surface, using data from a surveillance system, in order to predict and identify possible conflict situations within the surveillance area. It is a system that includes ADS (aircraft data) and is adapted to permit more advanced safety logic.

Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: The crossing of runway 08/26 (one of the main runways) and 02/20, a specific line (white and green) has been marked on runway 02/20 at the edge of runway 08/26 for service needs.
incidents been set up jointly with other parties active in these processes? Further, do they safeguard the "non-authoritative" and "non-penal" reporting? The runway incursion reporting procedure is en- abled by the help of any worker on the platform (pilots, handling, airport operators, civil aviation services...). This is a part of a wider system called SGS (Système de Gestion des Incidents). The Security Management System). The SGS is a non punitive system. FNE (form for events notifications) are filled by any worker that noticed something that could cause a safety hazard or when somebody (or oneself) behave in such a way that safety has been at risk. Runway incursions is one of the reasons why a FNE has to be filled. Then the SGS does a reporting on safety hazards thanks to the FNE received and in particular on runway incursions.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Different procedures are carried out on the platform on three levels (shelters, food/water and non-nesting). For 10 years now, each shrubby area and waste land have been destroyed, and there is no more tree on the airport movement area. To comply with DGAC regulations, grass are cut up to 20 to 45 cm all around the platform. Every planted species are mowed before their seeds are ripe. A count- ing of vegetal and animal species is conducted and animals which represent a hazard for aircraft or airport equipment are controlled, followed by seven hour sessions, on site, a final training course assessment and attendance to a continuous retraining program. 6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? The regulation imposes a four hour theoretical training course dedicated to ornithology, followed by seven hour sessions. Training phases are organized every three years (bird type, variety, reproduction, diet, flight, identification...). The regulation imposes a four hour theoretical training course dedicated to ornithology, followed by seven hour sessions. Training phases are organized every three years (bird type, variety, reproduction, diet, flight, identification...). The regulation imposes a four hour theoretical training course dedicated to ornithology, followed by seven hour sessions. Training phases are organized every three years (bird type, variety, reproduction, diet, flight, identification...). The regulation imposes a four hour theoretical training course dedicated to ornithology, followed by seven hour sessions. Training phases are organized every three years (bird type, variety, reproduction, diet, flight, identification...). The regulation imposes a four hour theoretical training course dedicated to ornithology, followed by seven hour sessions. Training phases are organized every three years (bird type, variety, reproduction, diet, flight, identification...). The regulation imposes a four hour theoretical training course dedicated to ornithology, followed by seven hour sessions. Training phases are organized every three years (bird type, variety, reproduction, diet, flight, identification...). The regulation imposes a four hour theoretical training course dedicated to ornithology, followed by seven hour sessions. Training phases are organized every three years (bird type, variety, reproduction, diet, flight, identification...). The regulation imposes a four hour theoretical training course dedicated to ornithology, followed by seven hour sessions. Training phases are organized every three years (bird type, variety, reproduction, diet, flight, identification...). The regulation imposes a four hour theoretical training course dedicated to ornithology, followed by seven hour sessions. Training phases are organized every three years (bird type, variety, reproduction, diet, flight, identification...). The regulation imposes a four hour theoretical training course dedicated to ornithology, followed by seven hour sessions. Training phases are organized every three years (bird type, variety, reproduction, diet, flight, identification...). The regulation imposes a four hour theoretical training course dedicated to ornithology, followed by seven hour sessions. Training phases are organized every three years (bird type, variety, reproduction, diet, flight, identification...). The regulation imposes a four hour theoretical training course dedicated to ornithology, followed by seven hour sessions. Training phases are organized every three years (bird type, variety, reproduction, diet, flight, identification...). The regulation imposes a four hour theoretical training course dedicated to ornithology, followed by seven hour sessions. 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b) Inspection by airline, airport, and airline handling agency personnel: Regular inspection by authorized airline employees is carried out.

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Every employed person who notices foreign object is obliged to remove it immediately. 

4.1 Describe your airport’s programme in terms of:

4.1 Describe your airport’s programme in terms of:

4.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No (de-icing on the parking area).

4.3 Is glycol recovered? If so, please state method(s): no (de-icing on the parking area).

4.4 Where do you expect to achieve ‘black top’ on the runway? no data available.

4.5 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Into the respective course of activities is defined.

5.1 What is the primary method of monitoring vehicle movement and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Adequate Program within the Center for professional staff training of Public Enterprise Airports of Montenegro.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No design or engineering changes are undertaken.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): None mentioned safety devices from the list.

5.4 What is the designated period of winter readiness? From 1 Dec – 1 Mar.

5.5 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes, mainly with the terminal air traffic control with a view to the condition of the operating areas.

5.6 Do your staff log all their bird control activities following: RWy; Taxiways n & B; Apron; Taxiways A, G & C.

6.1 Does your airport directly provide aircraft movement and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Adequate Program within the Center for professional staff training of Public Enterprise Airports of Montenegro.

6.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No design or engineering changes are undertaken.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Into the respective course of activities is defined.

6.4 Do you carry out a bird strike risk assessment? No data available.

6.5 Do your staff log all their bird control activities following: RWy; Taxiways n & B; Apron; Taxiways A, G & C.

6.6 Does your airport provide all the necessary safety devices from the list. 

7.1 Please detail your CFR vehicle inventory stating: capacity; type; chassis (e.g., MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture; year of manufacture – 2004 Type – Rosen-bauer Chassis – MAN Axe – 6x6 Capacity – water – 12,000 litres of water, foam – 1500 litres, Tow vehicle for airport equipment, service stairs with the possibility of changing height, terrain vehicle for towing friction tester.

7.2 Describe your vehicle inventory stating: vehicle type; chassis (e.g., MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture; year of manufacture – 2004 Type – Rosen-bauer Chassis – MAN Axe – 6x6 Capacity – water – 12,000 litres of water, foam – 1500 litres, Tow vehicle for airport equipment, service stairs with the possibility of changing height, terrain vehicle for towing friction tester.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We do not possess a fire training simulator, but we do practical exercises/drills.

8.1.1 What is the designated period of winter readiness? From 1 Dec – 1 Mar.

8.2 Average annual days of snow: 2 days a year (last 3 years).

8.4 Maximum snow in 24 hours: No data available.

8.5 Annual number of days of de-icing activities: No data available.

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

9.3.1 What is the designated period of winter readiness? From 1 Dec – 1 Mar.

9.4 Average annual days of snow: 2 days a year (last 3 years).

9.5 Annual number of days of de-icing activities: No data available.

9.6 Average snow depth: No data available.

9.7 Maximum snow in 24 hours: No data available.

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 sweater, Schneider, CJS 720, 4 units):

10.2 Does your airport provide all the necessary safety devices from the list.

10.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We do not possess a fire training simulator, but we do practical exercises/drills.

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons) etc, stating identity of each facility:

11.2 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Into the respective course of activities is defined.

11.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Into the respective course of activities is defined.

11.4 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No (de-icing on the parking area).

11.5 Is glycol recovered? If so, please state method(s): no (de-icing on the parking area).

11.6 Where do you expect to achieve ‘black top’ on the runway? no data available.

12.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g., MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture; year of manufacture – 2004 Type – Rosen-bauer Chassis – MAN Axe – 6x6 Capacity – water – 12,000 litres of water, foam – 1500 litres, Tow vehicle for airport equipment, service stairs with the possibility of changing height, terrain vehicle for towing friction tester.

12.2 Describe your vehicle inventory stating: vehicle type; chassis (e.g., MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture; year of manufacture – 2004 Type – Rosen-bauer Chassis – MAN Axe – 6x6 Capacity – water – 12,000 litres of water, foam – 1500 litres, Tow vehicle for airport equipment, service stairs with the possibility of changing height, terrain vehicle for towing friction tester.

12.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We do not possess a fire training simulator, but we do practical exercises/drills.

13.1 The ICAC 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 recommendations or risks and hazards identified by internal/external SMS audits? No.

4. FOREIGN OBJECT DAM- AGE (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.

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.

4.3 Describe any measures, programs, or activities relating to FOD control training courses? Employees from the Bird control department must be the regular members of the Hunting Union and as a certified hunter they pass a special examination. The reason why is described in 6.3.

6.1 Are your staff authorised to report accidents on the airport as well as the representatives of the main airlines and AOC are the members of this team.

4.4 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): There are two vacuum cleaners dedicated for sweeping of the Apron. There are FOD containers at all stands.

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? A-SMGCS at the Movement area (all vehicles are equipped with Mode S responder) and CCTV at the Apron.

5.2 Are any design or engineering changes being undertaken / required to eliminate per- ceived hazards? Yes, but nothing serious.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDX-E, the Model X Airport Surface Detection Equipment): A-SMGCS level 2.

5.4 Comment on the use of any innovative warnings or guards – signs, markings, lighting and other low- 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, mechan- ics, airport vehicle operators, and other people who work at the airport? All drivers permitted to drive a car on the movement area have to have a special training providing by ATC training centre after the training and awareness among pilots, controllers, mechan- ics, airport vehicle operators, and other people who work at the airport? All drivers permitted to drive a car on the movement area have to have a special training providing by ATC training centre after the training and awareness among pilots, controllers, mechanics, 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’ report- ing? 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

6.1 Please detail your airport’s programme to control birds according to the law, the airport operator and CAA is a juristic person at constructions control. The CAA has power to order bird control or activities.

6.1.1 Do you staff attend recognised bird con- trol training courses? Employees from the Bird control department must be the regular members of the Hunting Union and as a certified hunter they pass a special examination.

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 specify relevant supplier/manu- facturer): 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 falcons hunt the wild birds but also on the fact that the birds feel threatened and choose not to remain in the airport.

6.4 Do you carry out a bird strike risk as- sessment? No, but we analyse the bird strike trends on monthly bases.

6.5 Do your staff log all their bird control activities? (to manage the effects of birds / to record the problem / to document the use and to evidence 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 OFR vehicle inventory stating; vehicle type; chassis (e.g.; MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Volkswagen Transporter 4x4 2007; Snowkult 4x2 2000 2,5000 200, Scania 4x2 2002 2,5000, 2004, 2006, 2008, 2010, Panther Mercedes Benz 6x6 1998 8,0001, 2000, Mercedes Benz 6x6 1998 8,0001, 2000, Panther Rosenbauer 6x6 2003 12,0001, 1,500, Panther Rosenbauer 6x6 2004 12,0001, 1,500, Panther II Rosenbauer 6x6 2008 12,5001, 1,500, Panther II Rosenbauer HRET 6x6 2009 12,500 1,500, Panther.

7.2 Future developments – are there plans to replace MB Atego with a new RWV vehicle with 4x4 and crew cab design in 2012 and both of the MB Fuso’s with one new 6x6 heavy truck (the category of Panther) equipped with HRET in 2012.

7.3 If you have a special training Simula- tor, is this available to other airports for training purposes? There is no fire training MOCK-UP in Prague Airport/Ruzine neither in the whole Czech Republic. We are providing ICAO training abroad.

8. WINTER CONDITIONS

8.1 What is the designated period of win- ter readiness? 01 Nov – 31 Mar.

8.2 Average annual days of snow: 29 days (dur- ing last 10 years; 35 days last winter).

8.3 Average snow depth: 87.9 cm (dur- ing last 10 years; 122.8cm last winter).

8.4 Maximum snow in 24 hours: 35cm (W06/07).

8.5 Annual number of days of de-icing ac- tivities: 25 (during last 16 years).

9. WINTER ORGANISATIOn

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 01 nov – 31 Mar.

9.2 Winter Organisation – are there plans to replace MB Atego with a new RWV with 4x4 and crew cab design in 2012 and both of the MB Fuso’s with one new 6x6 heavy truck (the category of Panther) equipped with HRET in 2012.

9.3 If you have a special training Simula- tor, is this available to other airports for training purposes? There is no fire training MOCK-UP in Prague Airport/Ruzine neither in the whole Czech Republic. We are providing ICAO training abroad.

9.4 Have you experienced any corro- sion problems with de-icers? No.

9.5 Have you experienced any corro- sion problems with de-icers? No.

9.6 Has your airport made any recent changes to its winter services organisation and working practices in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ report- ing? Yes, there is a common reporting system for Runway Safety Incidents. The system (web reporting) is able to safeguard the identity of reporting persons.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow cleaning, de-icing and other related equipment used for de-icing purpose, manufacturer and number of units (For example): compact jet sweeper, Schmidt, CJS 720, 4 units

Snow and ice cleaning: compact jet sweeper Bosc- hung Jetbroom Runway, 4 units; jet sweeper Bucher Schörling P-37, 4 units; compact jet sweeper Bucher Schörling Compact P-21C, 4 units; compact jet sweeper Boschung Jetbroom BJB 8000, 1 unit; snowblower Kahlbacher KFS 170 M2, 2 units; snowblower Robla 4000, 1 unit; snowblower Schmidt 8000, 1 unit; snowblower Schmidt 1500, 1 unit; airport sprayer EPOKE, 1 unit; airport sprayer Schmidt, 1 unit; airport twin disc sprayer Schmidt, 1 unit; airport disc sprayer Kobil, 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 re- moval: 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, taxiways, aprons, etc) stating identity of each facility:

1. RWY in use + RWY exits + RWY parallel to RWY in use, Apron North (number of stands covering the red traffic) + access to apron area + access to RWY parallel to RWY in use. 2. Access to aircraft park- ing position and Hangars (priority on request).

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. Com- ment on effectiveness of chemicals at low tem- peratures and achieved holdover times etc: Acetate based de-icing fluid, usage approx. 900.000 litres (930.000 in W10/11). Effectiveness is good.

12.2 Comment on storage capabilities of the chemicals which you use: Storage for 200.000 litres directly at the airport.

12.3 Comment on your experience with solid de-icers, for example: mixing ratio, range of temperatures, “slow snow fac- tor”, etc: Experiences with solid de-icers are not good. 12.4 Have you experienced any corro- sion problems with de-icers? No.

12.5 Have you employed any special means to economise on chemicals or to avoid waste? No.

12.6 Do you have any other comments on experience with chemicals? No.

12.7 Do you use other chemicals or
13. ICE WARNING SYSTEMS
13.1 State the identity of your 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 benefi-
cients of PANTHER warning systems: The ice warning system is a very good tool for monitor-
ing 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 Do 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-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? No, 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 reli-
ability 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 equip-
ment or vehicles? If so, please provide details.
Yes, we have an action plan for replacement of existing units and increasing capacity and ca-
pability 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 equip-
ment that you would like to sell? No.

Pula Airport:
17. 1 GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Pula Airport
2. MOVEMENT AND MANOEUV-
URING AREA DATA
2.1 Please list the identities of primary operational facilities and aircraft classes (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): RW/09 - CAT I Simple Approach Lighting System, RW/27 - 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 identi-
fied by internal/external SMS audits? Yes, it has.
4. FOREIGN OBJECT DAM-
age (FOD) PREVENTION
4.1 What is the current or planned 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 alongwith our aircraft handling agents.
b) Inspection by airline, airline, and airport 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, 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 com-
ments): Our employees use a special software (“NIKO”-”Galilot”) 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? Monitor-
ing is ensured through DCS system, video surveil-
ance (video records) and personnel observations.
5.2 Are any design or engineering changes being undertaken/required to eliminate per-
ceived hazards? No, there are not.
5.3 What safety devices are currently em-
ployed? (A-SMGCS; Airport Movement Area
Safety Systems, ILS, GPS, 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 air-
ports with one runway and a few number of taxiways.
5.5 What specific procedures are there for train-
ing 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 pro-
cesses and “no-penalty” principles are ensured.
5.7 Further, do they safeguard the “non-punitive” principles such as “no-penalty” reporting? The reporting proce-
dures for safety incidents has been already set
up jointly with other parties active in these pro-
cesses and “no-penalty” principles are ensured.
6. BIRD AND WILDLIFE CONTROL
6.1 State your habitat management policy and how it relates to the protection 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.
6.2 Do your staff attend recognised bird con-
trol training courses? Yes, they did.
6.3 Are your bird control staff working on the airfield continuously, hourly, less than
hourly? Yes, continuously in shifts.
6.4 What specialist equipment do you employ for bird control? (Please state relevant suppl-
ier/manufacturer): Pula Airport employees use pyrotechnics, alarm shotguns and dogs.
6.5 Do you carry out a bird strike
risk assessment? No yet.
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): They
log it all their 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).
6.7 Does your airport have problems with other wildlife (e.g. cats, dogs, rabbits, etc)? 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 (litre/gal and type of material): 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; 2007, Wa-
ter tank: 12000l, Foam tank: 1500l ; 4. FAun, 6x6,
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 progress.

PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of win-
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 activi-
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 person-
nel 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 stat-
ing 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. PROCEEDURES AND INVENTORY
11.1 Please state here order of priority of snow clear-
ance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 1. Runway, 2.Taxis, C, F and then A and others, 3. Apron.
11.2 State the vehicle inventory and standard 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 of-
ten 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. However, this 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 than 250kg in a sub-contracted storage.
12.3 Comment on your experience with solid de-
icers, for example mixing ratios with liquids,
“blow-away factor” etc: “UREA” is a solid de-icer.
12.4 Have you experienced any corrosion problems with de-icers? No, until now we did not.
12.5 Have you employed any special means to economise on chemical use? No, we did not.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: We do not have ice warning system because meteorological conditions at Pula Airport are very good. At this moment, monitoring is performed by personnel observations.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? At this moment, we do not have plans to purchase an ice warning system due to mentioned meteorological conditions.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units: Anti-de-icing truck, Man-Snöder, 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 type of friction tester do you use? Saab, SFH Friction tester.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? No, at this moment we will not change any of airport methods.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: At this moment, we do not have plans to purchase new equipment or vehicles.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No, we do not have equipment or other products on order.
16.4 Do you have any winter services equipment which you would like to sell? No, we do not have any winter services equipment which we would like to sell.

17. PART 2: WINTER SERVICES QUESTIONNAIRE
18.1 What is the designated period of winter readiness? October 30 – March 25.
18.2 Average annual days of snow: 40-45 days with snowfall.
18.3 Average snow depth: 10-15cm.
18.4 Maximum snow in 24 hours: 30cm.
18.5 Annual number of days of the de-icing activities: 150 days of aircraft de-icing.
18.6 Days of pavement de-icing.

19. WINTER ORGANISATION
19.1 How many airport-employed winter services personnel are available per shift? 2 aerodrome duty engineers, 2 workers and 13 drivers.

20. WINTER EQUIPMENT INVENTORY
20.1 Please list snow clearing, de-icing and other relevant winter services vehicles including manufacturer and number of units: Universal aerodrome vehicle BOSCHUNG JETBROOM 6 units, Aérodrome sweeper/snow plough MOAZ DE-224 4 units, Frontloader CASE and Liebherr 2 units, Snowblower Ovaraan 2 units, Snowblower Ovaraan UT630 1 unit.

21. PROCEDURES AND METHODS
21.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: Runway, operational taxiways, RFSS, apron 1, apron 2, apron 3, apron 4, service roads, non-operational taxiways.
21.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Centre-line-to-edges method when no significant crosswinds present. 4 vehicles on the runway, 2 – on taxiways. After two full-length runs on runway, 2 of the vehicles move to taxiways, the other 2 remain on runway “fire-clean” the corners and edges.
21.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 13-15 minutes.

22. EXPERIENCE WITH CHEMICALS
22.1 State which chemicals you apply, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: In 2012 Ke- mira Cleanwater (liquid 120l, solid 180l per winter). Previous winter Kemira Clearway (liquid 120t, solid 180t per winter).
fibreglass storage tank for liquid agent.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. We do not mix. Blow- away is much dependent on granular shape. We normally choose irregular granules.
12.4 Have you experienced any corrosion problems with de-icers? “Legends” are mostly reported when galvanized steel parts get in contact with vaporized agent or the solid agent sticks to some parts of trucks where it does not get washed away immediately.
12.5 Have you employed any special means to economise on chemical use? Substitute with sand on remote service roads.
12.6 Do you have any other comments on experience with chemicals? Spherical granules are not very good on ice or any other hard/smooth surface because they simply “roll away” from the desired spreading area.
12.7 Do you use other chemicals or sand on operational areas? Sand is sometimes used as temporary solution on service roads with compacted snow or ice.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning system: None.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? No.

14. AIRCRAFT DE-ICING
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Currently de-icing takes place on apron.
14.3 Is glycol recovered? If so, please state methods:
  The new de-icing pads incorporate glycol recovery system, to be operational in winter 2013/2014.

15. FUTURE DEVELOPMENTS
15.1 What model(s) of friction tester do you use? Sar-sys Saab 9-5 (main), Bowmonk APM2 Mk3 (back up).
15.2 Have you any comments on the reliability of friction index? This issue should be cleared globally.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? The existing model works well.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details:
  Probably another high-speed snow blower.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: Oltena; 3 snow plow; 3 Snow blower; 6 Sweeper-blower; 2 anti-icing pact 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.

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, taxiways, aprons etc) stating identity of each facility: RWY 16R- 34L; TWY Afla and Adjacent links; Apron West; RWY 07-25; TWY Bravo and Adjacent links; Apron East.
11.2 State the vehicles, formations 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.

13. STATE MODEL and number of model used.
13.1 State model and number of ice warning systems: N/A.
13.2 Have you plans to purchase further ice warning systems? No.

14. DO YOU PLAN TO INCREASE THE FOD PREVENTION CAPABILITIES?
14.1 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 airline handling agency personnel: Any stand must be inspected by handling or airline agent before the aircraft entrance (ramp agents). 
  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.
  e) General: Are there any special systems or software solutions you employ for FOD control? Yes.

5. WHAT IS THE PRIMARY METHOD OF MONITORING VEHICLE AND AIRCRAFT MOVEMENTS ON THE GROUND?
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? SMR.
5.2 Are any other ways of monitoring vehicle or aircraft movements being undertaken/required to eliminate perceived hazards? ICAO EC Action Plan statements.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement 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 low- 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, controller, 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 passed and other parties involved 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
6.1 Please state your airport’s general bird control policy and how it reduces the attraction of the airfield to birds: Long grass policy.
6.2 Do your staff attend recognised bird control training courses? Yes every year.
6.3 Are your bird control staff working on the airfield continuously, hourly, or spot checks? TORA 3902m, TODA 3962m, LDA 3902m, Width 60m, Shoulders 15 x 15m; Rwy 34C: TORA 3902m, TODA 3962m, LDA 3902m, Width 60m, Shoulders 15 x 15m.
6.4 Do you have 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.

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, Shoulders 15 x 15m; RWY 25: TORA 3307m, TODA 3367m, ASDA 3307m, LDA 3307m, Width 45m, Shoulders 15 x 15m; RWY 16C: TORA 3902m, TODA 3962m, LDA 3902m, Width 60m, Shoulders 15 x 15m; Total Apron Area: 1,477,101.

5.3 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.
5.4 HAVE THE REPORTING PROCEDURES FOR RUNWAY SAFETY INCIDENTS BEEN PASSED AND OTHER PARTIES INVOLVED IN THESE PROCESSES? FURTHER, DO THEY SAFEGUARD THE "NON-PUNITIVE" PRINCIPLES SUCH AS "NO-PENALTY" REPORTING? YES, WITH ANSP AND ITALIAN CAA.

61. DO YOUR STAFF ATTEND RECOGNISED BIRD CONTROL TRAINING COURSES? YES EVERY YEAR.
62. ARE YOUR BIRD CONTROL STAFF WORKING ON THE AIRFIELD CONTINUOUSLY, HOURLY, OR SPOT CHECKS? TORA 3902M, TODA 3962m, ASDA 3902m, LDA 3902m, WIDTH 60m, SHOULDERS 15 X 15M; RWY 34C: 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.
64. DO YOU HAVE ANY OTHER COMMENTS ON THE RELIABILITY OF FRICTION INDEX? THIS ISSUE SHOULD BE CLEARED GLOBALLY.
ing systems and if so which model(s)? Yes. 13.3 Comment on your experiences of the ben-

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-

dec-icing operations? If so, please state vehicle or other facility manufactures, and other

denote perceived hazards? Not required. 5.2 What safety devices are currently employed?

14.2 Any comments you have on to hand dedi-
cated 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. FRICITION TESTING

15.1 What model(s) of friction tes-
ter do you use? SAAB Friction Tester. 15.2 Have you any comments on the reliabil-
y of friction indices? Yes.

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 equip-
ment which you would like to sell? No.

SKOPJE

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Skopje Al-
exander the Great Airport

2. MOVEMENT AND MANOEUV-
VING AREA DATA

2.1 Please list the identities of primary opera-
tional 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, area: RWY 34 length 2.950m=TORA/TODA/ASDA/RWY 34 LDA = 2.450m, RWY width 45m, shoulder 7.5m, total apron area 75.660m, ramp area 84.485m 2.2 Landing aids for each RWY (e.g. CAT II): ILS CAT I RWY 34 (ILZ, GP OM, MM, VOR/DME and visual aids: HALIS & runway lights CAT II, PAPI) and RWY 16.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aero-
dromes specifies that: “The aerodrome opera-
tor shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the re-ap-
praisal of risks and hazards identified by internal/ external SMS audits? Implementation in progress.

4. FOREIGN OBJECT DAM-
AGE (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 aircraft handling agencies personnel: by airport staff.

c) Maintenance (use of sweeping, mag-
netic bars, rmple strips, FOD containers etc): Use of sweeping and FOD containers.

d) Co-ordination of multiple agencies using airport (air-
lines, handling agents etc): Airport ramp dispatcher.

4.2 General: Are there any special systems or soft-
ware solutions you employ for FOD control? (Please specify the contract names): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of moni-
toring vehicle and aircraft movements on

the ground? Visually by ATC tower.

5.2 Are any design or engineering chang-
es being implemented to eliminate or eli-
minate perceived hazards? Not required. 5.3 What safety devices are currently employed?

a) (SMGCS, Airport Movement Area Safety System - AMASS; or ASDX-X, the Model X Airport Surface De-
tection Equipment)? Does anyone of this, only stop-bar lights. 5.4 Comment on the use of any innovative

warnings or guards – use of paint, signs, light-

and other lower-cost technologies: Mark-
ings and signs for runway holding points.

5.5 What specific procedures are there for train-
ing 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 run-
way safety incidents been set up jointly with other parties active in these processes? Fur-
ther, do they safeguard the “non-punitive” prin-
ciples such as “no-penalty” reporting? Yes.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds; Grass cutting trees etc.

6.2 Do your staff attend recognised bird con-
trol training courses? Yes ACI course.

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 sup-
plier/manufacturer): Bird guard pro super.

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 stat-
ing; vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manu-
facture: vehicle type; chassis (e.g. MAn); axles (4X4, 2002; Rosenbauer Universal FF truck

7.1 Please detail your CFR vehicle inventory stat-
ing; vehicle type; chassis (e.g. MAN); axles (4X4, 2002; Rosenbauer Universal FF truck

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 air-
ports for training purposes? No.

8. WINTER SERVICES PERSONAL

8.1 Please list your CFR vehicle inventory stating purpose, man-
ufacturer/manufacturer): Bird guard pro super.

8.2 Average annual days of snow: 6 days.

8.3 Average snow depth: 14.1cm.

8.4 Maximum snow in 24 hours: 50cm.

8.5 Annual number of days of de-
icing activities: 71 days.

9. WINTER ORGANISATION

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

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment storing purpose, man-
ufacturer/manufacturer): (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 Robla 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 where order of priority of snow clearance of main operational facilities (run-

ways, taxiways, apron etc) stating identity of each facility: Runway 34/16, TWY A & H, apron.

11.2 State the vehicles, formations and gen-
eral 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. Com-

ment on effectiveness of chemicals at low tem-
peratures and achieved holdover times etc: Clandian SAFEWAY KA, POLICE ICE, 43.800 l.

12.2 Comment on storage capabilities of the chemicals which you use.: 60 m3.

12.3 Comment on your experience with solid de-
icers, for example mixing ratios with liquids, “blow-away factor” etc: Only urea is used.

12.4 Have you experienced any cor-

pension 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. AIRCRAFT DE-ICING

13.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: FMC LMD 2000, 2 pcs.

13.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No/on parking area.

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

15.1 What model(s) of friction tes-
ter do you use? SAAB SFT 340 i.

15.2 Have you any comments on the reliabil-
y of friction indices? No.

16. DEVELOPMENT PLANS

16.1 Are you about to change to 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 equip-
ment which you would like to sell? No.

SOFIA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Sofia Airport

2. MOVEMENT AND MANOEU-
VING AREA DATA

2.1 Please list the identities of primary opera-
tional 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, area: RWY 09: TORA: 3600m, ASDA: 3600m, TODA: 3600m, RWy 27: TORA: 3600m, ASDA: 3600m, TODA: 3600m. RyW 09: TORA: 3600m,

Sofia Airport

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5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area System): Curved approach lighting system for each RWy, RWy centre line 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.

5.5 What specific procedures are there for training and practice, illuminated signs and AGL System.

10. EXPERIENCE WITH CHEMICALS

12. EXPERIENCE WITH CHEMICALS

14. AIRCRAFT DE-ICING

15. FRICTION TESTING

16. FUTURE DEVELOPMENTS

11.5 Have you employed any special means or other facility manufactures, and number of units: Yes, Sofia Airport provides directly de/anti-icing operations. The following vehicles are in use: Ford 1800TM – 2 units, FMC TEMPEST II – 2 units, Liquid – Safewing MP II 1951, manufacturer: Clarient.

14.2 PAD “EAST” is dedicated for 1 /one/ aircraft ICAO code E PAD “WEST” is dedicated for simultaneously treatment of 2 /two/ aircraft ICAO code C or 1 /one/ aircraft ICAO code D, E

14.1 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 Bird strike & wildlife prevention Section – within the structure of Operations Department of Sofia Airport. Bird-strike prevention Manual of Sofia Airport. Daily inspections by Bird & Wildlife Control Unit deals with prevention of accidents connected with other wildlife.

15.2 Have you any comments on the reliability of friction indexes? no. We have not.

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 have not.

11.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Carbamid (urea), 160 t.

12.5 Have you employed any special means or other facility manufactures, and number of units: Yes, Sofia Airport provides directly de/anti-icing operations. The following vehicles are in use: Ford 1800TM – 2 units, FMC TEMPEST II – 2 units, Liquid – Safewing MP II 1951, manufacturer: Clarient.

14.2 PAD “EAST” is dedicated for 1 /one/ aircraft ICAO code E PAD “WEST” is dedicated for simultaneously treatment of 2 /two/ aircraft ICAO code C or 1 /one/ aircraft ICAO code D, E

14.3 Is glycol recovered? If so, code C or 1 /one/ aircraft ICAO code D, E

15.1 What model(s) of friction tester do you use? Airport has in operation 2 surface friction testing testers: Saab 9000 SFT, Saab 95 SARSYS.

15.2 Have you any comments on the reliability of friction indexes? No, we have not.

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 have not.

11.5 Have you employed any special means or other facility manufactures, and number of units: Yes, Sofia Airport provides directly de/anti-icing operations. The following vehicles are in use: Ford 1800TM – 2 units, FMC TEMPEST II – 2 units, Liquid – Safewing MP II 1951, manufacturer: Clarient.
1. AIRPORT NAME: Split Airport
2. **FOREIGN OBJECT VERIFICATION (FOD) AREA DATA**
   2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length, (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY length-05/23-2590x45m; TORA-05/23-2550m; TODA-05/23-2590m; ASDA-05-2800m; ASDA-23-2500m.
   2.2 Landing aids for each RWY (e.g. CAT II): CAT I.
3. **SAFETY MANAGEMENT SYSTEMS**
   3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes.
4. **FOREIGN OBJECT DAMAGE (FOD) PREVENTION**
   4.1 Describe your airport’s programme to control FOD in terms of:
      a) Training: Training is done through SMS trainings.
      b) Inspection by airline, airport, and airplane handling agency personnel: Regular audits and daily FOD inspection.
      c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Main different systems you employ for FOD control? (Please state relevant supplier/manufacturer: Fire siren, rocket gun, MEGA BLASTER PRO.
      d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): There are no multiple agencies using airport.
      e) Maintenance using sweeping; magnetic bars, rumble strips, FOD containers etc: Main different systems you employ for FOD control? (Please state relevant supplier/manufacturer: Fire siren, rocket gun, MEGA BLASTER PRO.
      f) Co-ordination of multiple agencies using airport (airlines, handling agents etc): There are no multiple agencies using airport.
   5. **RUNWAY INCURSION PREVENTION**
      5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Movements on the ground are regulated by the Airport local rules.
      5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Yes.
      5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ADS-E, the Model X Airport Surface Detection Equipment): There are no safety devices in place.
      5.4 Comment on the use of any innovative warnings or guards - use of paint, signs, lighting and other lower-cost technologies: We have warning signs.
      5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All participants shall follow procedures stated in Airport Manual.
      5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? We have been set up jointly with other parties active in these processes.
6. **BIRD AND WILDLIFE CONTROL**
   6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds:
control training courses? Yes.
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/manu-
ufacturer): Audio systems, Guns, Pyrotechnic.
6.4 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.
6.5 Do 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/fitre and type); year of manufacture:
ski, water 9000l, foam 1000l, pump 6000 l/m.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Heavy
rescue container has been purchased, all re-
sources are reviewed yearly according to budget.
7.3 If your airport possesses a Fire Training Simula-
tor, is this available to other airports for training purposes? Yes, it is available to other airports.
PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? 15 October 15 April.
8.2 Average annual days of snow: 65.
8.3 Average snow depth: 28cm.
8.4 Maximum snow in 24 hours: approx. 50cm.
8.5 Annual number of days of de-icing activities: 35.
9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 12.
9.2 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, comp-
act jet sweep, Schmidt, CJS 720, 4 units); Schmidt CJS R 800; manufacturer: Vammas; BC 4500H: 2 units; Vammas Trucks: MAN 4x4 - 5 units; MB Actros 6x 7 units; Schmidt SCL and Vammas PS 3500 snow cleaning appliance for runway and taxiway lighting; Snow Cutter-Blowers: Vammas B 400- 2 unit; De-icer equipment: spreader for solid and liquid Schmidt
Stratos 3 units; Friction tester: ACE skiddometer BV-
11 – 3units.
10.2 Have you any comments on the reliability of friction index/es? No.
10.3 Is glycol recovered? If so, please state methods: No.
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearing of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY 8/26, TWY B, exit road from the fire station and ILS critical areas; 2: 1-15 ACFT stands on the Apron A; 3: TWY A and TWY C,D,E,F; 4. Apron B and C; 5. Other ACFT stands, apron A;
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: RWY: 5-11 vehicles along centreline from TWY B and from RWY G to 26 and back. TWY and Aprons clearance in a direct line from centre to shoulder.
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? “Black top” on the runway achieved in 10-15 min.
12. EXPERIENCE WITH CHEMICALS
12.1 State which paveement de-icers you use, along with the quantities used last season. Comment
on effectiveness of chemicals at low temperatures and achieved holdover times etc: Urea
200 tons. Clearway / Nordway 150 tons. Urea is effective to –4. Nordway is effective and reacts
very quickly. No experience with using MT III: -10C.
12.2 Comment on storage capabilities of the chemicals that you use: We store approximately 30-60 tons of urea and 30-50 tons of Nordway.
12.3 Have you experienced any corro-
sion problems with de-icers? Yes.
12.4 Have you employed any special means to economise on chemical use? Yes, very good
information about weather and experiences.
12.6 Do you have any other comments on ex-
perience with chemicals? Trying to vary (to use more environment friendly chemicals).
12.7 Do you use other chemicals or sand on operational areas? No.
13. ICE WARNING SYSTEMS
13.1 State model and number of ice warn-
ing systems: Runway temperature sen-
ors (6 sensors on RWY by Vaisala). 
13.2 Have you plans to purchase further ice warn-
ing systems or to use another model(s)? No.
13.3 Comment on your experiences with the benefits/disbenefits of ice warn-
ing systems: Have been beneficial.
14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-
de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Airport is not providing aircraft anti/de-icing service directly, Tallinn Airport DH is providing these services.
14.2 Are you required to have dedicated de-icing positions or do you de-ic on the parking area? Anti/de-icing is performed on the parking stands.
14.3 Is glycol recovered? If so, please state methods: No.
15. FRICITION TESTING
15.1 What model(s) of friction tester do you use? ACE skiddometer BV-11 – 3 units.
15.2 Have you any comments on the reliability of friction index/es? No.
16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport's equipment? Yes, we upgrade them every year.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equip-
ment that you would like to sell? No.
TIVAT
PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Tivat Airport
2. MOVEMENT AND MANEUVERING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 11/29
5.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are you dealing with these problems? No.

6. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (g/kilogram and type); rear of marshallers/vehicle operators. ICAO CAT 9 requirements for both RWY’s.

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

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes – it’s used by all Austrian Airports.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS


8.2 Average snow depth: 63 m average over the last 10 years.


9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 254 airport staff, 330 winter service staff, 65 airport employees and 30 sub-contracted 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): Jetbroom Runway, Boschung, 10; Jetbroom BJ8000, Boschung, 6; Snowblower, Kahnbachner, 7; Snowplough, Mercedes Unimog, 8; Tractor with Snowplough, Stey, 8; Liquid Deicer, Küpper Weisser, 20000l, 3; Multi Deicer, solid wet, Schmidt-Nido, 1; Small Multifunction Deicer with plough or brush, Boschung Pongy, 6; Plau/ Schmidt, 3.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY’s & Apron, 2 TWY’s.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: RWY: 10 Jetbroom Runway, 3 Snowblower, 2 Unimog with plough – one run concept, TWY: RWY vehicles according to TWY width, APROn:6 Jetbroom BJ8000, several Snowplough’s and other available vehicles.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? Staff to be expected on the airport after 75min, “black top” within 30min.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Vehicles acc. to 10.1.

12.2 Comment on storage capabilities of the chemicals that you use: 500000l, solid, 400000l, solid.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Application solid with 35% liquid deicer.

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

12.5 Have you explored any special means to economise on chemical use? Heightened use of solid de-icing chemicals combined with mechanical cleaning.

12.6 Do you have any other comments on experience with chemicals? Descing material must be water soluble and consequently less effective and very expensive.

12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Findlay Irvine ICIERT.

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

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Airport QC currently satisfied.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: 14 Westegaard Elephant Beta.

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

14.3 Is glycol recovered? If so, please state methods: Yes, it’s applied in steps to the clarification plant.

15. FRICTION TESTING

15.1 What model(s) of friction tes- ter do you use? Skidometer BV11.

15.2 Have you any comments on the reli- ability 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 equip- ment that you would like to sell? No.

VITORIA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Vitoria Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RW04 – dimensions 3500x45m, shoulders 7.5m, TORA 3500m, CWY 100X150m, RESA 220x150m, RWY 22 – dimensions 3500x45m, shoulders 7.5m, TORA 3500m, CWY 100X150m, RESA 220x150m.

2.2 Landing aids for each RWY (e.g. CAT II): RWY width, shoulder widths, total apron area, ramp area, other): findlay Irvine ICELERT.

2.3 Future developments – are there plans to modify any runway systems and if so, which model(s)? no.

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

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

3. SAFETY MANAGEMENT SYSTEMS

3.1. The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? The airport is carrying out internal audits about the level of compliance of infrastructure and operational procedures, with IACO SARPS, as part of the certification process. The airport is taking the appropriate measures in the SMS to take into account the results of these audits, for example: Improve the grading of the runway strip, installation of RET systems, adaptation of the PAPI for B747-8 operation.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

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

a) Training: Safety bulletins distribution and safety courses for all staff members.

b) Inspection by airline, airport, and airplane handling agency personnel: Regular surveillance by marshals and inspections by handling agent previous to the
8. RECEnT WInTER COnDITIOnS

8.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? ATC
8.2 Are any design or engineering changes being undertaken/requied to eliminate perceived hazards? No.
8.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Not available.
8.4 Comment on the use of any innovative warnings or guards – use of paints, signs, lighting and other lower-cost technologies: Signals, markings and lighting systems.
8.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Staff training, Local Runway Safety Team, Safety bulletins.
8.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no penalty’ reporting? Any accident/incident reporting procedure is coordinated with all entities involved in airside operations. This has been implemented in the occurrence reporting procedures.

6. BIRD AND WILDLIFE CONTROL

6.1 Do you have a bird control bird control training course? No, the airport provides internal training.
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.3 What specialist equipment do you employ for bird control? Please state relevant supplier/manufacturer: Sonic bird deterrents.
6.4 Do you carry out a bird strike risk assessment? Yes?
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Hares – hunting is organised periodically. Roe deer – they are caught and carried outside the airport boundaries.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
7.2 What specific procedures are there for training and other lower-cost technologies: Sig
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No.
7.4 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (e.g. compact jet sweeper, Schmidt, CJS 720, 4 units): 1 x UNIMOG 1650, 1 x UNIMOG U4000, 1 x MAN CFR with plough, 1 x NEW HOLLAND 8360, 1 x NISSAN PICK-UP 4x4, 2 x SCHMIDT NIDO SNK 330 R 3300m, 1 x SCHMIDT NIDO HYL 530 6100m, 1 x SCHMIDT FRANCE NEIGE SM-5 3400m, 1 x MEYER TML 6,5 2010mm, 1 x ASSALONI FL120A 1200mm 3500m3 /h, 1 x VICON ROTAFLOW RSLX 3050 3 m3 fundente, 1 x IVECO-PEGASO Snow plough – solid 4000m, 1 x Spreader GILLETA LV40 5 m3 fundente solido 1.800 l fund liquido, 1 x UNIMOG U400 Snow plough SCHMIDT SNK34 3400m, 1 x Spreader – liquid SCHMIDT RPS-35 4000 l.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identification of each facility: RWY - TWIs T1 to T6, B2 y D - Stands 1 to 3 in Ramp 1 and 9 to 12 in Ramp 2. – Three trucks with snowploughs working on tandem from RWy c/l. At the same time, trucks are spreading solid or liquid de-icers. RWY – Two trucks with snowploughs working in tandem. Apron – graders and snow ploughs. Trucks transport snow out the apron. RWY1 15: 3690x60m, TORA 2560m, ASDA 2560m, LDA 2560m. RWY 29: 2800x50m, TORA 2800m, TDA 2800m, ASDA 2950m, LDA 2300m. RWY 15: 3690x60m, TORA: 3690m, TDA 3690m, ASDA 3690m, LDA 3690m. RWY 33: 3690x60m, TORA 3690m, TDA 3690m, ASDA 3690m, LDA 3690m. Shoulders: 2x5m. Total apron area: 52. Ramp area: 342 564 m2 2.2 Landing aids for each RWY (e.g. cat II): RWY11 – ILS/DME CAT II, RWY15 – VOR/DME, RWY29 – VOR/DME, ILS/DME CAT II.

13. ICE WARNING SYSTEMS

13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Urea – ice prevention. It’s used till -9º C, preventive or corrective treatment. Acetatum formique (liquid) – it’s used with very low temperatures and de-icing ice plates.
13.2 Have you experienced any corrosion problems with de-icers? No.
13.3 Have you employed any special means to economise on chemical use? No.
13.4 Do you have any other comments on experience with chemicals? No.
13.5 Do you use other chemicals or sand on operational areas? No.

14. AIRCRAFT DE-ICING

14.1 Do the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units: The service is provided by the handling agents with the following vehicles: DHL – 2 trucks, with 3,750 L of each one, in drinking water; IBE – 2 trucks, with 400 capacity each one.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? No de-icing apron is available. De-icing is carried out at stands. 14.3. If glycol recovered, please state methods: No.

15. FRICTION TESTING

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

16. FUTURE DEVELOPMENTS

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

WARSAW

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Warsaw Chopin Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 11: 2800x50m, TORA 2300m, TDA 2300m, ASDA 2560m, LDA 2560m. RWY 29: 2800x50m, TORA 2800m, TDA 2800m, ASDA 2950m, LDA 2300m. RWY 15: 3690x60m, TORA: 3690m, TDA 3690m, ASDA 3690m, LDA 3690m. RWY 33: 3690x60m, TORA 3690m, TDA 3690m, ASDA 3690m, LDA 3690m. Shoulders: 2x5m. Total apron area: 52. Ramp area: 342 564 m2 2.2 Landing aids for each RWY (e.g. cat II): RWY11 – ILS/DME CAT II, RWY15 – VOR/DME, RWY29 – VOR/DME, ILS/DME CAT II.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No significant change has been made to SMS except the introduction of a dedicated team to conduct safety analyses and incident investigation (recommendation from CAA certification audit). Implementation of dedicated SMS software in progress – operational status to be reached by the end of 2012.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify the product name and add any comments): There is a special procedure in force describing how to prevent, collect and remove FOD from an airside area. Any person staying in an airside area is strictly obliged, firstly, not to drop any object on the ground and, secondly, to pick up any foreign object observed, which must be placed in a specially marked container. Airport maintenance services are only responsible for keeping surfaces clean. They take contents
form FOD containers and dispose of them outside the airport. Airside concrete and grass surfaces are periodically mowed using mowers and no magnetic bars are used. There is no special training performed. Each person working in the airside area is required to know FOD prevention procedures and follow the rules.

5. RUNWAY INCURSION PREVENTION
5.1 What is your method of monitoring vehicle and aircraft movements on the ground? In VMC primary method is visual monitoring done by ATC. Surface Movement Radar (SMR) is treated as advisory measure. During LVP primary device is SMR. Additionally Airport Duty Officer is monitoring TWR and GND frequency and dedicated frequency for communication between ATC and vehicle drivers.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? To improve safety on hot spot area there is a plan of removing taxiway M3. In place of this taxiway, a new rapid exit taxiway is to be built outside of the hot spot area.

5.3 What safety devices are currently employed? (A-SMGCs; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment). Currently none of the above.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other low-cost technologies: RWY AHEAD markings, continuously lighted stop-bar used in most dangerous areas (hot spots) – they were ignored by pilots on several occasions.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport on vehicle and personnel movement regulations at War-saw Airport” describing rules for vehicular and pedestrian traffic – applies to all airport vehicle operators as well as mechanics, controllers and every person working at the movement area.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the “no-penalty” principles such as “no penalty” report? Reporting system established according to national regulations (reports from airport, ATC, airline and State Commission on Aircraft Accident Investigation).

All runway related reports are subject to investigation by Runway Safety Team established at the aerodrome. Non-punitive principles implemented in national regulations regarding aviation accident investigation.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Employment of falconer; agro technology – grass cutting to height which is not attractive to birds; cutting of trees at the airport; preventing the construction of landfills around airports (sorting garbage); acoustic bird dispersal system installed at each approach area and at runway crossing (10 units); use of acoustic bird dispersal arrangement – PATROL TWO; use of pyrotechnic shotguns; development of map of presence of different kind of birds; development of map of migration routes of birds near airport; control of pigeon breeding around the airport with assistance of City Guard and land owners.


6.2 Are your bird control staff working on the airfield continuously/hourly? Continuously.

6.3 What specialist equipment do you employ for bird control? Please state relevant supplier/manufacturer: Acoustic bird dispersal system (Recorded distress calls) – 10 units – BG SUPER PRO AMP BirdControl; PATROL TWO – 2 pieces; pigeon disperser – 1 piece – mod. 36 Combat; falconer – 6 falcons and a dog.

6.4 Do you carry out a bird strike risk assessment? Bird strike risk assessment is done once a year, the process is audited.

6.5 Do you carry out any method of monitoring bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Presence of different kinds of birds on or close to manoeuvring area is logged and analyzed during every day patrols conducted by specialists responsible for wildlife control.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? There is a small population of hares and foxes. The falconer keeps animals off airport premises.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: Tigre E-One 6x6 9000 2007; Eagle E-One 4x4 5000 1999; Tigre E-One 6x6 9000 2007; Eagle E-One 6x6 12000 1999; Eagle E-One 6x6 12000 1999; Macauda Boughton 6x6 12000; Eagle E-One 6x6 12000 1999.

7.2 Future developments – are there plans to purchase or dispose of any equipment? Purchase of 2+6 Rosenbauer vehicles.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Fire Training Simulator not in place.

PART 2: WINTER SERVICES QUESTIONNAIRE
8. REQUIREMENTS
8.1 What is the designated period of winter readiness? From 01 Nov to 15 Apr.

8.2 Average annual days of snow: 75 days.

8.3 Average snow depth: 2cm.

8.4 Maximum snow in 24 hours: 15cm.

8.5 Annual number of days of de-icing activities: 106.

9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 16 – 22 airport employees are available per shift.

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

Mechanical equipment including: 19 sets of snow removal vehicles MB ACTROS 2041 truck tractor with a plough and Schorling P17, Oyenasaen RS 400 and RS 200 runway sweepers; 3 Boschung BJB 8000 compact sweepers with sprinkler-spreaders, Schmidt CF2 5500 S runway sweeper supported by two Unimog tractors with MF 3,3 snow ploughs and sprinkler-spreaders; 5 sprinkler-spreaders including: Schmidt ASS 6000, Kupper Weisser SDA 95, Areal 2000, 2 x Schmidt NIDO; 4 Snow Blowers including 2 x Rolba 3000, 1 x Kahlbacher, 1 x Uni-Rotor; 2 x JCB loaders-excavators enable efficient load and unload of granulated chemicals.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: RWY 11/29 or RWY 15/33 depends on TWR and at the same time all aprons, two TWY's adjacent to the currently cleaned RWY, three other TWYs.

11.2 State the vehicles, formations and general methods used to achieve snow clearance: Snow Plough + Snow Spreaders formations - first snow removal, then de-icing liquids or granulate or mixed liquids and granulate.

11.3 After moderate snow, how quickly do you expect to achieve “black top” on the runway? It depends on traffic and weather conditions.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavemen de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Safeway KA liquid based on potassium acetate and SafetyWaf SF granulate based on formic acid which are imported materials.

12.2 Comment on storage capabilities of the chemicals that you use: Liquid de-icer is stored in 4 x 60, 90 and 48 litre tanks.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquid, “blow-away factor” etc. No comments.

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

12.5 Have you employed any special means to economise on chemical use? We have not employed any extraordinary means.

12.6 Do you have any other comments on experience with chemicals? No comments.

12.7 Do you use other chemicals or sand on operational areas? No.

13. WARNING SIGNS
13.1 State model and number of ice warning systems: ICE ALERT Boschung.

13.2 Have you plans to purchase further ice warning systems and if so, which models? We have no such plans.

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Are experience with these systems is positive.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/de-icing services? If so, please state vehicle or other facility manufactures, and number of units: No, the airport does not provide aircraft anti/de-icing operations.

14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Yes we have dedicated de-icing positions, Parking Apron 6 and Parking Apron 1D.

14.3 Is glycol recovered? If so, please state methods: Glycol is not recovered.

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use: ASFT VVD 70, ASFT Saab 9-5 SE, ASFT Saab 9000, Grip Tester MKIC.

15.2 Have you any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS
16.1 Are you able to change anything of your airport’s methods? Different methods and patterns in the column of sweepers/snow blowers will be tested to obtain more effective results.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: We have just purchased new equipment for Chopin Airport.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: Overasaen RS 400 runway sweepers with plough and brushes, 4 in 2012.

16.4 Do you have any winter services equipment that you would like to sell? No, not at the moment.
1. AIRPORT NAME: Zvartnots International Airport

2. MOVEMENT AND MANEUUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWy length (or lengths), Taxi-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: RWX.

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 airside, 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): RWy 09, TORA 3850m, TODA 4150m, ASDA 3850m, LDA 3850m.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual monitoring from ramp control in corporation with ATC.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): None.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Yes.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? 6 month refreshment training for drivers (communication).

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other operating units? If so, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes.

6. BIRD AND WILDLIFE CONTROL

6.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWy length (or lengths), Taxi-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.

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.


6.4 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. If yes, do you have any comments on 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 swathes (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 KRAB 1 aviamotor).

11.1 Please state here order of priority of snow clearing of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility; RWY, TWR, B.C.D , removal 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 by in patrol method (patrol snow removal) with snow clearing machines of PM-130 type: The removal of snow is performed beginning from the Runway aide until the boundary, snow ploughs from the Runway borderlines are removed immediately with snow ploughs from there with snow collector machines.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? Removal of snow from the Runway should be performed from the beginning of snowfall between landing and take-off. If there is a layer of dry snow with 2-3cm thickness on the runway.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. For removing the ice-crust from the pavement in the chemical way the carbamide (AHS) chemical solid or anti – icing liquid as well as heating machine (HM-1 KRAZ AVIAMOTOR) is used , which moved along the Runway aide.

12.2 Comment on storage conditions 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 swathes (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 KRAB 1 aviamotor).

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 Does your airport have problems with other wildlife (deer, for example) and, if so, what specialist equipment do you employ for this purpose? Yes. Our bird control staff is working on the airfield continuously.

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? Skidmeter 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: No.

16.4 Do you have any winter services equipment which you would like to sell? No.
In May 1947 Marcel Boschung Senior laid the foundation of the company bearing his name, which in the course of the last 60 years has become one of the leading manufacturers of machinery and equipment used in the field of cleaning and maintaining of airports, roads and municipalities, with branch companies in Germany, France, Austria, China and USA.

A network of agents and partners operating worldwide is the guarantee of a successful future. With its 350 employees, the Boschung Group manufactures a diversity of equipment for maintenance activities.

Starting with the special, unique and extremely economical all-year sweeper/blower machine for airport areas – the Jetbroom, Spreaders and Deicers in every possible execution and combination, Snow blower/cutter B4 + B6, multi-purpose carrier Pony, compact and mounted Sweepers in all sizes and many more.

With the establishment of Boschung Mecatronic Ltd. in 1978 – producer of electronic and electro-mechanical winter equipment – the activities of the Boschung Group have been extended. This company has specialised in ice early warning systems and automatic thawing agent spray systems as well as the BORRMA-web System.

Under the trade name SCM (“Surface Condition Management”) the Boschung Group supplies the entire equipment for the maintenance of working surfaces – from one single source.

The company’s history boasts numerous pioneering achievements, which is also reflected in the fact that the family firm holds a large number of patents in Austria and abroad. The company is keen to take up new challenges and to develop and implement practically oriented concepts. The main focus of production is snow clearing equipment for roads and specialised clearing equipment and jetways for airports. The production programme ranges from vehicle hydraulics over multi-purpose side snow ploughs, antifriction snow ploughs, snow cutters, snow blowers, combination snow blowers and custom-built solutions to jetways.

EN ISO 9001 certification in 1995 is proof of achieving the ultimate goal of implementing the “zero defect” philosophy. More than 300 apprentices have been trained since the company was founded, and in 2000 this resulted in being awarded the title of “Excellent Company Offering Apprenticeship Training”. Customer focus has always been a central company concern.

Kahlbacher’s real showpieces are the high-speed combined snow blowers for use at airports with clearing speeds of up to 40 km/h. Now all Austrian airports have been equipped with these high-tech combined snow blowers.

With a capacity in excess of 1400 HP these snow clearing machines have been designed in line with the exacting demands of international airports.

The final element completing the company concept is the in-house customer service department, which provides customer-centred after-sales service and repairs.
Over the many years that the Mu-Meter has been in production, over 1,000 units have been sold worldwide.

**DOUGLAS MU-METER MK6 CONTINUOUS FRICTION MEASURING EQUIPMENT**

With all airports that operate within ICAO having a legal requirement to inspect and test their runways, friction measurement becomes a necessity. With the Douglas Mu-Meter MK6 these requirements are met and surpassed with the option of recording not only to the ICAO standard, but also to prescribed formats for the CAA and FAA amongst others.

Used by both Civil and Military airports worldwide, runway rubber deposits, freezing conditions, wet and dry surfaces are all with the Mu-Meters portfolio of measurement. With a history dating back some 50 years the small three-wheeled unit is capable of carrying out its duties whilst being towed behind a car as small as a family hatchback. Data is fed back into the tow vehicle and displayed 'live' via a laptop computer directly to the operator. This information can easily be analysed and sent to the airport operations team, giving them detailed runway surface conditions. The measurement can then be archived and compared to assist the airport operator to build up a clear understanding of their airport runway surface evolution, through the seasons, day-by-day, year-by-year.

The Mu-Meter is manufactured in Cheltenham, England and it’s not uncommon for the UK factory to see units of over 20 years of age be returned for refurbishment and upgrade to the latest specification.

As an option, the Mu-Meter can also be provided with an independent, towable or truck mounted wetting system, allowing the unit to obtain wet surface friction measurements during dry conditions as specified in some friction measurement standards.

Over the many years that the Mu-Meter has been in production, over 1,000 units have been sold worldwide, and with new technological advances on the horizon, the future looks bright for the world’s bestselling CFME system.

**DYNA TEST 6875 RFT TESTING IN OPERATIONAL (WINTER) CONDITIONS**

The Dynatest 6875 Runway Friction Tester (RFT) is designed for both functional (maintenance) and operational testing to evaluate surface friction changes. Operational friction testing can be performed during such adverse weather as heavy rain, ice, slush or snow with data reporting in both metric and US units. The 6875 meets all of the FAA and ICAO specifications for friction measuring devices (CFME).

The RFT includes the industry’s largest 1,000-litre (250 U.S. gallon) built in, aluminium, baffled water tank, positive displacement water pump and ASTM laminar flow water nozzle for self wetting testing of up to 11,000m+ (36,000ft.+) of runway without refilling. Larger water tank sizes are available on request. For airports in winter environments, the RFT comes with four-wheel drive. The test gear in the RFT does not require changing the vehicle manufacturer’s axles and preserves the factory warranty.

Customers choose the Dynatest 6875 RFT for several reasons, intuitive and easy to use, highly reliable, always available and the highest levels of support. These aspects are incredibly important for a device working on the front line of airfield safety during both winter (operational) conditions and defining the need for maintenance actions.

The Dynatest 6875 Runway Friction Tester (RFT) is designed for both functional (maintenance) and operational testing to evaluate surface friction changes.
The Douglas Mu-Meter Mk6 is the world's best selling CFME system. With over 1,000 units sold around the world, Mu-Meter has consistently maintained its market and technical leadership since its launch some 50 years ago. The generated reports are displayed immediately via the supplied laptop computer to enable runway friction and weather-related friction changes to be determined for the management of airfield operations.

- Powerful onboard microprocessor based system for years of trouble-free operation.
- Simple to use touch screen laptop to store measurement data.
- Automatic computerised results - (CAA/FAA/CAO/CAA CAP683 etc) in the chosen language of the operator.
- Operates in both dry and self wetting modes.

For full details or to arrange a demonstration, contact Douglas today.

Douglas Equipment, a business unit of Curtiss-Wright Flow Control (UK) Limited
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e-mail: sales@douglas-equipment.com
Web site: www.douglas-equipment.com

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Our customers requested more wet testing capacity, optional four wheel drive, and more vehicle brand selection!

We listened...

An industry leading standard 300 gallon (1200 ltr) or 44,000+ feet (13,400 m) of wet test capacity. Windows software, optional four-wheel drive and GPS. Available in Chevrolet, Dodge, Ford or Toyota full sized Pickups with extended or crew cab formats.

6875 Runway Friction Tester

The 6875 is FAA/ICAO Approved and AIP Fundable.

Dynatest provides test equipment, surveys and pavement management systems to airports worldwide.

For further information e-mail: runwayfriction@dynatest.com or mi@dynatest.com
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 Cleanway products are readily biodegradable, and are not water endangering. Experience gained at various civil and military airports shows that environmental friendly Cleanway products melt ice and snow effectively. The basis for Kemira’s success is a highly flexible production and logistical set-up that can produce and supply large amounts of products on a continuous basis. We are also closely monitoring the proposed changes in the AMS standards, and are currently focusing our R&D efforts on meeting the possible changes in the industry standards.

In an industry where precise measurement and constant monitoring is the exception rather than the rule, Kemira has a corporate reputation for consistency and quality, backed up by its ISO 9002, ISO 14000 and ISO 18001 certification.
Clearway de-icers for runways
Your best choice for winter airport services and environment

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Two consecutive tough winters, with more than 125mm of snowfall in just over an hour last December at Heathrow, have made airport operators across the UK determined to be ready for any wintry conditions this year.

To meet the needs of these operators, JCB offers a wide range of machinery to deal with the worst of the winter weather, as well as providing year-round help with numerous other tasks. Telescopic handlers, backhoe loaders and wheeled loaders are all capable of loading snow, digging and general loading duties. BAA Edinburgh runs its own telehandler for operations throughout the year, and hires in wheeled excavators and backhoes as the situation demands.

The unique JCB Fastrac is proving invaluable at an increasing number of airports. It features a comfortable two-man cab, full suspension, powerful all-wheel drive, travel speeds of up to 80kph and truck standard ABS braking. Able to power multiple attachments, it is a master of many tasks – from pushing a snow plough and running a sweeper, towing a snow blower, powering de-icing equipment or mowing the grass, verges and hedges in the summer.

“The Fastracs have been fantastic, they’ve repeatedly done everything we’ve asked of them,” said Gary Clark, transport manager at London Luton Airport, which runs 11 Fastracs. “Whether it’s clearing snow from the runway or taxiways, or covering large areas with de-icer, they really have kept things moving. I couldn’t ask for a better vehicle, reliability has been 100%.”

London City Airport hires in a fleet of three Fastracs, from specialist rental company ACE Plant, on an annual winter contract from October to March. The machines are equipped with 6m ploughs and a Schmidt jet sweeper. “The Fastrac definitely does the job that we need it to do,” said Steve Fair, senior operations controller at London City’s airfield safety unit.

For more than a hundred years, Øveraasen has dedicated its resources towards development of winter services equipment. With a main focus on the airport area, Øveraasen is today one of the world’s leading companies in this sector.

The Øveraasen runway sweepers distinguish themselves thanks to their intelligent modular structure and flexibility. These machines, which are unique in the market, unify the four most important benefits: Efficiency, reliability, functionality and low operation costs. The Øveraasen runway sweepers come in different models ranging from the “small” RS 200, the compact version with its outstanding manoeuvrability to the big RS 400. You will find RS 400 runway sweepers at many major airports around the world, and runway sweeper number 500 will leave the factory this winter season.

The Øveraasen attachment snow blowers range from the smallest UTV with 180 hp up to the biggest one with 600 hp. With their dual stage blower head, the horizontal auger and fast rotating impeller they are all designed for the rough jobs at airports around the world.

The large self propelled snow blowers TV 1360, TV 1520 and the world’s largest snow blower TV 2000 are designed specially for use at the airports, where large snow clearing capacities and high casting distances are required. These machines with up to 2200 hp are designed with the driver’s cabin positioned in front of the casting chute to guarantee the best possible view for the driver, and can be operated at speeds up to 60 km/h.

The JCB Fastrac features a comfortable two-man cab, full suspension, powerful all-wheel drive, travel speeds of up to 80kph and truck standard ABS braking.

The JCB Fastrac is a hit with airports.
Keep your airport running – whatever the weather

JCB’s extensive range of equipment provides year-round versatility to your fleet. The Fastrac tractor is the master of many tasks, operating multiple attachments for snow-ploughing, de-icing, snow blowing and sweeping in winter or mowing grass in summer. Our world-leading Loadall telehandlers, backhoes, excavators and wheeled loaders can perform numerous duties – from loading grit and clearing snow to digging ditches and shifting pallets. Combined with the best dealer back-up in the business, JCB machines will keep your airport running all year round.

For further information, contact your local dealer, call +44 1889 561424 or visit www.jcb.com/airports
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KFS 950
rotary snow blower

KFS 950 RL
wheel loader - rotary snow blower

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airport snowplough

KFS 1250
rotary snow blower

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