AIRSIDE SAFETY SURVEY

2013

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 2013

The ACI annual Airside Safety Survey provides an in-depth and indispensable guide to the airside operations and safety measures of ACI EUROPE member airports. Featuring contributions ranging from regional airports to major international hubs, this survey incorporates practices integral to the operations of every commercial airport, including winter services, friction testing, runway incursion prevention, crash fire rescue procedures, wildlife control, and FOD detection. In order to maintain the highest level of accuracy, responses remain unedited. The submission of each airport highlights its own operational priorities, as well as building a comprehensive picture of the varying conditions and diverse challenges to safety that confront the key players in the European aviation industry.

The multiplicity of issues facing airports is evident in the effects of winter conditions in different locations. Keflavik International Airport, for example, can expect up to 80 days of snowfall a year, while Pula Airport experiences one or two days of snow on average. Similarly, while Lennart Meri Tallinn Airport must prepare for a typical snow depth of 28cm, Split Airport anticipates an average of less than 2cm of snow during the winter period.
INTRODUCTION

INCREASING CAPABILITY

The Airside Safety Survey highlights airports that intend to purchase new equipment or modify existing airside methods, and also plots emerging industry trends. The increasing stringency of airside safety guidelines has seen a number of respondents plan to expand the scope of their safety measures, with a focus on enhancing the capacity and capability of winter services for coming years. Budapest Airport is currently analysing the market for a series of new runway spreaders that spray liquid de-icers. “Budapest Airport has a project to change the technologies of surface de-icing and snow melting, including the changing of chemicals that are used, spreaders and storage technologies as well.” Amsterdam Airport Schiphol said: “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.”

It is also in the process of acquiring a new runway sprayer for more accurate dosing and less usage of chemicals with better results. The majority of participating airports expressed a dedication to economic levels of chemical use and employment of environmentally efficient means of maintenance in winter months and all year round. Frankfurt Airport has “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 25g/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 optimise the use of surface de-icing chemicals”.

FRICITION INDEXES

The Airside Safety Survey also examines developments in friction testing, and received a mixed reception from respondents on the reliability of friction indexes. Though most were satisfied with the current industry-wide indicators, some voiced concerns. Riga Airport and Brussels Airport were supportive of a global precedent, as was Frankfurt: “An international standard for friction indexes and reporting of such would be invaluable for the Aviation Industry.” Stavanger Airport said: “Based on experience, the index is useful and reliable. However the operator must be able to evaluate the significance of the result, based on actual conditions and possible failure of friction tester.”

While Airport Joze Pucnik Ljubljana commented: “For some carriers the friction index is relevant just in the case of ice or compacted snow. For slush or standing water, wet snow and dry snow, the measured friction index is for them unreliable.”

WILDLIFE DISPERSAL

Control and restriction techniques for birds and wildlife are also covered in the survey, and further demonstrate the different approaches that European airports take in tackling everyday incidents.

At Prague Ruzyne Airport “the main method of bird control is falconry. The airport has employed a group of falconers who protect the movement area with specially trained falcons, hawks and eagles. The method is based not only on the fact that the falconers hunt the wild birds but also on the fact that the birds feel threatened and choose not to remain in the airport area.”

Meanwhile, Genève Aéroport utilises weapons such as whistling cartridges (6mm and 9mm), mid-range exploding cartridges (26.5mm), long range silent – then exploding – rockets discharged from revolvers and a fully equipped bird strike prevention vehicle.

Athens International Airport has implemented a number of audio-harassment measures to deter birds, bats, rodents and animals from lingering on airport grounds, including 13 self-made sound devices based on car CD players and installed in airport vehicles, which broadcast distress calls developed in co-operation with university specialists.
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Web site: www.douglas-equipment.com
6. BIRD AND WILDLIFE CONTROL
6.1 Please detail habitat management policy and how it reduces the attraction of the airfield to birds: AAL has adopted the ‘Long Grass Regime’ policy as described in CAP 172, as it is considered the single most effective habitat management technique as a bird deterrent on the airfield. Maintaining long grass is a practical means of deterring many species of birds that are attracted to short grass to rest or feed. Short mown grass makes available an abundant food supply of earthworms and other soil-dwelling invertebrates. By allowing the grass to grow to a height of 200-250 mm (8-10 inches), nesting and feeding birds are denied good visibility, making them feel less secure and more vulnerable to predators. Feeding birds are denied access to the soil and ground surface making it more difficult to locate their invertebrate prey. The deterrent effect of long grass is enhanced against gulls, lapwing and golden plovers, but less so against corvids, starlings and pigeons. It is probable that long grass also interferes with walking, landing and take-off for some species. Grassland management also requires the control of broad-leaved weeds that may provide a source of green food for pigeons, seeds for finches and other specialists. The ‘long grass regime’ places considerable demands on the grass plants themselves and in turn its management. Poor soil quality, inadequate drainage or low nutrient levels all impede grass growth and may make the provision of bird deterrent grass difficult. Management techniques should ensure good conditions exist for grass growth, especially close to the runways and taxeways where the presence of birds is most hazardous, and where stress to the grass from jet blast is greatest. Loose soil is a great threat to an aircraft, when sucked into engine intakes. In the winter months, driving on the grass will flatten the sward and reduce the deterrent effect of the grass, and may cause rutting, resulting in small areas of standing water. All vehicles should, where possible, drive on hard surface and access tracks. If vehicles must access the grass areas, drivers should go slowly and carefully, fully at all times and under no circumstances spin the wheels. 6.1 Do your staff attend recognised bird control training courses? Yes. 6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Bird Patrol operates 24/7. 6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Scarecrow di-gi-scare, Lethal Control shotgun and rifle. 6.4 Do you carry out a bird strike risk assessment? Yes, done by FERA. AAL’s Bird Hazard risk assessment carried out by FERA (Food and Environment Research Agency) is designed to evaluate the current risk with existing bird control measures in place at Aberdeen Airport (i.e. the residual risk). Those species where the residual risk is assessed as level 1 require no further action other than to maintain the current levels of bird hazard management on the airfield. For those species where the residual risk is assessed as level 2, options for risk management should be reviewed. For species that are assessed as level 3, a bird control plan will be developed detailing the measures to be taken to bring the level of risk down. As part of AAL’s commitment to continuous improvement through Safety Management Systems, where possible AAL will improve its Bird Hazard Control. The 3 levels of risk identified in this risk assessment will be used to prioritise where action is required, however, Bird Hazard Control for all species frequencing Aberdeen Airport will be reviewed, even those species not included in this risk assessment or where it has been assessed no action is required. The risk assessment will be reviewed annually, based on additional information available concerning bird strikes, damage levels etc. The action plan will also be reviewed at this time on the basis of the success of work undertaken in the year and any changes in risk categories that may have occurred for different bird species. As well as the annual review of the residual risk levels, there is a need for a short-term evaluation of changes in risk that may occur due to factors such as seasonal changes, local agricultural activity, works in progress on the airfield etc. To this end, a live risk register will also be maintained, detailing short-term changes in risk levels and their causes, recent bird strikes etc. and the actions taken to control those risks. 6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes. The intelligent use of information and profiling from past experience, makes the difference between bird scenting - reacting to events as (or after) they occur and bird control, where knowledge of the aerodrome avian environment forms the basis of the organisation to counter the hazard. Information is gathered and interpreted by record keeping and provision of trend analysis. Bird Control Log: Central to risk identification is the need for staff to maintain a comprehensive electronic record to enable an accurate record of bird control activities carried out during each shift period. It should be initialed by the Duty Bird Controller at the start for every area that is checked and any activity, dispersal method and result should be recorded including nil activity. Any issues are passed to the succeeding Duty Bird Controller during the hand over process. The following will be recorded in the Bird Log during each shift: Start of shift entry i.e. vehicle/gun/equipment serviceability/sign in; Confirmation the shotgun or pistol has been handed over for safe and suitable use; Weather conditions e.g. wind, precipitation and cloud coverage; A summary of the bird activity and bird control duties throughout each shift period; Diversions to other tasks that affected bird control capability (escorting/marshalling etc.); Any transfer or acceptance of responsibility for the bird control task. As well as detailing an overview of the weather, bird activity and bird control the Bird Controller will record the following events if they occur during the watch period: any bird strike that occurs either on or off the airfield and subsequent action taken; Record of grass maintenance activities in progress; Record of
bird culling or eggs/nests destroyed; Equipment failures; Details of other relevant duties (e.g., waste collection); 60 days. Items 2, 3, 4, 5, 6, 9 will assist in making clear changes which may affect the local bird behaviour patterns, (e.g., agricultural activity in surrounding farmland); Field tasks undertaken by staff at local airports recording or roosting sites and any off airfield observations. 6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are they being addressed? A contractor carries out wildlife culls twice a year – of rabbits, foxes etc.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axes (4x4, 6x6); capacities (kg/litre and type); year of manufacture.
7.2 MAN 4x4 hose layer/equipment carrier, manufactured in 2006;
7.3 Carmichael Cobra 1 6x6 major foam tenders (10,500l water, 1700l foam, 100kg dry powder), manufactured in 1993 and 1994;
7.4 Carmichael Cobra 2 6x6 major foam tenders (11,000l water, 1700l foam, 50kg BCF, 50kg dry powder), manufactured in 2000 and 2009;
7.5 Schorling Panther other 6x6 major foam tender (11,400l water, 1700l foam, 250kg dry powder), manufactured in 2012; 2 x Mitsubishi Shogun 4x4 command and control vehicles, manufactured in 2012.
7.6 Future developments – are there plans to purchase or dispose of any equipment?
7.7 Please state model and number of ice warning systems: Ice Alert.
7.8 Have you plans to purchase further ice warning systems and if so, which model(s)?
7.13 Comment on your experiences of these benefits/disbenefits of ice warning systems: One of many forecasting tools.
7.14 Aircraft de-icing
7.14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufacturer and number of units: N/A.
7.14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Done on parking stands.
7.14.3 Is glycol recovered? If so, please state methods: No.
7.15 FRICTION TESTING
7.15.1 What model(s) of friction testers do you use? Mk6 Mu-meter.
7.15.2 Have you any comments on the reliability of friction indexes? N/A.
7.16 FUTURE DEVELOPMENTS
7.16.1 Are you about to change any airport and in our processes. Of course, this means we sometimes must reappraise some of the safety management system.
7.4 FOREIGN OBJECT DAM
7.4.1 Describe your airport’s programme to control FOD in terms of:
7.4.2 Training: Regulations surrounding FOD are described in our Handbook of Safety and Security. Every employee is tested upon his/her knowledge of this handbook before he is allowed to work on airside. Author- ity personnel are trained in recognizing FOD and removal of dangerous objects (such as dead birds) and dirt on taxi and runways.
7.4.3 i) Inspection by airline, airport, and airline handling agency personnel: Airport Authority Officers see to it that employees on roads and ramps stick to the regulations surrounding FOD. Before the docking of an airplane the ramp is inspected by the handler. Before ATC is going to use a runway, it is inspected for dangerous objects by the Bird Controller on duty.
7.4.3 b) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Ramps, taxiways and runways are frequently swept. After maintenance extra sweeping takes place. Schiphol has a special rubbish dump for damaged and discarded ULD’s, which can be dangerous. The clearance of snow must be done within the perimeter of the freight service to prevent packing materials flying around and thus form a FOD hazard. These permission is limited by fences, which among other reasons are placed to "catch" this flying material.
7.4.3 c) Co-ordination of multiple agencies using airport (airlines, handling agents etc): We are plan-
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 to eliminate or to minimize perceived hazards? Yes. At Schiphol we have a zero tolerance for runway incursions of cat. A. Next to that we are trying to decrease the overall number of incurred by investigating to find out the root cause. After investigation there could be recommendations to take infrastructural measures (fences, lighting, markings, etc) or changes in procedures/communication.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): All runways are protected by RIASS (Runway Incursion Alert System Schiphol). RIASS at A-SMGCS level would sound an alert in the control tower to warn ATC that a RI might occur (RIMCAS, but specially developed by LVLN. Based on MLAT and enhanced with ADS-B (Available).

5.4 Comment on the use of any innovative warning or guards - use of paint, signs, lighting and other lower-cost technologies:

- Any measure that could prevent a pilot or vehicle driver to make a runway incursion should be used. No matter if it is high or low tech.
- Any measure that could prevent a pilot or vehicle driver to make a runway incursion should be used. No matter if it is high or low tech.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport?

- Training for all vehicle drivers who operate in the manoeuvring area, extra training for those who have to cross runways. Recurrent training after a period of 1 year for those who drive in the manoeuvring area. Apron controllers are certified.
- 5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the 'non-punitive' principles such as: 'Reports are not investigations'.

All organizations at Schiphol Airport have their own responsibilities for reporting incursions and investigation. There is not a specific reporting tool. Every report is discussed in the Runway Safety Team. Most investigaions are jointly done. Investigations are to learn and not to punish. At Schiphol we strive to become a High Reliability Organization and becoming more aware of the potential dangers surrounding us combined with a Just Culture.

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5.6.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): All runways are protected by RIASS (Runway Incursion Alert System Schiphol). RIASS at A-SMGCS level would sound an alert in the control tower to warn ATC that a RI might occur (RIMCAS, but specially developed by LVLN. Based on MLAT and enhanced with ADS-B (Available).

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please state methods:
It is separated, and transported to a third party.

15. FRICTION SANDING
15.1 What model(s) of friction tester do you use?
We have 2 VW Sharan’s with Airport Surface Friction Tester from Sweden.
15.2 Have you any other methods or tools to ensure the reliability of friction indexes? No comment.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? Yes, we started a more selective spraying method more based on RWY usage. Plus we are adjusting the spraying vehicles so they use less KAC and this has already led to a reduction of 200.000 ltrs of KAC.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes, we purchased 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. Yes, we have ordered some new FOD containers available.
16.4 Do you have any winter services equipment that you would like to sell? No.

ANTWERP AIRPORT

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Antwerp 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); Dimenson RWy 11/29 (m) 1510x45. TORA 11 (m) 1510 TODA 29 (m) 1510 ASDA 11 (m) 1510 ASDA 29 (m) 1510 ASDA 11 (m) 1510 LDA 29 (m) 1510 totale carretera 154310 square meter.
   2.2 Landing aids for each RWY (e.g. CAT II): Cat 1 ILS and papis on RWY 29. VOR/DME for RWY 11.
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Manage-
ment System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits?
   For info about safety management contact Mrs. Sophie Velders, Deputy Airport Commander (= Safety Manager) at 0032322856504 or sophie.velders@mv.wanderen.be.
4. FOREIGN OBJECT DAM-
AGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training: Training “Safety on the ramp” and prevention campaigns.
b) Inspection by airline, airport, and airplane handling company. In case there is constant FOD control by inspection (=operations) and people working on EBAW.
c) Maintenance of (use of sweeping, mag- netic bars, etc.) runway or FOD contain-
ers etc): Sweeping and magnetic bar use. Special FOD containers available.
d) Co-ordination of multiple agen-
cies using airport (airlines, handling agents etc): Poster campaigns.
4.2 General: Are there any special systems or software in place to identify for FOD control? (Please specify product name and add any comments): Regular control of the bins and specification of the found FOD.
5. RUNWAY INTRUSION PREVENTION
5.1 What is the primary method of moni-
toring vehicle and aircraft movements on the ground? Monitoring done by ATC.
5.2 Are airport operations managing changes being undertaken/required to eliminate perceived hazards? When vis-
ibility is low, we start LVP procedures.
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): None.
5.4 Comment on the use of any innova-
tive warnings or guards – use of paint, signs, lighting and other lower-cost tech-
nologies: Guard lights on the TWYS.
5.5 What specific procedures are there for training and awareness among pilots, control-
lers, mechanics, airport vehicle operators, and other people who work at the airport? Every person working on airport is made to follow a special training concerning safety on the ramp.
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’ 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: Fake birds, no attrac-
tion of food and scare them with noise.
6.2 Do you staff recognised bird control training courses? Training courses for Inspection by the Belgian Army.
6.3 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Very regular control by Inspection.
6.4 What specialist equipment do you use for bird control? (Please specify product name and state rel-
6.5 Do you carry out a bird strike risk assessment?
6.6 Do your staff log all their bird control activities (to manage success in deal-
ing with the problem, and to use in de-
ference in case of lawsuits)? Yes.
6.7 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 inven-
tory stating: vehicle type; chassis (e.g. MAN); axes (4x4, 6x6); capacities (kg/ litre and type); year of manufacture: PANTER 6x6 12000 liter water 1500 liter foam product 500 kg extinguish powder (year 2008); SIDES 6x6 9000 liter water 1100 liter foam product 250 kg extinguish powder; Mercedes 4x4 fire and rescue equipment: FAUN 6x6 12000 liter water 1500 liter foam product (year 1977).
7.2 Future development plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airport parties active in these processes? Further, do you have any plans to purchase or dispose of any equipment? No.
8.4 What is the designated period of win-
ter readiness? 1 November - 31 March.
8.2 Average annual days of snow: 2 days.
8.3 Average snow depth: 2cm.
8.4 Maximum snow depth: 3cm.
8.5 Annual number of days of de-
icing activities: 7 days.
9. WINTER ORGANISATION
9.1 How many aircraft deployed or sub-
contracted winter services personnel are available per shift? 6 persons per shift, no sub-contracted winter service.
10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CIS 720, 4 units): Snow plough MB, 3 Towed snow blowers Sherlong, Mercedes de-icing vehicle 4000 litre potassiumacetaat.
11. PROCEDURES AND METHODS
11.1 Please state here order of prior-
ity of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: First RWY 11 then TWYS and apron 1 and 2.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Start sweeping on RWY 29 with 2 snow blowers in close formation. The first on the axis the second 3 m out of the axis in the back of the first, then working the snow out to the edg.
es in the same formation. Take care not to cov-
er the RWY light systems. When ready and after Mu measure, stabilisation of the RWY surface with kalium acetate. A “winter operations” man-\nual is available for special weather conditions.
11.3 After moderate snow, how quickly do you expect to achieve “black top” on the runway? Between 2 - 4 hours.
12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: 20.000 litres used Cryotech. Holdover times good.
12.2 Do you change on storage capabilities of the chemicals that you use: Tanks in stain-
less steel for 30.000 litres kalium ac-
cetate storage. No change.
12.3 Comment on your experience with solid de-icers, for example mixing ra-\ntios with liquids, “blow-away-factor” etc: In case we need a strong reaction - good. In case we need a strong reaction - good. In case we need a strong reaction - 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 chemical use? Previous use of the liquid de-icer and close control of the physical action of the chemicals by the mu indications of the RWy. Close follow-
up of the meteorological conditions.
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.
13. ICE WARNING SYSTEMS
13.1 State model and area coverage of ice war-
iming systems: 2 sensors on the RWY.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.
13.3 Comment on experience with the benefits/disbenefits of ice warn-
ing systems: The warning system is for us a second help, in the first place personal control of the pavements is necessary.
14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-icing/anti- frost operations? If so, list type of vehicle or other facility manufactures, and number of units: Done by a private company.
14.2. Are you required to have dedicated de-icing area and if so, how you de-ice on the parking area? No.
14.3 Is glycol recovered? If so, please state methods: No.
15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? Saab friction tester.
15.2 Have you any comments on the reliability of friction indexes? Reliability is good.
16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that you would like to sell? No.

ATHENS

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Athens International Airport
2. MOVEMENT AND MANEUVRING 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 (2) runways the designation of which comply with ICAO Aerodrome Reference Code 4E, approved for aircraft types Airbus A380-800 and Boeing 747-800, with a width of 45 meters, plus shoulders of 7.5 meters on each side. The runways are designated as Runway 03L/21R with a physical length of 4000 meters; Runway 03R/21L with physical length of 3800 meters. The runways are parallel and the distance between their centres is 1575 meters. According to the physical characteristics as published in the AIP Greece the declared distances are: Runway O3R TORA (m): 4000 meters; Runway 21L TORA (m): 4000 meters; Runway 03L TORA (m): 3800 meters; Runway 21R TORA (m): 3800 meters. Ramp area: 45975 sq. meters and non-effective areas: 11853 sq. meters, Total apron area: 57828 sq. meters.
2.2 Landing aids for each RWY (e.g. CAT II): The RWY’s 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 light: Reflectorized enclosures (White/Red); RWY edge lights: 60m spacing (White, LH); RWY end: (Red); THR lights: (Green); TDZ lights: (White).
3. BIRD AND WILDLIFE CONTROL
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 ICAO safety audit credits? Changes have been made following the amendment of ICAO Doc. 9859. Moreover within 2012 was completed the revision of the Aerodrome Operational Requirements (AOR) or do you de-ice on the parking area? No.
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme of: a) Training: Airport provided training to ground handling personnel. Also in Airside Driving Permit (ADP) training. b) Inspection by airline, airport, and airplane handling agency personnel: Ramp monitoring performed by Athens International Airport S.A (AIA S.A) company’s staff. Ground Handling Services Dpt personnel, Airside Monitoring & Inspection Unit (AMI Unit) and Airside Sweepers. There is an external contractor which provides scheduled and ad-hoc FOD control upon AIA S.A’s request. Aircraft parking position pre-use / post-use check by AMI Unit’s staff and Ground Handlers’ ramp staff. c) Maintenance (use of sweeping, magnetic bars, runways, 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 involved in using airport (airlines, handling agents etc): Through the Airside Safety Committee. Safety Awareness meetings with stakeholders, brochures, airport banners, incident reporting / investigation with the involved entities, “FOD Collection Days” at the airport, management of FODs meetings, Aviation Safety Newsletters, Airside Safety Campaigns etc. Moreover special care is pointed out regarding safety issues such as the proper checking of aircraft especially during adverse weather conditions environment etc.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.
5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle use on taxiways/stands and the ground? Ground and Tower ATC control.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment): Ground Radar, magnetic loops, stop bars.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Enhanced RWY centreline warning and additional RWY holding positions plus RWY guard lights, retro reflective taxiway end signs as well as lead-in marking enhancements on taxiway guidance on a large number of aircraft parking stands.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport surface 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 either for apron or movement as well as for the manoeuvring area.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes?
Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? A Local Runway Safety Task Force has been established dealing with those issues.
6. BIRD AND WILDLIFE CONTROL
6.1 Are you about to change any of your airport’s methods? No.
6.2 Are your about to change any of your airport’s methods? No.
6.3 Are you about to change any of your airport’s methods? No.
6.4 Do you carry out a bird strike risk assessment? Wildlife Strike Risk Assessment and Management procedures have been incorporated in the Aviation Safety Management Plan of the airport. Periodical wildlife strike risk assessments are performed monthly and the results are presented at meetings of the Airside Safety Committee. Full scale wildlife strike risk assessment is performed annually and the results are communicated to the Hellenic Civil Aviation Authority.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to obtain a law or lease deficit)? The personnel dedicated to the monitoring of wildlife activities at the airport keeps an electronic Wildlife Control Log with all the details regarding wildlife activities, monitoring and the effectiveness of the measures, airport habitat conditions and weather data in the database specially designed for the purposes of monitoring and managing fauna, flora and vegetation at and around the airport.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? There are manageable problems with insects, and small and medium mammals like rodents and foxes. Insecticides are applied at least once per year to reduce the populations of insects during the most critical period of their life cycle, rodenticide bait stations are used for rodents (further to the reduction of the populations of the insects), while trapping and relocation is used for foxes.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating; vehicle type; chassis (e.g. MAN); axle (4X2, 6X4, 8X4); engine; year of manufacture; AIR CRASH TENDER – ROSENBAUER PANTHER 8x8. CHASSIS: Type: MAN 38.1000 VFA688x8, Engine: MAN V12 diesel engine, 12-cylinders, 12.2 L, Output: 735 KW (1,000 HP) at 2,300 min-1, Capacity: Water tank capacity, material: 12,500 l, GFR Foam tank capacity, material: 2 x 750 l, GFR HP powder unit; 1,000 Kg. Year of manufacture: 2000.

8.5 Annual number of days of de-icing: No.

8.3 Average snow depth: Not Available.

8.2 What model(s) of friction tester do you have? List, stating identity of each facility: According to prevailing weather conditions. Specifications as follows: RWY, adjacent TWY, at least three high speed exits and a taxi lane towards MTB and STB. Simultane- ously apron taxis by different teams.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: According to prevailing weather conditions. Specifications as follows: RWY, adjacent TWY, at least three high speed exits and a taxi lane towards MTB and STB. Simultaneously apron taxis by different teams.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Vehicles as above with external company assis- tance (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 minutes.
toring vehicle and aircraft movements on the ground? A-SMGCS, MLAT.
5.2 Are any changes being undertaken/required to eliminate per-
ceived hazards? Nowadays, there are not.
5.3 What safety devices are currently employed to monitor vehi-
cles, aircraft traffic and to control access to the aprons? A-SMGCS, MLAT.
5.4 Control/monitoring of any innova-
tive warnings or guards – use of paint, signs, lighting and other lower-cost tech-
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? Safety training, maps in vehicles, local safety committees.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? The Safety Manage-
ment Department collects all the informa-
tion under the premise of ‘no-penalty’ reporting.
6. ENVIRONMENTAL AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: For all actions that are performed, performance criteria are established. They explain the actions carried out to minimize bird hazards.
6.2 Do your staff attend recognised bird control training courses? Continuous train-
ing at the airfield in all components of Animal Control Service. Specific forma-
tions are considered in case of need.
6.3 Are your bird control staff working on the airfield continuously, hourly, less than hourly? The Wildlife Control Service that consists of three prevention teams performs continuously on the airfield during daylight hours. That is from sunrise to sunset.
6.4 What specialist equipment do you employ for bird control? (Please state relevant sup-
plier/manufacturer): Hawks Team (14 in each team), blank pistols, bird frightened systems utilising screams of panic in vehicles.
6.5 Do you carry out a bird strike risk as-
sessment? Yes: This index is calculated for each species that is involved in bird strikes. This index takes into account the number of collisions registered for each species and the probability of the collision causing damage (its severity). It is based on the indices recommended by international organisations, with minor changes to adapt it to the local context of Barcelona Airport.
6.6 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 incidents are re-
corded daily by the Animal Control Service. They also receive reports from airlines and the tower. With all this data, statistics and indicators, the department is able to log all the bird control activities successfully. Analysis on bird strikes are also carried out when it is required by the severity of the case. 6.6Do your staff log bird control problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Dogs and cats. Cat trapping is done when they are determined to be causing problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Dogs and cats. Cat trapping is done when they are determined to be causing problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Dogs and cats. Cat trapping is done when they are determined to be causing problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Dogs and cats. Cat trapping is done when they are determined to be causing problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Dogs and cats. Cat trapping is done when they are determined to be causing problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Dogs and cats. Cat trapping is done when they are determined to be causing problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Dogs and cats. Cat trapping is done when they are determined to be causing problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Dogs and cats. Cat trapping is done when they are determined to be causing problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Dogs and cats. Cat trapping is done when they are determined to be causing problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Dogs and cats.
System for the aerodrome. Has your airport made any recent changes to its SMS following the ICAO/FAA guidelines? Marking changes made by internal/external SMS audits? SMS is an integral part of the company operations manual.

4. FOREIGN OBJECT DAM-
AGE (FOD) CONTROL

4.1 Describe your airport’s pro-
gramme to control FOD in terms of:

(a) Training: Staff concerned with removal of FOD objects are trained. The movement ar-
eas are trained on the job (on the job training).
(b) Inspection by airline, airport, and airplane handling agency personnel: Inspections are done.
(c) Maintenance (use of sweeping, mag-
netic bars, rumble strips, FOD containers etc): Airport uses sweepers and magnetic bars.
(d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Coordina-
tion and reporting done by airport duty manager at airport traffic center and SMS-Safety Office.

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. FOD SMS-Software will be in use in early 2013 as control system (‘A-SMS’, manufacturer: Airsight, Berlin).

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 by memorandum containing applicable process instructions for airspace of airport.

5.2 Are any design or engineering changes being undertaken to eliminate perceived hazards? Apron parking-positions and taxiway-markings to eliminate po-
tential pilot confusion about taxi direc-
tions. Follow me-vehicles used also.

5.3 What safety devices are currently em-
ployed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Modern Airfield Systems, Equipment): Aircraft movement control during low visibility operations (CAT II / CAT III) is accomplished by an active taxiway lighting guidance system with intermediate markings and lights, stop bars and induction queues.

5.4 Comment on the use of any innovative warnings or guards - use of paint, signs, lighting and other lower-cost technologies: Markings, signage and lighting installed in lcaO ANNEX 14. RWY guard lights will be installed in 2013.

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? Yearly Training for mechanics, airport vehicle operators, and other people who work at the airport (instruc-
tions, wireless-communications etc.). Airport duty manager at airport traffic center perform yearly training sessions about airport movement areas for authorities like police, MET service personnel and other service personnel etc.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other participants on the airport? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Daily-general-reports. Daily-general-reporting procedures are used.

6. BIRD AND WILDLIFE CONTROL

6.1 Do your staff attend recognised

bird control training courses? Yes, in-
ternal training (on the job training).

6.2 Are your staff aware of any dangerous man-
ning on the airfield continuously, hourly,
less than hourly? Yes. All bird control staff is employed by the airport and familiar with the area bird strike procedures.

6.3 What specialist equipment do you employ for bird control? (Please state rele-
vant supplier/manufacturer): Bird control is using bird hawks, automatic shotguns and auxiliary pyrotechnics.

6.4 Do you carry out a bird strike risk assess-
ment? Once a year, audited by the DAVL
organization. If no immediate ID is possible.

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
cases of lawsuits? Yes. Every bird control
activity is recorded in a report and available to the responsible bird strike manager.

6.6 Does your airport have problems with other wildlife (deer, for example) and,

if so, how are these issues being ad-
dressed? Wild rabbits. Control by state
approved hunting on a yearly basis.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inven-
tory stating; vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and

type); year of manufacture: ELW Toyota RAV
4 4x4, 2006; TroFL 2000, 2000 kg powder
T0x6, 1996; Fluhflagen-Hubrettungs-
Trolf, 2000 kg powder MAN 8x8, 1993;
FLF 60/90, 9, 9000l water/1000l AFFF MAN
6x8, 1988; FLF 60/90, 9, 9000l water/1000l
AMM 6x8, 1988; FLF 60/90 9, 9000l water/
1000l AFFF MAN 8x8, 1988; FLF 60/90 9, 9000l
water/1000l AFFF MAN 8x8, 1998; FLF
6000 water/6000 AFFF MAN 6x8, 1994.

7.2 Future developments – are there plans to

purchase or dispose of any equipment? No.

7.3 If you have a Fire Training Simulator, is this available to other airports for

training purposes? Fire Training Simulator Train-
ning procedure externe in Rotterdam and FRA.

PART 2: WINTER ORGANISATION

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of win-
ter readiness? 1 October until 15 April.

8.2 Average annual snowfall: 20 days.

8.3 Average snow depth: 2-5cm.

8.4 Maximum snow in 24 hours: 25cm.

8.5 Annual number of days of de-
icing activities: 30-50 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-
contracted winter services personnel are

available per shift? 15. Sub-contracted
winter services personnel on request only.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-
icing and other relevant winter equipment stat-
ing purpose, manufacturer and number of units
(for example, compact jet sweeper, Schmidt, CJS 720, 4 units): BRE – Equipment: 5 Airblast-
Snow-Ploughs (Schmidt SG 250); 1 Snow-truck
(Mercedes-Benz-6x4, 4x4); 1 Snow-Blower (Uni-
mob1300 4x4 / Schmidt Turbstream T5); 1
De/anti-icing-Units (Iveco 330-30, 6x6 / Küpper-
Weisser Multi-De-Anti-Icer, 4x2, 4x4 / Epoke,4x6m²); 1 Single Rotation-Solid-
Sprayer 0,5 m² (MB 300GD, 4x4); 1 Single-
Rotation-Solid-Sprayer (MB UX1000, 4x4 / Küpper-Weisser Typer SD A 95, 1,3m³); 1 Singel-
Rotation-Sprayer (MB 300GD, 4x4 / Küpper-
Weisser Typer SD A 95, 1,3m³); 2 SHH, Skid-
dometer Bv 12 with Computer Mi, 80; 1 TAR

11. PRODUCTION

11.1 Please state here order of priority of

snow clearance of main operational facilities
(runways, taxiways, aprons etc) stating iden-
tity of each facility: RWY 09/27; TWYs A, B, C (CATII-TWYs); Airpors (Ramp 1, Ramp
2) ; Other TWYs; Other Movement areas.

11.2 State the vehicles, formations and general

method of runways, taxiway and apron clearance:
Snow Plough + Snow-Sweeper - Formation, first snow removal, second De/-Anti-icing-Fluid. General prefer De-Icing-Procedures in Preven-
tion, for all movement areas.

11.3 After moderate snow, how quickly do

you expect to achieve ‘black top’ on the runways? Maximum 2 hours.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: YARA Aviform L50, YARA Aviform S Solid. Very good effectiveness (low tem-
perature 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 that you use: Max. 80
m³ Fluid (L50) and 5 – 20 to Solid.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Mix-
ing – Rate 80% Solid + 20% Fluid.

12.4 Have you experienced any corrosion

problems with de-icers? No, we have not.

12.5 Do you use chemicals for any special mean-
es to economise on chemical use? Yes, we have,
user information how to handle anti-/de-
icing procedures in the BRE Winteroperation Handbuch. Personal knowledge 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 equipment for sand or sand on

operational areas? Sand in extreme situations, but not only for the runway.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warn-
ing systems: In BRE not available.

13.2 Have you plans to purchase fur-
ther ice warning systems and if

so, which model(s)? N/A.

13.3 Comment on your experiences of the

benefits/disbenefits of ice warning systems: N/A.

14. AIRCRAFT DE-ICING

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

number of units: 3 Units Westergaard Elephant.

14.2 Are you required to have dedicated de-icing positions or do you de-ice on the

parking area? De-ice on the parking area.

14.3 Is glycol recovered? If so, please state methods: Cold Deep-freezer in Pickup-operation only.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SHK (Skidometer High Pres-
1.9 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacity (kg/litre and type); year of manufacture. CFR VEHICLES INVENTORY STATING: FGK 4105, Kronenburg chassis, 8x8 axles, 16.000 litre water ; 3.000 litre foam, Monitor–output : 4.000 – 7.000 L/min, bumper turret–output: 2.000 L/min, 1997. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water : 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 5.000 L/min, bumper turret–output: 1.000 L/min, Monitor–output powder : 15 – 30 kg/sec, 1999. 28 FLF 80/125-10 snozzle, MAN 8x8 axles, 12.500 litre water ; 1.000 litre foam, 500 kg powder, Monitor –output : 2.000 – 4.000 L/min (snozzle), powder output: 300kg/min (snozzle), 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, Monitor powder output : 15 – 30 kg/sec, 2000. TM 19 FA off-road, MAN 8x8 chassis, 4x4 axles, 4.000 litre water : 250 litre foam, 500 kg powder, Monitor–output : 2.500 – 5.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, Monitor powder output : 15 – 30 kg/sec, 2000. TM 19 FA off-road, MAN 8x8 chassis, 4x4 axles, 4.000 litre water : 250 litre foam, 500 kg powder, Monitor–output : 2.500 – 5.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg power, Monitor –output : 2.000 – 4.000 L/min (snozzle), powder output: 300kg/min (snozzle), 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, Monitor powder output : 15 – 30 kg/sec, 2000. TM 19 FA off-road, MAN 8x8 chassis, 4x4 axles, 4.000 litre water : 250 litre foam, 500 kg powder, Monitor–output : 2.500 – 5.000 L/min, bumper turret–output: 1.000 L/min, 2007. KR50.1100.60.8x8, Kronenburg chassis, 16.000 litre water ; 1.000 litre foam, 500 kg powder, Monitor–output : 3.000 – 6.000 L/min, bumper turret–output: 1.000 L/min, Moni
tracted winter services personnel are available per shift? Winter teams: 35. de-icing of aircraft performed by ground handling companies.

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 CJ3, 720, 4 units): Compact jet sweeper Schmidt CJ3: 720, 4 units; Compact jet sweeper, Schörling P21C, 1 unit. Sprayer, Nido Schmidt RSP6000 on Atego, 1 unit; Compact jet sweeper, Schmidt CJ3: 720, 2 units; Towed sweeper Blower, Schörling P17, 1 unit; Towed sweeper, Oervoira SBS9, 3 units; Sprayer, Nido Schmidt RSP6000 on Atego, 1 unit; Compact jet sweeper, Schmidt CJ3: 720, 2 units; LADOG, 1 unit; Spreader, Acometis on Man, 1 unit; Spreader, Nido Stratos on Atego, 1 unit; Sprayer, Nido Schmidt RSP3000 on Unimog, 1 unit; Sprayer, Nido Stratos on Atego, 1 unit; Sprayer, Acometis on Man, 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: Snow clearing according to one of two pre-defined minimum airport scenarios: Minimum airport: 28,5/7,5R; RWY: 25S/07L; Entries: A1, A3, A7, B1, E6, F4, W41; Exits: B7, B9, P1; TWY : OUT1, INN2-10, OUT6, Z. Intersections between RWY, exits, entries and TWY listed above. Minimum airport 02/20; RWY: 25S/07R; Entries: A1, A3, A7, B1, E6, F4, W41; Exits: B7, B9, P1; TWY : OUT1, INN2-10, OUT6, Z. Intersections between TWY, exits, entries and TWY listed above. Minimum airport 02/20; RWY : 02/20; Entries: P7, C6, D2; Exits: B1, E6, E5; TWY : INN3-10, Z. Intersections between RWY, exits, entries and TWY listed above. In parallel with the cleaning of the minimum airport, one convoy (5 vehicles) focuses on individual stand cleaning, priorities defined according to stand allocation planning. After cleaning of minimum airport, main aprons, cargo aprons 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 methods: Wearyaw, taxiway and apron clearance: Snow removal is performed according to standard minimum airport scenarios. The choice in scenario is based on weather conditions, priorities given to main aprons and status of the airport. Each team consists of 6 convoys (composition see question 10.1). Each convoy carries its own particular tasks within the scenarios, matching their capacities and limitations. On top of the scenarios, standard procedures have been developed for snow removal on each part of the airport (RWY, TWY, exits, TWY intersections, RWY interactions and apron). After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? One convoy clean 35-45 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 after long holdovers, temperatures etc: Liquid: CRYOTECH E36: 240,000 litres - effectiveness is very good but not with extreme low temperatures. Solid: NAC; 30 tonnes - effectiveness when used on individual stands applied by hand for local ice patches is good. Application method, quantities and mixing ratios in combination with liquids for use on larger surfaces remains trial and error. 12.2 Comment on storage capabilities of the chemicals that you use: Liquids: 220,000l. Solids: No storage limitations. Bought in bulk and stored in hangar. Road salt (applied landside to and service drives aiside): 264 tonnes. 12.3 Comment on your experience with solid de-icers and liquid de-icers that are available on the market. Liquid de-icers (with liquids, “blow-away factor” etc) Last year was only used on local ice patches (on stands). 12.4 Have you experienced any corrosion problems with de-icers? Only on galvanised equipment, not on aircraft. 12.5 Have you employed any special means to economise on chemical use? GPS is used to economise on liquids. Discussions with supplier are ongoing to fine-tune concentration politic. 12.6 Do you have any other comments on experience with chemicals? No. 12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Vaisala Ice-CAST Viewer; 13 warning sensors. 13.2 Have you plans to purchase further ice warning systems and if so, which ones? No. 13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: It is helpful as an indicator.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: No. Model not yet specified. 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. FRICCTION TESTING

15.1 What model(s) of friction tester do you use? friction tester SFH, ASFT on Saab 9,5. 1 unit, Friction tester SFH, ASFT on Saab 9000, 1 unit; Friction tester Trailer T5 , ASFT, 1 unit. 15.2 Have you any comments on the reliability of friction indexes? Worldwide standardization of RWY fricction values is necessary.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? Scenarios and working methods are under continuus 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: Four tractors with shovel, brush and liquid spreader. 16.4 Do you have any winter services equipment that you would like to sell? No.

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total area, service area, taxiway etc): 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 shoulder on both side; RWY 13R/31L: TORA/LDA: 3010 m, Width: 45 m + 7,5 m shoulder on both side; RWY system: Width: 23 m, except A1 is 19 m. All taxiways have shoulder width 3,5 m width. Apron 1, Apron 2 GA apron, and maintenance areas are 695,000 sqm.

2.2 Landings aiming for each RWY (e.g., CAT II): RWY 13L/31R: CAT II operations are available on 13L and CAT IIIa on 31R. The upgrading process from CAT IIIa to CAT III/ b is on going. RWY 13R/31L: CAT II operations are available on both directions.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Manage- ment System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? The first edition of the SMS manual for Budapest Airport was published in January 2010, following the structure recommended by the ICAO. From this time all relevant process is following the SMS system included construction works and new procedures. The system running well, no recent changes are planned.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s pro- gramme to control FOD in terms of: a) Training: FOD awareness campaigns periodically, FOD leaflets are circulated periodically also. The FOD is a part of all kind of movement area safety trainings, included handling companies, airport opera- tor and subcontracted partners as well. b) Inspection by airline, airport, and airplane handling agency personnel: The FOD is a relevant part of the daily inspection routine of Airfield staff. Every month an FOD collection is organized by the Airside Management together with the EHS team, after each inspection season an overall FOD-Fishing 2 is organised. c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Two Apron Sweepers are in operations following a daily routine. These sweepers are equipped with magnetic bars. There is weekly taxiway cleaning program using the Schmidt Jet-sweepers without plough. All defined parking positions are equipped with FOD containers. d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): The FOD is a topic of monthly Airside Safety meetings, defining the results and informing all relevant airside users.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any com- ments): Magnetic collectors for the sweepers.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary monitoring vehicle and aircraft movements on the ground? A-SMGCS was implemented and used by the ANSP to monitor all kind of traffic. All vehicles in the service area equipped with Squid by ERA system.

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

BUDAPEST

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Budapest Fe- rence Liszt International Airport.

2. MOVEMENT AND MANOEU- VURING AREA DATA

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points are indicated by Runway guard lights, and stop bars. The RETs are equipped with permanent beacons and signs on the Runway edges. The transition area between the apron and the runway is marked by retroreflective poles.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System; AXES-X; the Model X Airport Surface Detection Equipment); A-SMGCS and continuous radio communications between tower and vehicle drivers.

6.1 Do your staff attend recognised training sessions on airport safety, bird nest removals, spikes on runways and other operations of RGLs; Permanent stop bars on RETs. A RWY AHEAD sign was painted at night. At the same time 3-5 Jet Sweepers are used to clear the entire surface with respect for the elevated edge-light of the runway.

7. CRASH FIRE RESCUE

7.1 Please detail your emergency vehicle inventory stating: vehicle type; class (e.g. MAN); axles (4x4, 6x6); capacities (kg/ton and litre); year of manufacture; Urea (566,3t) and Clearway must be used. CaCl₂ is highlighted was that the Urea was uneffective below -6-8°c, resulting in an extremely high holdover time of Urea and Clearway-1. The capacity of Urea and Clearway must be used.

8.9 How many airport-employed or sub-contracted winter services personnel are available per shift? Three different levels of winter service are defined. In Green level: 32 staff, in Red level: 48 staff: Orange level: 32 staff, in Red level: 48 staff.

9.2 A RWY AHEAD sign was painted at night. At the same time 3-5 Jet Sweepers are used to clear the entire surface with respect for the elevated edge-light of the runway. The RETs are equipped with permanent beacons and signs on the Runway edges. The transition area between the apron and the runway is marked by retroreflective poles.

9.8 What is the designated period of winter readiness? According to the Winter Services Manual, the designated period is between 1 November and 30 March.

9.10 Please list specialist snow clearing, de-icing and anti-skid equipment: Name of the equipment, Christmas tree, Sensors: Air temperature: two/runway flush with surface. Air temperature: two runway at 2m from the ground, RWY temperature: two/runway flush with surface. Air temperature: two runway at 2m from the ground, RWY temperature: two/runway flush with surface. Air temperature: two runway at 2m from the ground, RWY temperature: two/runway flush with surface.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and anti-skid equipment: Name of the equipment, Christmas tree, Sensors: Air temperature: two/runway flush with surface. Air temperature: two runway at 2m from the ground, RWY temperature: two/runway flush with surface. Air temperature: two runway at 2m from the ground, RWY temperature: two/runway flush with surface.

11. WINTER PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility; Generally the basic concept is to maintain the limited but continuous operations from the barriers of car parking areas to the runways, but in severe weather the Duty Airside Manager will decide the priorities following the list below: Active RWY (13L/31R), belonging connection TWYS of the RWY; Aprons 24B/Apron 3; Other RWYs; Maintenance area, Landside areas and car parks have separate dedicated equipments/staff

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Urea (566,3t) and Clearway-1 (5220 l) on the airside. CaCl₂ (117,2 t) sand on the landside and other non-airfield areas. Last season the most important thing highlighted was that the Urea was uneffective below -6-8°C, resulting in an extremely high quantity of Clearway being used.

12.2 Comment on storage capabilities of the chemicals that you use: No comment. 12.3 Comment on your experience with de-icers, for example, any issues with liquids, “blow-away factor” etc: Above -6°C we are using Urea only. Below this temperature or in the case of heavy ice a mixture of Urea and Clearway must be used.

12.4 Have you experienced any corrosion problems with de-icers? No corrosion problems were detected with Urea. The CaCl₂ is aggressive and corrosive, meaning that use of it on the airside is strictly prohibited.

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

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

12.7 Do you use other chemicals or sand on operational areas? Sand is used at maintenance hangars only.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Meteorological observer on duty, Almos System, Sensors: Air temperature: two/runway flush with surface.

13.2 Have you plans to purchase further ice warning systems as are necessary. The final step is the friction measuring procedure, NIDO sprayers are rolled out if necessary. The minimum temperature for snow clear is 12°C. The impact of Urea and Clearway must be used. CaCl₂ is highlighted was that the Urea was uneffective below -6-8°C, resulting in an extremely high holdover time of Urea and Clearway-1. The capacity of Urea and Clearway must be used.

14. AIRCRAFT DE-ICING

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

14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking areas? D-icing is done on stands. In the interest of reducing holdover times, de-icing procedures are relocated close to the runways. 14.3 Is glycol recovered? If so, please state methods: No.

15. FRICTION TESTING


15.2 Have you any comments on the reliability of friction indexes? No.
5.1 What is the primary method of monitoring FOD? (Please specify products or software solutions you employ)

4.2 General: Are there any special systems to control FOD in terms of: a) training; b) inspection by airline, airport and airplane handling agency personnel; c) inspection by airline, airport, and airplane manufacturer or other products on order? If so, please provide details including manufacturer and number of units. Unit(s) No. 16.4 Do you have any winter services equipment that you would like to sell? There are plans to sell our existing Schorling P-17 (10 feet) in 2013.

CHISINAU
1. AIRPORT NAME: Chisinau International Airport.

2. MOVEMENT AND MANEUVRING 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 runway available (TORA), RWY width, shoulder widths, total apron area, area, other): RWY Designator – 08/26; Total RWY length 3590m x 45m, 51 R/W/C/T Concret; Strip dimensions – 3710m x 234.5m; TORA / TODA / LDA for RWY 08/26; 3590m; Taxiways – 8 and apron taxiway; total apron and ramp area – 110000 m2; Standards – 100; Rescue and fire fighting service – cat V; CHISINAU Apron – 131,700 MHZ.

2.2 Landing aids for each RWY (e.g. CAT II): RWY 08, CAT II 870M LH; RWY 26, CAT II 940M LH; 2.3 VRING AREA DATA
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 audits? Yes. 3.2 Does your airport possess a Fire Training station? No. 3.3 If your airport possesses a Fire Training station – are there robotic vehicles or other special means to economise on chemical use? No. 3.4 Do you have any other comments on experience with chemicals? No. 3.5 Have you employed any special means to economise on chemical use? No. 3.6 Do you use other chemicals or sand on operational areas? No.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of: a) Training: Training of personnel every six months. b) Inspection by airline, airport, and airplane handling agency personnel. c) Maintenance (use of sweeping, magnetic bars, rumbly strips, FOD containers etc): Twice daily cleaning by compact jet sweeper Schmidt, CJS 914, (4 units); Twice weekly use of magnetic bar; FOD containers. d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Yes.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product names and add order Formularies: No.

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Markings - signs and lights on site.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? New markings “RUNWAY AHEAD” on taxiways A1, B1 and C1. New marking of the transport roads on the apron; New apron guard light.
5.3 What safety devices are currently employed? A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment); SQMS and SMGCS.

5.4 Comment on the use of innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Permanent improving of Standard Operational Procedures, installation of lights and signs, 5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other airport staff? Annual programme to upgrade airport staff’s professional skills, training and testing of aerodrome users and drivers twice a year.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes, according to Chapter 5 of Aerodrome Manual and the recommendations of Doc. 9859.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: a) 6.1.1 Do your staff attend recognised bird control training courses? Yes. 6.1.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.

6.2 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Bird Gard Super Pro AMP – 7 units; Bird Gard PA4 – 8 units; Smooth-bore guns and pyrotechnics.

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

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

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how these issues are being addressed? Our airport also has problems with dogs, rabbits and foxes (RWY and apron incursions). Garden Protector 2 is used against them.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: a) types (e.g. MAN); axes (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 2 Mercedes Benz 3350 6x6, 9000 litres of water and 1200 litres of foam solution, 500 kg dry chemical powders (2008). 7.2 Future developments – are there plans to purchase or dispose of any equipment? Rapid response vehicle 4x4.

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

8. Recent Winter Conditions
8.1 What is the designated period of winter readiness? November – April.

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

8.3 Average snow depth: 4-6 cm.

8.4 Maximum snow in 24 hours: 20 cm.

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

9. WINTER OPERATIONS
9.1 How many airport-employed or subcontracted winter services personnel are available per shift? Aerodrome division - 16 persons; LIA - 25 persons; others - 25 persons.

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, compact jet sweeper, Schmidt, CJS 720, 4 units); Compact jet sweeper, Schmidt, CJS 800, 4 units; Snow Clearing Schmidt Supra – 4001, 1 unit; Snow Clearing Valtra N141h and T171h, 2 units; Snow ploughs DE – 224A, 1 units; Thermal machine – 1 unit; Spreaders for solid de-icers, 2 units; Combined liquid and solid spreader, 1 unit; Scrappers RMG-4B, 2 units; Front loaders, 2 units; graders, 1 unit.

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: Clearing priorities: 1. RWY, RWY’s B1, B2, C1, D (between RWY’s C1 and E), E, Apron RWY, Apron and parking positions, ILS Zone and access road from fire station, 2. RWY D (between RWY’s E and B1), RWY’s A2 and A1, road to the fuel storage, 3. RWY C2, cargo apron, roads.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: From centre line (around the RWY, RW, 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? Three and a half hours.

12. Experience with Chemicals
12.1 State which de-icing chemicals you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Traditionally we use effective solid, HKMM (Russia), and liquid, Nordiks -P, de-icers. 12.2 Comment on storage capabilities of the chemicals that you use. According to manufacturer recommendations.

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

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

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

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

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

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: No.

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

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

14. AIRCRAFT DE-ICING
14.1 Does the direct airport 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? On the parking area.

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

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? ASFT, AFM-2, skidometer BV11.

15.2 Have you any comments on the reliability of friction test? 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 equip-
ment for deicing a 12,500 m² water system? If so, please provide details including manu-
facturer and number of units: No.
16.4 Do you have any winter services equip-
ment that you would like to sell? No.

COPENHAGEN

Copenhagen Airports

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Copenhagen Airport
2. MOVEMENT AND MANOEUV-
ERING AREA DATA
2.1 Please list the identities of primary opera-
tional facilities and the surface areas (for exam-
ple: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 04L-22R, asphalt, 216,000m²; RWY 04R-22L, asphalt, 198,000m²; RWY 12-30, asphalt, 192,000m²; Taxiways: Taxiway A, 1,500,000m²; Aprons, concrete, 1,200,000m²; Trans-
port roads, asphalt, 290,000m².
2.2 Landing aids for each RWY (e.g. CAT II): RWY 04L, CAT II; RWY 04R, CAT I; RWY 12, CAT I; RWY 22L, CAT III; RWY 22R, CAT I; RWY 30, 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-
fied by internal/external SMS audits? No.
4. FOREIGN OBJECT DAM-
AGE (FOD) PREVENTION
4.1 Describe your airport’s pro-
gramme to control FOD in terms of: a) Training: The developer of design Ob-
ject Damage, and knowledge of how to prevent FOD being a safety hazard, is an integrated ele-
ment in CPH’s Apron training.
 b) Coordination by airline, airport, and airplane handling agency personnel: This is done repeat-
edly 4 to 5 times every 24 hours by personnel from the Airports Traffic Department.
c) Maintenance (use of sweeping, mag-
netic bars, rubber strips, FOD contain-
ers etc): This is done by sweepers, magnetic bars and FOD containers.
d) Coordination of multiple agencies us-
ing airport (airlines, handling agents etc): This is done by the "Airside, Safety, Op-
erational & Technical Committee".
5. RECENT WINTER CONDITIONS
5.1 What is the designated period of win-
ter? November – April.
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of win-
ter readiness? November – April.
8.2 Average annual days of snow: 11 days.
8.3 Average snow depth: 10cm.
8.4 Maximum snow in 24 hours: 42cm.
8.5 Annual number of days deicing activi-
ties: 91 days.
9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services person-
el are available per shift? 50 airport employees and no sub-contractors.
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, CAT II, 4 units); Sweepers: 8 units Øvreasen RS400, 8 units Øvreasen SB470 and 7 units Øvreasen RS200.

AIRSIDE SAFETY SURVEY 2013 P19
1.2 State the vehicles, formations and general method of runway, taxiway and apron clearing.

A column of snow-cleaning equipment typically consists of a forklift in a leading car (Friction-tester, 12 sweepers, 2 blowers and 1 de-icer Damman). This makes it possible to clear a runway in "one run" in 15 minutes. During snowfall and sleet, Field Service will usually arrange with TOWER if Runway 12/30 should not be used for taxing until swept and cleared. This helps to prevent the formation of frozen ruts and ridges on the runway surface which usually proves very hard to remove afterwards.

Braking action is measured by a SAAB Friction Tester vehicle using high-pressure measuring wheel. The measuring equipment is calibrated for a full runway length, and if the measuring process is interrupted, it must start again from the beginning. In a normal snow clearing process Runway 04R/22L and Runway 04L/22R can be run over, thereby closing the platform. Following each snow clearing, ETG will inspect the lights on the particular runway, before it is released by ETG.

Field Service must, as far as possible, take care that snow is not thrown into the ILS critical areas, and that visual aids (signs) are not covered by snow. If this cannot be avoided, clearing or levelling of the particular areas will be initiated immediately afterwards. When passing the deicing platforms, the driver of the snow thrower must take care that snow is thrown on the platform surfaces, as large quantities of melt water may cause the fluid collection tanks to run over, thereby closing the platform. The Snow Superintendent arranges with Naviar/APRON and the Stand Allocation Unit when inspection, friction measuring and snow clearing is required on the aprons. Arrangements for which snow clearing takes place on aircraft stands is normally coordinated between the Snow Superintendent and the Stand Allocation Unit. Special requests should be directed to the Stand Allocation Unit, which then will forward them to the Snow Superintendent. Use of apron sections for temporary storage of snow or equipment is arranged between the Stand Allocation Unit and Field Service. Deposition of snow must not take place on the deicing platforms.

Communication on FM Channel 3 is managed by Naviar/APRON. When required due to the weather conditions the ground handlers and airline opera-
tors must make arrangements to ensure that necessary staff will be available for removal of the aircraft and tiding up of stands. If this is not possible, the Stand Allocation Unit must be notified immediately. Ground handling crews must tidy up the stands to prevent cables, wheel chocks or tripstices from being left behind. Such objects are likely to cause a major break-down of a snow sweeper or snow blower, if ingested during the clearing process.

The users must, in the event of a snow storm in case Field Service expects an increased winter service readiness level, which may require extraordinary summoning of ground staff. User registration in the SMS notification service can be achieved by e-mailing the Traffic Manager. As the SMS system may be unreliable at times, the users are reminded that they are still responsible for following services updated on current weather forecasts via the medias.

11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? 15-20 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals or sand on operational areas?

3.1 The ICAO Manual on Certification of Airports in the column of sweepers / snow blowers are con-

12.2 Comment on storage capabilities of the chemicals that you use: Liquid de-icer is stored in 2 x 55,000 litres 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 in ratio 1:1 with Aviform L50 to avoid "blow-away" at high efficiency.

12.4 Have you experienced any corrosion problems with de-icers? No - CPH has not experienced corrosion problems above normal, when performing corrosion control programs.

12.5 Have you employed any special means to economise on chemical use? Yes - CPH can keep the use of chemical down to a minimum, due to the very good weather forecasts from our "Forecast module", which makes it possible to economise on chemical use.

12.6 Do you have any other comments on experience with chemicals? Yes - We are testing the use of Aviform L25 and a mix of Aviform L50 with 50% water for use in non-Aircraft zones.

12.7 Do you use other chemicals or sand on operational areas? The following can be used: Quartz sand (in accordance with the Danish ominable snow plan in AIP Denmark, the grain size of the sand used must not exceed 0,4 millimicron); Sand containers for common use are distributed all over the apron area, (sodium chloride) may still be used on some isolated parts of the airport which are properly screened-off from ar-

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Dubrovnik 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: 3300mx45m, TORA 3300m, TODA 3300m, ASDA 3300m, LDA 3150m, RWY30: 3300mx45m, TORA 3300m, TODA 3300m, ASDA 3300m, LDA 3300m.

2.2 Landing aids for each RWY (e.g. CAT II): RWY12: 3300mx45m, TORA 3300m, TODA 3300m, ASDA 3300m, LDA 3300m.

2.3 Runway shoulder widths, total apron area, ramp area, other): RWY12: 3300mx45m, TORA 3300m, TODA 3300m, ASDA 3300m, LDA 3150m; RWY30: 3300mx45m, TORA 3300m, TODA 3300m, ASDA 3300m, LDA 3300m.

2.4 Do you have any other comments or other products on order? If so, please provide details: No comment.

2.5 Do you currently have equipment or vehicles? If so, please provide details including manufacturer and number of units: No comment.

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

DUBROVNIK DUBROVNIK AIRPORT

IP network. It is implemented in the na-

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: The ice warning system is a Vaasala system. The system consists of 28 surface sensors. Data is collected via a TCP/ IP network. It is implemented in the na-

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

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

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufac-
tures, and number of units: No, aircraft de-icing is provided by handling agents.

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

14.3. What methods are required to be followed when performing corrosion control programs.

14.4 Have you any comments on the reliability of friction indexes? Full reliability.

16.1. Are you about to change any of your airport’s methods? New methods and patterns in the column of sweepers / snow blowers are con-

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

16.3 Do you currently have equipment or vehicles? If so, please provide details including manufacturer and number of units: No comment.

16.4. Have you any winter services equip-
ment that you would like to sell? No comment.

DUBROVNIK AIRPORT
the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, risk and hazard identification is a part of our Safety and it is under constant improvement also, according to the reappraisal of risks and hazards identified by internal/external SMS audits.

4.2.1 FOREIGN OBJECT DAM-
age (FOD) PREVENTION

4.1 Describe your airport’s pro-
gramme to control FOD in terms of:

a) Training: All airside personnel hold-
ers have FOD awareness training as a part of Airside Safety course.

b) Inspection by airline, airport, and airplane handling agency personnel: Regularly, two times per day (before airport opening and immediately after sundown) and before any movement of aircraft in case of absence of movements for more than one hour. In case of bad weather conditions checks are performed more often. Also, parking stands are checked every time before parking of aircraft is performed and before aircraft engine starts.

c) Maintenance (use of sweeping, mag-
netic bars, rumbus strips, FOD containers etc); Sweeping, carpets, FOD containers.

d) Go-odvertising: SMS made to companies us-
ing airport (airlines, handling agents etc): Safety promotion/FOD awareness

is discussed on ASC meetings.

4.2 General: Are there any special sys-
tems or software solutions you employ for FOD control? (Please specify product name and add any comments): All data related to FOD control is recorded in internal soft-
ware on which analysis is conducted.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual and radio communication method.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No.

5.3 What safety devices are currently em-
ployed? (A-SMGCS; Airport Movement Area Safety System – AMASAR; or MOBE-X, the Model 9 Airport Surface Detection Equipment): None.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, light-
ing up or other technologies: None.

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 is mandatory for all airside pass holders.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ 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: Due to increased harring gull-activity on and in the vicinity of aerodrome, we have short and long-term measures and procedures de-
defined in the Aerodrome Manual, chapter 4.12.

6.2 Is your staff aware that different birds are breeding around: No.

6.3 What area are you currently working on the airfield continuously, hourly, less than hourly? They are working continuously as a part of the Rescue and Firefighting brigade.

6.4 Do you carry out a bird strike risk assess-
ment? Yes, according to the data collected dur-
ing daily inspections, bird strikes and bird strikes.

6.5 Do you staff log all their bird control activ-
ties to manage success in deal-
ving with the problem, and to use in de-
fence in court cases? Yes.

6.6 Does your airport has 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 inven-
tory stating: vehicle type; chassis (e.g. MAN); axles (4xx, 6xx); capacities (kg/litre and type); year of manufacture: ZIEGLER MAN (FLF 60/91-11), 6xx, 9100 L Water, 1100 L/ foam (2002). ROSENBAUER – OSHKOSH (FLF 10000), 6xx, 9000L water, 1000 L/foam, 250 kg/powder (1982), ROSENBAUER – TITAN (SIMBA), 8xxx, 11600 L Water, 1200 L/foam, 2000 KG/powder (1985). MAZDA – ZIEGLER PICKUP 4xx, 200 L Water, 10 L/foam (2009).

7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No FTS available.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of win-
ter readiness? 31 October – 31 March.

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

8.3 Average snow depth: 1-2cm.

8.4 Maximum snow in 24 hours: 5cm.

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

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-con-
tracted winter services personnel are avail-
able per shift? No dedicated winter service personnel available. In case that some are needed, GHA ground support equipment driv-
ers and RFF staff form a winter service unit.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units); Snow plug 3 units; sweeper-truck 2 units.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational fa-
cilities (runways, taxiways, aprons etc) stating identity of each facility: 1-RWY (12-30), 2-TWY (B, C), 3-APRON (STANDS P8-P12)

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: They are not defined.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? Since we have snow very rarely we do not have exact information but we expect to achieve it in 3-5 hours.

12. EXPERIENCE WITH CHEMICALS

12.1 State which chemicals you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times for de-icers.

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

12.3 Comment on your experience with solid de-icers: Low compared to liquid ratios with liquids, “blow-away factor” etc. None.

12.4 Have you experienced any corro-
sion 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 specific de-icers? 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: None.

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

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

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide air-
craft anti/de-icing operations? If so, please state vehicle or other facility manufac-
turer and number of units: Yes, IVEC O BLUMENBECKER 100E15, 1 unit.

14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We do de-ice 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? All vehicles?

15.2 Have you any comments on the reliability of friction indexes? Yes.

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 equip-
ment or other products on order? If so, please provide details including manu-
facturer and number of units: No.

16.4 Do you have any winter services equip-
ment that you would like to sell? No.

DUSSeldorf

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Flughafen Düsseldorf

2. MOVEMENT AND MANOEUV-
ERING AREA DATA

2.1 Please list the identities of primary operational facilities and the surfacareas (for example: total removal, total length, Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Runway System: Southern Run-
way: 05R/23L, 3.000m; Northern Runway: 05L/23R, 2.700m; Apron: 722,329m².

2.2 Landing aids for each RWY (e.g. CAT II): CAT/ II/ IIIa-b-c.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Manage-
ment 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 Airport Safety Manage-
ment team is permanently involved in risk Monitoring internally and externally.

4. FOREIGN OBJECT DAM-
age (FOD) PREVENTION

4.1 Describe your airport’s pro-
gramme to control FOD in terms of: a) Training: Licence to drive and work in security area required with special consideration of FOD awareness.

b) Inspection by airline, airport, and airplane handling agency personnel: Everyone has the duty to prevent FOD.
8.1 What is the designated period of winter readiness? It starts with the first winter operating and ends with the last, usually from November to March, though there may be exceptions.

8.2 Average annual days of snow: 5 days.

8.3 Average maximum snow depth: 5 cm.

8.4 Maximum snow in 24 hours: 2 cm.

8.5 Annual number of days of de-icing activities: 90 days.

9. WINTER OPERATIONS
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 33 people.

9.2 Average annual days of snow: 5 days.

9.3 Comment on effectiveness of snow clearing and ice clearing at Düsseldorf airport for winter 2012/13, as well as 14 pieces of sweeping and blowing equipment, 5 spraying vehicles, 2 snow blowers and 3 substance vehicles. 200,000 litres of Aviform L50 by Adcon Nordic will be used.

10. WINTER OPERATIONS INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): 14 sweeping blowing equipment, 5 spraying vehicles, 2 snow blowers and 3 substance vehicles. 200,000 litres of Aviform L50 by Adcon Nordic will be used.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance and main operational facilities (runways, taxiways, aprons etc) stating identity of each facility: 1.RW: 2.1TW; 3. Aircraft de-icing areas; 4. Apron; 5. Gat.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: 200,000l Aviform L50 by Adcon Nordic, then 200,000 Clearway F1 by Kemira used as a de-icing remedy for taxi and runways. After that de-icing, Aviform L50 by Adcon Nordic will be used again.

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

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover time etc. Not available.

12.2 Comment on storage capabilities of the chemicals that you use: More than 200,000 litres.

12.3 Comment on experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. No comment.

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

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

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

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

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: None.

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

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: None.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft de-icing services? If so, please detail equipment used or vehicles or other facilities, manufacturer, and number of units: 10 Vestergaard “Elephant Beta” vehicles with 8,000 litres capacity.

14.2 Are there dedicated de-icing positions or do you de-ice on the parking area? There are dedicated de-icing areas east to west, depending on runway direction.

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 and VOLVO Friction tester by Sysryss and DC.

15.2 Have you any comments on the reliability of friction indexes? Yes, please contact Conrad Thinnter at thatener@adv.aero.

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.
11.1 Please state here order of priorities of the sweepers, Schmidt, CJS 720, 4 units): N/A.

11. PROCEDURES AND METHODS

6. BIRD AND WILDLIFE CONTROL

6.1 Please list the identities of primary operational facilities (runways, taxiway, aprons etc) stating identity of each facility: N/A.

6.2 Statement of the ‘proper’ principles such as ‘no-penalty’ reporting? Reporting procedures according National Law and the EU Directive 2003/42.

6.3 State the vehicles, formations and general method of removal of runway, taxiway and apron clearance: N/A.

6.3.1 After moderate snow, how quickly do your birds get to ‘black top’ on the runway? N/A.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: N/A.

12.2 Comment on storage capabilities of the chemicals that you use: N/A.

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

12.4 Have you experienced any corrosion problems with de-icers? N/A.

12.5 Have you employed any special means to economise on chemical usage? N/A.

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

12.7 Do you use other chemicals or methods on operational areas? N/A.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: N/A.

13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? N/A.

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: N/A.

14. AIRCRAFT DE-ICING

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

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

14.3 Is glycol recovered? If so, please state methods: N/A.

15. FRICITION TESTING

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

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

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 including manufacturer and number of units: N/A.

16.4. Do you have any winter services equipment that you would like to sell? N/A.

FRANKFURT

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Frankfurt Airport

2. MOVEMENT AND MANOEUV- VRING AREA DATA

2.1 Please state identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 07L/25R – 2800m x 45m LDA 2800m RWY 07C/25C – 4000m x 60m TORA 4000m RWY 07R/25L – 4500m x 60m TORA 4500m RWY 18W – 4000m x 45m TORA 3970m Total RWY surface area: 726,000 m² Total apron surface area: circa 2,000,000 m²

2.2 Landings for RWY 07C–25L: CAT II (ILS), PAPI and CAT I – II/III

3. SAFETY MANAGEMENT SYSTEMS

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

4. FOREIGN OBJECT DAM- 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 constantly trained or in training for work in the movement area as well as all other participants.

b) Inspection by airport, airline, and airline handling agency personnel: All parties operating in the movement area are responsible, per Airport User Regulations, for the prevention and removal of FOD. Ground servicing companies and airport personnel are directly responsible for the prevention and removal of FOD on the aircraft positions they service.

Frankfurt Apron Supervision inspects apron areas continuously 24 hours a day and orders clean up details as needed. Fraport Apron Control conducts regular inspections of the manoeuvring area conducted on a 24 hour basis at least every 4 hours and when necessary. Additionally inspections and observation are conducted by the Airport Duty Manager.

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): The movement area is serviced at regular intervals and when required by surface sweeper vehicles with magnetic bars. Movement areas are continuously cleaned with surface sweeper vehicles. Hot Spots in the movement area and apron (e.g. equipment parking areas) are cleaned manually. Additionally a FOD*BOSS duplex system is utilised by our Apron Supervision in the apron area.

d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Airside Operations is responsible for the daily operational safety of the movement area and guarantees the cleaning of surfaces per company contract with our Facility Management Dept. and initiates immediate remedial action when necessary. Additionally FOD is a constant theme at the AOC level communicated by Airside Operations to participating airlines and ground handling companies.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please state name and add any comments): No. Fraport AG is interested in installing an FOD detection system.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary type of vehicle and aircraft movements on the ground? Primary methods consist of traffic control conducted continuously by Apron Supervision (Follow-me) in the movement area

5.2 LANDING AIDS: N/A.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturers and special equipment utilised: pyroacoustic equipment and controlled hunting.  
6.4 Do you carry out a bird strike risk assessment? At the national level a Bird Strike Risk Forecast Service is provided and our Bird Control Officer with useful information. Furthermore risk assessment for our aerodrome is carried out by our Bird Control Officer and CAB.  
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? All aspects of bird control are documented in detail.  
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Frankfurt Airport has modified the perimeter fencing to minimise wildlife entering the movement area and is inspected regularly. This has eliminated past difficulties with wildlife.

7. CRASH FIRE RESCUE  
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); year of manufacture: (e.g. A120); number of units (e.g. 5x): Frankfurt Airport utilises a GPS based Surface Management System providing our Bird Control Officer with useful information.  
7.2 Future developments – are there any plans to purchase or dispose of any equipment? Additional crash trucks for our new fire station that will service the new runway are to be delivered this year.  
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Our Fire Brigade has a Fire Training Simulator and does offer training to other airports.

8. WINTER SERVICES QUESTIONNAIRE  
8.1 What is the designated period of winter readiness? Please state when snowfall may be anticipated. Frankfurt Airport constantly upgrades infrastructure such as lighting, stop bars and markings designed to prevent runway incursions and increase safety.  
8.2 Please state here the order of priority of different parts of the aerodrome: runway, taxiways in the manoeuvring area, aprons, movement area to be equipped with Mode-S Transponders.  
8.3 If your airport has a ground handling service, please state the number of vehicles available per shift? 105 plus depending on actual availability.  
8.4 Please state here your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (e.g. 4x4); year of manufacture: (e.g. December 2004); Simba 8x8 plus a multitude of CFR vehicles for fire fighting, salvage, general ground operations, and emergency operations coordination, HAZMAT Control etc.  
8.5 What specific procedures are there for the removal of snow on the airfield? Are there any specific procedures for clearing the RWY and are a visual for the pilots.

9. WINTER ORGANISATION  
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift at peak times? We have set average clearing times for closed RWY and expect to achieve ‘black top’ on the runway? We only use solid de-icing chemicals in extreme weather conditions because of the so called “blow-away factor” and environmental restrictions. If we use solids then it is pre-wetted before application. Our goal is always to use the optimal mixing ratios adapted to prevailing surface conditions when we have to use these chemicals in solid chemicals in emergencies (ice build-up).  
9.2 How often do you conduct an investigation of the chemicals used? The products are stated in the winter services inventory. We have to use them. We only use solely solid de-icing chemicals in extreme weather conditions because of the so called “blow-away factor” and environmental restrictions. If we use solids then it is pre-wetted before application. Our goal is always to use the optimal mixing ratios adapted to prevailing surface conditions when we have to use these chemicals in solid chemicals in emergencies (ice build-up).  
9.3 What are your current de-icing procedures? We have set average clearing times for closed RWY and expect to achieve ‘black top’ on the runway? We only use solid de-icing chemicals in extreme weather conditions because of the so called “blow-away factor” and environmental restrictions. If we use solids then it is pre-wetted before application. Our goal is always to use the optimal mixing ratios adapted to prevailing surface conditions when we have to use these chemicals in solid chemicals in emergencies (ice build-up).  
9.4 Have you experienced any corrosion problems with de-icers? We generally experience the usual problems that come with any other airport. We use however concentrated “blow-away factor” and environmental restrictions. If we use solids then it is pre-wetted before application. Our goal is always to use the optimal mixing ratios adapted to prevailing surface conditions when we have to use these chemicals in solid chemicals in emergencies (ice build-up).  
9.5 State which pavement de-icers you use, along with the quantities used last season. The chemicals are stored in tanks that meet German environmental and safety regulations.  
9.6 Have you trained your winter services personnel for training purposes? Our Fire Brigade has a Fire Training Simulator and does offer training to other airports.

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: Compact Jet Sweepers/ co. Schmidt: Jet Sweepers RS200/400/  
10.2 Please note the clearance method of runway, taxiway and apron: RWY clearing convoy consisting of 9-14 snow sweeper-plough vehicles, 1-2 snow blowers, 2 de-icers and 2 guidance vehicles. (back and front).  
10.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment); FRA Apron Control and German ATC Tower utilises a combined SMR and multilateration radar system for tracking aircraft and vehicle movements in the manoeuvring area. FRA requires all vehicles that are designated to drive in the manoeuvring area to be equipped with Mode-S Transponders.

11. PROCEDURES AND METHODS  
11.1. Please state here order of priority of snow clearance of main operational facilities (runways, taxiways and aprons) stating identity of each facility: Following information states facility and priority respectively; Active runways and main taxiways in the manoeuvring area.  
11.2. How do you use the chemicals? We have set average clearing times for closed RWY and expect to achieve ‘black top’ on the runway? We only use solely solid de-icing chemicals in extreme weather conditions because of the so called “blow-away factor” and environmental restrictions. If we use solids then it is pre-wetted before application. Our goal is always to use the optimal mixing ratios adapted to prevailing surface conditions when we have to use these chemicals in solid chemicals in emergencies (ice build-up).  
11.3. What chemicals are stored in tanks that meet German environmental and safety regulations.  
11.4 Have you experienced any corrosion problems with de-icers? We generally experience the usual problems that come with any other airport. We use however concentrated "blow-away factor" and environmental restrictions. If we use solids then it is pre-wetted before application. Our goal is always to use the optimal mixing ratios adapted to prevailing surface conditions when we have to use these chemicals in solid chemicals in emergencies (ice build-up).  
11.5. What are your current de-icing procedures? We have set average clearing times for closed RWY and expect to achieve ‘black top’ on the runway? We only use solely solid de-icing chemicals in extreme weather conditions because of the so called “blow-away factor” and environmental restrictions. If we use solids then it is pre-wetted before application. Our goal is always to use the optimal mixing ratios adapted to prevailing surface conditions when we have to use these chemicals in solid chemicals in emergencies (ice build-up).
13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems and the name of the system “Ice View” and is installed in the manoeuvring area and taxiway bridges. System consists of weather stations and surface sensors. 13.2 Have you any plans to purchase further ice warning systems and if so, which model(s)? No. 13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: It is a good tool for assessing the condition of RWY surfaces but is only secondary information for decision making. We still depend primarily on weather forecasts and actual assessment of surface conditions.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units: Aircraft de-icing is carried out by our service provider N*ICE. No. 14.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Frankfurt Airport has 2 active De-Icing positions: de-icing surfaces with no towing required. Due to traffic flow control aircraft de-icing is carried out on aircraft parking areas if necessary. 14.3 Grouping of vehicles in the convoys: System consists of 3 dedicated convoys. No such vehicles are available for operations. 14.4 With respect to specific equipment: No. 14.5.1 What model(s) of friction tester do you use? No comments on the reliability of friction indexes. An international standard for Friction Indexes and reporting of such would be invaluable for the Aviation Industry.

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? SAAB 9.5 “SarSys” Surface Friction Tester (SFT) vehicles.

16.6.1 Are you about to change any of your airport’s methods? FRA is continuously working on reducing clearing and de-icing times by improving and setting standard driving routes used in the manoeuvring area and grouping of vehicles in the convoys.

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.

FOCA guidance; Wig-wag lights are installed at all CAT I holding points. In flight taxiways are installed at all CAT I/III holding points (used only in LVC); ICAO standard signage and markings at all RWY entrances.

5.3 What safety deficiencies have currently been identified? A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment: An A-SMGCS (level 1 and 2) based on Park-Air with a Sensis multi-lateralization system and Terma SMR is used as an additional monitoring tool. 5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: On the two north taxiways (Y, Z), wig-wags have been installed. Due to proximity between the runway and the apron, stop bars on taxiways C, D, E are always illuminated. A-SMGCS level 2 is implemented.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Two specific programs for drivers are in place (apron and maneuvering area). 5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the “no-punishment” principle, such as ‘no-penalty’ reporting? All incidents on the manoeuvring area are reported and analysed by the Safety Office according to the directives of the Swiss regulatory authority (Federal Office of Civil Aviation) based on ESARR.

6. BIRD AND WILDLIFE CONTROL

6.1 Do your staff attend recognised bird control training courses? Yes, the staff attends specific courses but also provides special wildlife management training courses trough the “Airport Management” training centre. As our master’s programme for Wildlife Hazard Prevention Specialists; International bachelor’s programme for Wildlife Hazard Prevention Agents; Introduction to Wildlife Hazard Prevention Course; Informational seminars on wildlife hazard prevention.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? The wildlife hazard prevention unit works from dawn till dusk every day of the year. Bird watching and daily reports of species present in the airport enclosure take up most of the daily activity. All collected data is recorded electronically.

6.2.3 What specialist equipment do you employ for bird control? Please state relevant supplier/manufacturer: Exploding cartridges (6 and 9 mm); Whistling cartridges (6 and 9 mm); Mid-range exploding cartridges (26.5 mm); Long range silent - then exploding - rockets (Lacroix Capa) discharged from Revolvers; Bird scaring laser (handheld); Acoustic broadcasting of natural and synthesized distress calls (mobile recorder and speaker, in the car); 30 stationary
8. Average annual days of snow: 16 days.
8.3 Average snow depth: 14cm.
8.4 Maximum snow depth: 5cm.
8.5 Annual number of days of de-icing activities: 119 days.

9. WINTER ORGANISATION
9.1 How do you currently employ or sub-contracted winter services personnel are available per shift? Command personnel x3, Command vehicles x3, Snow removal Runways + Twys x16, Snow removal Apron x16, Snow removal runway x4, Friction measurement x2, Maintenance (2 stand by) x4, Snow removal access roads x4.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units); 1 x4 Mercedes Unimog truck; 2 x4 Mercedes 360cv trucks; 2 x6 Mercedes 400cv trucks, 7 Bucher P21 sweeper blowers; 5 Boschung (Jet Broom) Runway sweeper blowers with snow blades (8m); 2 Boschung (Jet Broom) with Sprayer sweeper blowers with snow blades (6m); 5 Roiba rotary plows; 11 Zaugg 66 snow blades; 2 Peter Bock 96, 2.25m snow blades; 1 Zaugg 3.6m snow blade; 2 Boschung sprayers.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Priority 1: Runway, Priority 2: Taxiways, Priority 3: Apron South and Apron North “General aviation”, Priority 4: Parking area and hangars.
11.2 State 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 minutes. The duty officer coordinates the operation with the ANSP. Taxiways: Vehicles are aligned diagonally; Trucks equipped with snow blade and sweeper-blower push the snow to the edge of the taxiway. Apron: Vehicles are aligned diagonally; Trucks equipped with snow blade and sweeper-blower push the snow from the edges to the center of the Apron, loaders load the snow on the trucks which evacuate it to the designated location.
11.3 After moderate snow, how quickly do you expect to achieve “black top” on the runway? After moderate snow, the “black top” of the Runway is usually achieved in 15 minutes.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: De-icers quantities use during winter season 2011-2012: For RWY and TWR, Safeway KF Hot, 90 Tons; Safeway SF, 30 Tons. For Aircraft: Glycol type 1, 313’100; Glycol type 2, 183’234; Glycol type 4, 445’603.
12.2 Comment on storage capabilities of the chemicals used: 4,500 litres of Safeway KF Hot in tank, 40 tonnes of Safeway SF.
12.3 Comment on your experience with solid de-icers, friction antiskid mixtures 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 with de-icers for 20 years.
12.5 Have you employed any special means to economise on chemical use? For three seasons, the quantities of product applied are optimised according to the weather (temperature, humidity). Each sprayer is equipped with the Boschung Thermostat system that spreads the chemical after defined curve and the pavement temperature. In 2012-2013, handling agents will also use pulsed air for de-icing in order to save litres of fluid.
12.6 Do you have any other comments on experience with chemicals? Safeway KF Hot is used since 2010 and Safeway SF since 1999.
12.7 Do you use other chemicals or sand on operational areas? GA does not use sand.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: We have sensors (active sensors to simulate freezing point and passive sensors for pavement temperature and humidity) that are installed on the Runway in 3 locations, coupled with two weather stations on each end of the runway. Those sensors and weather stations are reported to an air traffic control officer who is also always informed about weather forecasts and levels of runway de-icing fluids. The sensor and the weather station equipment is from Boschung Switzerland. The system is also equipped with one of our ASFT friction testers with two freezing point active sensors.
13.2 Have you plans to purchase further ice warning systems and new friction model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: We have little experience due to the mild winter of 2011-2012. From what we could see, the system provides decision support.

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

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

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? Currently no major changes are planned in the airport’s winter operations and procedures. We introduce the electronic information to send information with the friction tester to the Airport AIS Unit (AAU).
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes. Do you currently have plans for any other products on order? If so, please provide details including manufacturer and number of units: GA has decided to buy 3 Boschung Jetbroom Sweeper blowers with snow blade and 3 extra rotary snow plow. We also bought two GPS to...
PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Glasgow Prestwick Airport.

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas (for example; total RW length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Dimensions: RWs 13 and 31: 2986x46m; RWs 03 and 21: 1825x45m. RW 13: TORA 2986m, TODA 3170m, ASDA 2986m, LDA 2743m; RW 31: TORA 2986m, TODA 3075m, ASDA 2986m, LDA 2986m; RW 03: TORA 1905m, TODA 1905m, ASDA 1905m, LDA 1825m; RW 21: TORA 1905m, TODA 2147m; ASDA 1991m, LDA 1905m.

2.2 Landing aids for each RWY (e.g. CAT II): RWs 13 and 31: Code 4E. Precision Instrument Cat I; RWs 03 and 21: Code 4E, Visual.

3. SAFETY MANAGEMENT SYSTEMS

3.1. The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? The SMS at GPA is based on the HSE ‘POPMAR’ model and was written using guidance from ICAO SMS Manual and UK CAA guidance. It encompasses: Statements of Policy; Defined Safety Principles; Explicit Accountabilities; and Documented Procedures. The SMS’s targets and principles are laid out within the Aerodrome Manual and cascaded throughout individual departmental instruction manuals. The SMS is a continually evolving program and internal audits ensure that improvements are made where necessary.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1. Describe your airport’s programme to control FOD in terms of:
   a) Training: FOD awareness and training on the cause and effects is included within the Airside Safety Training package, which is mandatory for all airside personnel.
   b) Inspection by airline, airport, and airline handling agency personnel: Airfield Operations staff carry out apron inspections. All staff are informed of their responsibility to pick up FOD where found.
   c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): GPA utilises the following to mitigate against potential issues with FOD: Sweeping of all areas carried out regularly and when required with sweepers and de-icing vehicle. Winter availability and requirement of sweepers during Surface or other works is identified during the risk assessment process; FOD bins in place at strategic locations; Staff trained (as highlighted in (a)).
   d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): All Handling agents receive training by GPA (as highlighted in (a)).
   e) General: Are there any specific systems or software solutions for FOD control? (Please specify product name and add any comments): N/A.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Aircraft and vehicle movements are controlled by GPAs Air Traffic Control unit, enhanced taxiway markings are used at some hold points (see item 5.4).

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Continual pavement maintenance work to ensure surface PCN and friction values are satisfactory.

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

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Markings, signage and AGL (including hold-stop bars and wigwags) installed as per Annex 14, ‘Runway Ahead’ guidance. AGL at strategic positions.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Training on risks included within driver training program; Airside Safety Awareness Training as a requirement prior to issue of a security pass and part of the induction process; Standing agenda item at relevant safety related committees.

5.6 Have there been any reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Mandatory Occurrence Reports filed as per UK CAA requirements. An airport-wide incident and occurrence reporting scheme is being widened to contain more input and scope as part of SMS. Principles based on post-incident investigation, learning and education.

6. BIRD AND WILDLIFE CONTROL

6.1. Please detail your management policy and how it reduces the attraction of the airfield to birds: Long grass policy and grass management. Testing and spaying of Leatherjacket Lava; Weed Killing: Constant monitoring and disturbance; Reduction of wet areas; Culling; Education of staff and stakeholders; Working with adjacent Property and Land owners.

6.2. Do your staff attend recognised bird control training courses? All Airfield Ops staff are trained by an industry specialist and in house training is provided. (The UK CAA do not recognise individual training providers).

6.3 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Airfield Operations are continuously on the airfield performing inspections.

6.4 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Recorded digital audio distress calls (Scarecrow Bio-Acoustics); Firearms/ Culling; Signal pistol; Human dispersal (arms); Rockets (North West Bird Control); Shotgun shells (Game Sport, Ayr); Bird scarcing cartridges (Prime)."
Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Due to national weather forecasting and met office reporting.

11.2 Do you have any comments on the reliability of friction indexes? No.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? Yes, our Runway de-icing formation has changed to improve efficiencies in time and performance.

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.

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 audits? Yes, a Safety Management System is clearly worded in the Airport Operations Manual – Chapter 6. Due to implementation of IAPPR - and via the forum Flight Safety Group (Flygsakerhetsgruppen (4 meetings/year)) with representation/members from airline pilots, ATS, mechanics, airport vehicle operators and airport authorities – identification and action takes place on “hot spots” on airport manouevring areas and, should the occasion arise, the apron area.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training: Airside safety introduction training and airside driver licence training.
   b) Inspection by airline, airport, and airplane handling agency personnel: Due current audits.
   c) Maintenance (use of sweeping, magnetic bars, rumble strips, PFD containers etc): Yes, regularly.
   d) Coordination of multiple agencies using airport (airlines, handling agents etc): Yes, forum (Ramp Safety Group at the airport, which has four meetings a year).

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

5. RUNWAY INCURSION PREVENTION

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

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

5.3 What safety devices are currently employed? (A-SMGCs; Airport Movement Area Safety Systems - AMSAS; Ground SRS – X Airport Surface Detection Equipment; New grade/version of SMR – Service Movement Radar.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: No comment.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Integrated training on LVO/LUP situations, incorporating operational groups with missions in the manouevring area, including identification of “hot spots”. Implementation of EAPPRI - European Action Plan for Prevention of Runway Incursions.

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

6. BIRD AND WILDLIFE CONTROL

6.2 Please list the identities of primary operational bird species in your airport area, e.g: common gulls; black-headed gulls; great black-backed gulls; whooper swans; Blackbirds, Common Starlings, House Sparrows.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Recorded distress calls (mobile and fixed), laser, test, shotguns, warning-shots via gas cannon. Inflatable scarecrow called “the Hulu”. Use of pyrotechnical equipment.

6.4 Do you carry out any bird control assessment? According to need, in times of high activity, especially during early springtime, during bird migration.

6.5 Do you staff wildlife control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes, regular documentation.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Hares, foxes and badgers from time to time - we catch them in traps.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture: 2 Volv F12s, 6x6, water 9200lt, foam 540lt. 2 A-Triple F (93/95).

7.2 Future development plans to purchase or dispose of any equipment? Yes, we are to soon start a process to replace the old Volv F12s with 2 new vehicles (Rosenbauer Panthers) in early 2013.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Not at the moment.

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: The days of snow were more than normal last year, but the 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: 60–70cm.

9. WINTER ORGANISATION

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

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, CS 720, 4 units): Snow blowers: Rahtikone 381-S, Schmitt - Supra 5001, 2 Overasen – 430; De-icers: 2 Schmidt ASP – liquid, Falkoping CL 5 – sand/granulate solid de-icing, Epoke SH 3500 – sand/granulate solid de-icing.

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, roads for fire rescue, ILS area, taxiways, apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Five to nine vehicles (each giving one or two sweeps) to clear the runway.

11.3 After moderate snow, how quickly do you expect to return to normal operations? Five vehicles - 20 minutes/nine vehicles - 10 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which de-icing chemicals 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, 444 m3. Good, but need a higher quantity of liquid (change to Cleanerv from Winter 2012/13).
12.1 Do you plan to purchase new equipment stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/ltre and type); year of manufacture: OAF 8x6 (1983), 9000l water, 10000l foam; Panther 8x4 (2004), 12,500l water, 20000l foam, 5000kg powder; OAF 4x4 (1998), 50000l water, 5000l foam; OAF 4x4 (1990), 20000kg powder; Z8 (2010), 13,5000l water, 16500l foam, 22000kgs powder, 180kg CO2.
12.2 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? 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 March.
8.2 Average annual days of snow: 12 days of aircraft de-icing.
8.3 Average snow depth: 10cm.
8.4 Maximum snow in 24 hours: 30cm.
8.5 Annual number of days of de-icing activities: 90 days.
9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 8 people.
10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/ltre and type); year of manufacture etc: Runway de-icer: 60.000 kg Harnstoff (1990), 2000kg powder; Z8 (2010), 13,500l water, 16500l foam, 22000kgs powder, 180kg CO2.
11. PROCEDURES AND METHODS
11.1 Please state here prior of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Runway (17/35), Taxiway A,B,C,D, Apron. Taxiway B:
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Five airliner sweepers Bucher Schörling P17, 4 units airliner sweepers Bucher Schörling P17, 4 units airliner sweepers Overassen RS 400, 1 unit snow blower Steyr TK 93 + Kahlbacher, 1 unit snow blower Buchar Geyer, 1 unit snow blower Grizzly Dt 52 + Kahlbacher, 3 units tractor with snow ploughs Steyr, 1 unit spreader for chemical de-icing Schmidt, 1 unit spreader for chemical de-icing Küpper Weisser.
12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Runway de-icer: 50.000 kg Hamstoff
Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other: RWYS: 3151.80m; RWY 05/23: 1533/1533; TWYS: 320,600m2; Aprons: 491,300m2; RWY- Shoulders: 92,000m2.

2.2 Landing aids for each RWY (e.g. CAT II): RWY DFS: Illit/Ilb; PAPI; RWY 23: ILS CAT I/Ilb, PAPI; RWY 15: ILS CAT I, PAPI; RWY 33: LZ / DME, PAPI.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The Contingency Plan 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 has been nominated; Aerodrome Manual is available; Safety relevant processes have been identified and documented; Additional Runway Lights have been installed at critical intersections; Additional Runway designator mark- ings on floor at critical intersections; Authority audit conducted; Established ICAO conformity format for “single document”; All committees are working for the Airport Safety Committee: Apron committee – regular meet- ings 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 use the phraseology agreed on by ADV - airports for Adverse weather conditions. Prevention of Runway Incursion, and carried out jointly with Deutsche Flugsicherung and pilots (runway safety team Hamburg). Regular meetings (four times a year) take place. A “Hot Spot” map is also published.

5. BIRD AND WILDLIFE CONTROL

5.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Keep the grass high where possible; avoid clusters of bushes or hedges; destroy nests of crows and other so-called blackbirds, coverage of waste water reservoirs to water birds away, counting/statistical records every fortnight.

5.2 Do your staff attend recognised bird control training courses? Yes, every two years.

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

5.4 Do you carry out a bird strike risk as- sessment? At least twice a year (spring and autumn), counting/statistical records every fortnight.

5.5 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. CRASH FIRE RESCUE

6.1 Please detail your CFR vehicle inven- tory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture: 4 Ziegler 28, 8x8, water: 12,400l, foam: 2x400l, engine: MAN CLASS 2.20y; year of manufacture: 2011. Year of manufacture: Mercedes H.LF M200, water: 4000l, foam: 4000l, year of manufacture: 2006: 1 Rescue Starcafe TECHUERT 7.1817-01/ HBG, M.A.N 3.27.401 year of manufacture: 2011.

7.2 Future developments – are there plans to purchase or dispose of any equipment? MAN HLF M2000, water: 4000l, foam: 4000l in 2011.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? If yes, please provide details of how it is used.

8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? 1 November – 31 March.
8.2 Average number of days of snow: 20-25 days.
8.3 Average snow depth: 4-6cm.
8.4 Maximum snow in 24 hours: 12-15cm.
8.5 Annual number of days of de-icing activities: 30-35 days.

9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Duty roster is based on 16 persons per shift.

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 ploughs, 11 air blast snow ploughs, 3 front loaders, 1 turbine snow loaders, 1 spreader for solid substances, 3 spreaders for mixed substances (solid/liquid), 1 liquid de-icer, 3 tractors with front sweeper, 1 spreader for solid substances with front sweeper, 1 spreader for solid and liquid substances with front sweeper.

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: 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 ten snow ploughs and sweepers will clear the RWY in one direction forming a diagonal line. Firstly the mainlly used TWYS connected to the RWY in use will be cleared in the same way. At the same time Taxi lanes on the Aprons and A-C stands are cleared in sequence.
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 25-30 minutes for each 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.
12.2 Comment on your experiences of the benefits/disbenefits of ice warning systems: N/A.
12.3 Have you plans to purchase further ice warning systems or do you de-ice on the parking area? De-icing is permitted on the aprons only (on stand).
12.4 Is glycol recovered? If so, please state methods: No.

15. FRICION TESTING
15.1 What model(s) of friction tester do you use? 2 VW SHARAN Friction Testers (ASF1).
15.2 Have you any comments on the reliability of friction indexes? Higher liability of ASFT compared to SFT.

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

KATOWICE

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Katowice Airport.

2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Designations RWY: 09/27; Dimensions of RWY: 2800x60; TORA: 09 – 2800M; TORA: 27 – 2800M; Total apron’s area: 175 095 M2.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 09: Simplified approach lighting system “cross” with axis length 420m and bar 300m from THR. RWY 27: Precision approach category I lighting system – Calvert system. Flashing lights (30 lamps): 0-900m FM THR 27.
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes 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. Changes concerning low visibility procedures, animal control, signage/mark of aprons and taxways have been done after internal and CAA audits.

Spreading is not related to speed, no wasting
12.6 Do you have any other comments on experience with chemicals? No.
12.7 Do you use other chemicals or sand on operational areas? No.

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: N/A.
13.2 Have you any comments on the reliability 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 manufacturers, and number of units: Yes. 8 units, Vestergaard.
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-icing is permitted on the aprons only (on stand).
14.3 Is glycol recovered? If so, please state methods: No.

16.2 Are you planning a new equipment or vehicles? If so, please provide details: No.
16.3 Do you have any new equipment or other products on order? If so, please provide details including manufacturer and number of units: N/A.

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

A new SMS manual is being prepared (only in Polish).

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of a) Training: Training mandatory for all employees and valid for two years.
b) Inspection by airline, airport, and airplane handling agency personnel: Inspection of RWY and APR areas. Their four times per season inspection of parking position is performed before every flight by the marshal and ramp agent.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Maintenance performed by sweeping and FOD containers.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Described in Airport Operational Instruction approved by Civil Aviation Authority.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No.

5. RUNWAY INCISION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? The primary method is the controlling by TWR, supported by observation and monitoring.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Follow-me cars equipped with TWR-radio receivers.
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: Nothing new.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Training with test mandatory for all employees and valid for two years.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with others active in the area of risks and hazards? If so, do they safeguard the ‘non-punitive’ principles 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: Mowing the grass to the right height, secure buildings in the winter before the setting up of bird nests.
6.2 Do your staff attend recognised bird control training courses? Yes.
6.3 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Bird-controlling staff work 24 hours a day.
6.4 What specialist equipment do you employ for bird control? (Please state relevant suppliers or manufacturers): Electronic deterrent device, type ZON ELO8 x3; Stun guns, type Bafl o 9 x11; Sound device BG Super Pro AMP; Portable sound devices by Scarecrow x1.
6.5 Do you carry out a bird strike risk assessment? Yes.
6.6 Do you 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.
6.7 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, axle composition (e.g., MAN): chasis (4x4, 6x6); capacities (kg/ltre and type); year of manufacture: Panther 4x4 (2009) r.6,2000/ Rosenbauer; Panther 6x6 (2009) r.12,500/ Rosenbauer; Barracuda 4x4 (1990) r. 5,500/ Boughton; Barracuda 6x6 (1990) r. 10,000 water/Boughton; Barracuda 6x6 (1994) r. 12,000l water/Boughton; Barracuda 6x6 (1994) r. 12,000l water/Boughton.

7.2 Future developments – are there plans to purchase or dispose of any equipment? We plan to purchase two cars 8x8 Panther, 16,000l water, in 2014.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We do not have simulators for training, we send rescuers to England.

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: 60-70.

8.3 Average snow depth: No data.

8.4 Maximum snow in 24 hours: 14cm.

8.5 Annual number of days of de-icing activities: 65 days.

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

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating type, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Runway snow plough 6m – 7 units; Runway snow plough 8m – 3 units; Road snow plough 3m – 2 units; Runway sweepers: QLH-4500 “Madro” – 7 units, OVERASEN 5500 – 3 units; Rotor snow blower – 3 units; Spreader – 1 unit; De-icing sprayer 7000L – 2 units.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating iden-

11.2 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/ltre and type); year of manufacture: Panther 4x4 (2009) r.6,2000/ Rosenbauer; Panther 6x6 (2009) r.12,500/ Rosenbauer; Barracuda 4x4 (1990) r. 5,500/ Boughton; Barracuda 6x6 (1990) r. 10,000 water/Boughton; Barracuda 6x6 (1994) r. 12,000l water/Boughton; Barracuda 6x6 (1994) r. 12,000l water/Boughton.

11.3 After moderate snow, how quickly do you operate?

11.4 Please list specialist snow clearing, de-icing and other relevant winter equipment stating:

11.5 Future developments – are there plans to purchase or dispose of any equipment? We plan to purchase two cars - 8x8 Panther, 16,000l water - in 2014.

11.6 Do you currently have equipment or other products on order? If so, please provide details: We plan to purchase two cars - 8x8 Panther, 16,000l water - in 2014.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, briefly stating the identity of each facility: Runway 09-27, Taxiways (runways, taxiway, aprons etc) stating iden-

12.2 Comment on storage capabilities of the chemical facilities: Runway 09-27, Taxiways storing chemical in: KCH S-Solid – flowing product; Aviform L50 (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Runway snow plough 6m – 7 units; Runway snow plough 8m – 3 units; Road snow plough 3m – 2 units; Runway sweepers: QLH-4500 “Madro” – 7 units, OVERASEN 5500 – 3 units; Rotor snow blower – 3 units; Spreader – 1 unit; De-icing sprayer 7000L – 2 units.

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

12.4 Have you experienced any corrosion problems with de-icers? Corrosion occurs slightly.

12.5 Do you have anyone specific means to economise on chemical use? Application of control of the amount of fluid on the surface.

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

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

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: None.

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

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

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state methods: No.

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? SFH SAAB 95, BOWMONK APM 2- Airfield Friction Tester.

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

16. FUTURE DEVELOPMENTS
16.1 Are you considering any changes to any of your airport’s methods? Introducing sanding on new concrete apron.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: We plan to purchase two cars - 8x8 Panther, 16,000l water - in 2014.

16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: Tender for one grass cutter, 8-9m width, and one tractor in progress.

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

Keilafjavik

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Keilafjavik International Airport.

2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary op-

2.2 Lighting aids for each RWY (e.g., CAT II): RWY 11 & 20 Cat II, RWY 02 & 29 Cat I.

2.3 SAFETY MANAGEMENT SYSTEMS
2.1 The airport has a Safety Management System. No. Aerodromes specifies that “the Aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, risk analysis and methodology in risk mitigation has caused minor changes in operational procedures to better allow the acceptable level of safety to develop at Kef.

4. FOREIGN OBJECT DAMAGE (FOD) PRE-

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

4.2 Are there any special systems or software solutions you apply for FOD control? (Please specify product name and add any comments): The Opscom Aerodrome Operations software is utilized to manage FOD control.


9. WINTER ORGANISATION

8.4 Maximum snow in 24 hours: 34cm.

8.3 Average snow depth: 290cm (accumulated

8.2 Average annual days of snow: 80 days.

8.1 What is the designated period of winter

7. RECENT WINTER CONDITIONS

7.3 If your airport possesses a Fire Training

7.2 Future developments – are there plans to

6. Please detail your habitat management policy

5.6 Have the reporting procedures for runway

5.5 If your airport is the only one in the vicinity

5.4 Have you experienced any corrosion

5.3 If you have suggestions for reducing the

5.2 Have you any comments on the reliability

5.1 Have you any comments on the effectiveness

4. AIRCRAFT DE-ICING

14.1 What model(s) of friction tester do you

14.2. Are you required to have dedicated de-

14. AIRCRAFT DE-ICING

13. ICE WARNING SYSTEMS

12. EXPERIENCE WITH CHEMICALS

11.2 State the vehicles, formations and general

11.1 Please order of priority of

11. PROCEDURES AND METHODS

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-

9. WINTER ORGANISATION

8.4 Maximum snow in 24 hours: 34cm.

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5.2 Have you any comments on the reliability

5.1 Have you any comments on the effectiveness

4. AIRCRAFT DE-ICING

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14. AIRCRAFT DE-ICING

13. ICE WARNING SYSTEMS

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5.1 Have you any comments on the effectiveness

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11.2 State the vehicles, formations and general

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7. RECENT WINTER CONDITIONS

7.3 If your airport possesses a Fire Training

7.2 Future developments – are there plans to

6. Please detail your habitat management policy

5.6 Have the reporting procedures for runway

5.5 If your airport is the only one in the vicinity

5.4 Have you experienced any corrosion

5.3 If you have suggestions for reducing the

5.2 Have you any comments on the reliability

5.1 Have you any comments on the effectiveness

4. AIRCRAFT DE-ICING

14.1 What model(s) of friction tester do you

14.2. Are you required to have dedicated de-

14. AIRCRAFT DE-ICING

13. ICE WARNING SYSTEMS

12. EXPERIENCE WITH CHEMICALS

11.2 State the vehicles, formations and general

11.1 Please order of priority of

11. PROCEDURES AND METHODS

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-
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.

**AIRSIDE SAFETY SURVEY 2013**

**PART 2: GENERAL AIRSIDE SAFETY**

**1. AIRPORT NAME:** Limoges International Airport

**2. MOVEMENT AND MANOEUVRING AREA DATA**

2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other):

a) Descriptive of the track 1:
   - Orientation: 03° 21’
   - Identification Number: 03 21
   - The track length: 2440 m &
   - The track width: 45 m
   - Track Type: Clothing more precisely "concrete bitumineux" to allow the execution of automatic landings.
   This track is used for:
   - The approach precision of Category II or III
   - The approach precision of Category I
   - The classical approaches
   - The approaches to see day and of night
   - The take-offs by RVR < 150 m

b) Described the track 2:
   - Orientation: 03° 21’
   - Identification Number: 03 21
   - The track length: 800 m &
   - The track width: 80 m
   - Track Type: Her Be
   - Declared distance:
     - Track 03:
       - Distance of usable rumble to the take-off (TORA): 2440 m
       - Distance usable to the take-off (TODA): 2800 m
   - Distance usable to landing (LDA): 2440 m
   - Track 21:
     - Distance of usable rumble to the take-off (TORA): 2440m
     - Distance Usable to the take-off (TODA): 2440 m
   - Distance Usable to landing (LDA): 2440 m
   - Coordination with the track stop (ASDA): 2440 m
   - Coordination usable to landing (LDA): 2440 m
   - 2.2 Landing aids for each RWY (e.g. CAT II):
   - The different assistance radioelectrique:
     - UZ (localizer) 21; Symbol: LG; Frequency: 110,1 MHz
     - GP 21 (glide path); Frequency: 334. 4 MHz
     - DME 21 = Frequency: Canal CH38X or OM (outer marker) or equivalent
     - Other:
   - Vigilometre plan of artificial ground
   - night and daytime beaconing

**3. SAFETY MANAGEMENT SYSTEMS**


3.2 Has your airport made any recent changes to its SMS following the reappraisal of the same identified by internal/external SMS audits? No

**4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION**

4.1 Describes the key points of your airport’s program to control FOD in terms of:
- a) Training: Obligatory formation “Security on the traffic area” + formation SSLIA + Raising awareness (Sensitization) of the staff and the users of the platform to the SGS
- b) Inspection by airline, airport, and aircraft handling agency personnel: Track inspection to the minimum 1 time a day by the SSLIA to look for the FOD
- c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): Maintenance : use of sweeping, FOD containers
- d) Coordination of multiple agencies using airport (airlines, handling agents etc): Coordination between the SNA and the SSLIA the time of the visit of track.
- Coordination with the maintenance service in a second following time the FOD discover

4.2 General: Are there any special systems or software programs you employ for FOD control? (Please specify product name and add any comments):
No specific systems/ software. The SSLIA carries out inspections of tracks several times a day.

**5. RUNWAY INCURSION PREVENTION**

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

- The movement area is under the responsibility of the inspectors of the aerial navigation. Concerning the traffic area, this is the airport operations that checks and oversees through the future System of Management of the Security.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Current modification: Put in standard of the fence(close):

- barrier of 2m 04 with bottom-shutter(bottom-sector,stocking-shutter)

The antennage ring of the reasons authorized to stream the reserved zone;
- All the security measures were strengthened: compulsory accompaniment on the areas of laborer(operation), the limited(punctual) control by the agents of safety to verify the port(bearing) of the badge(swipe card), etc.

5.3 What safety devices are currently employed?

- (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment);

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies:

- NIL

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? For the staff of airport there is a radio formation for the area of labourer and a formation of driving area of traffic which are compulsory. There is an examination has to pass (theory and practice).

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? A procedure exists to go back up the incident / event by means of one form of certification assessment (FNE).

**6. BIRD AND WILDLIFE CONTROL**

6.1 Do your staff attend recognised bird control training courses? The agent SSLIA has a basic training for birds + a recycling, A

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? No specific team in Limoges, it is the SSLIA which is the SSPA. Since October 1st, 2009, the SSPA is active 10 minutes before the sunset until 10 minutes after the sunset.

6.3 What specialist do you employ for bird control? (Please state relevant supplier/manufacturer):

- Anti Helmet rustles
- Fused by éffarouchement
- Cartridges perpendicularly

Lasso

6.4 Do you carry out a bird strike risk assessment? Last audit on Mars, 2012

6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and, in case of lawsuit)? The effarouchement to the rifle is noted on the hand running SSLIA as well as the number of pulled cartridges.

6.6 Does your airport have problems with other wildlife (e.g. blackbirds) and, if so, how are these issues being addressed? Beaten to the big animals (venison, The wild boar…)

6.7 The tower and the SSLIA organize the beaten with the representative of the Civil Aviation. Beaten to the big animals (the venison, The wild boar…)

- Only the persons (SSLIA) holding a first permit (validates) recognized by the civil aviation and the prefecture can participate beating. All movement will be signaled to the tower. The measures of security will be applied. Once the killed animal, it is retrieved to the SSLIA.

6.8 The equarrisseur is warned by fax or by telephones to resume the animal.

**7. CRASH FIRE RESCUE**

7.1 Please detail your CFR vehicle inventory stating: vehicle class and airport equipment (e.g., MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture:

- Four vehicles of urgency: 4x4 MITSUBISHI put in service 1/09/2004; a power of 10 CH; category : VIS. Peugeot for the SPPA put in service 01/11/2010. A truck put in service 12/02/1990; mark : SIDES; category : WM P6 1.8; a power of 26 CH.

7.2 Future developments – are there plans to purchase or dispose of any equipment? NIL

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

**PART 2: WINTER SERVICES QUESTIONNAIRE**

**8. RECENT WINTER CONDITIONS**

8.1 What is the designed period of winter readiness? The period is November to March

8.2 Average annual days of snow: 10 days

8.3 Average snow depth: 7-10 cm

8.4 Maximum snowfall in 24 hours: 10-20 cm

8.5 Annual number of days of icing activities: 50 days

**9. WINTER ORGANISATION**

9.1 How many aircraft de-iced or subcontracted winter services personnel are available per shift? 20 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, a snow blower, Schmidt CJ1 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 KUBOTA of 130 CH and effective of has blade of snow and of has rotary broom. The ZETOR will be equipped of has tank of 2000 liters of product déverglacant.
Vehicle 3: 1 truck UNIMOG of 80 CH at equipped of has lateral turbine ROLBA Vehicle 4: 1 truck IVECO 4x4 of 180 CH and equipped of has blade of snows.
1 tank off epandage of 2000 L of product déverglacant.
1 tank off storage of 14000L of product déverglacant.
Equipment used for the de-icing/anti-icing
1 tank off storage of 14000L of product déverglacant.
Equipment used for the de-icing/anti-icing
A de-icer FMC type Tempest 2 ref: 0401 with 1 anti-icing tank of 1514lts capacity and 1 de-icing tank of 550lts of 6057lts capacity.
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 you use: No comment.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: That depends on the quantity of snow on the track, the estimation is not evident! Between 3 and 4 o’clock.
12.4 Have you experienced any corrosion problems with de-icers? Corrosion of the material observed.
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? Expensive product.
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. NIL.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? NIL.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Without object.
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 the aircraft on the parking area? The airplanes are defrosted on the parking area.
14.3 Is glycol recovered? If so, please state methods: There is not recuperation of product for the moment at Limoges.
15. FRICITION TESTING
15.1 What model(s) of friction tester do you use? Measuring device of the friction of the track (runway) MK3
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: This again is not determined.
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: No.
16.4 Do you have any winter services equipment that 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 phraseology and two-way radio communications.
5.2 Are any design or engineering changes being implemented or required to eliminate perceived hazards? Test periods for inductive loops on the TWY stop bars for movement control to and from RWY.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMSAS; 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: Standard horizontal and vertical signs and markings / ICAO Annex 15.
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 and airport vehicle operators on airside are obligated to act in accordance with the local standards and procedures. Special training (incident scenario) is essential for vehicle operators entering RWY.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Future, do they safeguard the 'no-punitive' principles 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: We have rising problems with birds of prey (buzzard and kestrel). The grass management inside the airport is reducing the quantity of their source of food (mice, voles on the grass land). In future this will be the most important issue for habitat management - to make the airfield less attractive for them. Airport surroundings are very rich in forests. There we have limited sources and possibility to manage such habitat. Around 8km southwest from the airport there is a river with two artificial lakes. Around 15nm northeast there are mountains. We are in the process of airfield habitat and ecological study.
6.2 If you staff attend recognised bird control training courses? Yes.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Pyrotechnics, shotguns, Scarecrow (Premier). For next year we are planning the use of bird deterrent green bean laser in addition (active method).
6.4 Do you carry out a bird strike risk assessment? Once a year.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes.
6.6 Has your airport developed any procedures for dealing with wildlife (deer, for example) and, if so, how are these issues being addressed? Foxes, We made constant monitoring of the critical airfield with thermal-camera systems by night. If foxes appear, we ask the hunter to kill them.
6.7 CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inven- tory stating: vehicle type; chassis (e.g. MAN); axes (4X4, 6X6); capacities (kg/ litre and type); year of manufacture: Rosenbauer R600, 600x600x24; year of manufacture: 1998/13,500l water, 1,000l foam, 500kg dry powder, pump: Rosenbauer R600, 600, capacity 6000l/min; FAUN – 6x6, year of manufacture: 1989/10,000l water, 1,000l foam, pump: Rosenbauer R480-2N, capacity 5000l/min; Rosenbauer FALCON – 4x4, year of manufacture: 1987/ 3000l water, 200l foam, pump: Rosenbauer R300 – 4x4, capacity 3000l/ min; Rosenbauer TLF300/200 – 4x4, year of manufacture 2008/3000l water, 200l foam, 90kg CO2; pump: Rosenbauer NH30, capacity 3000l/min; Mercedes-Benz SPRINTER – 4x4, year of manufacture: 2001/ 400l water, 20l foam, 50kg dry powder, pump: Rosenbauer UHPS M400, capacity 38l/min at 100 bars; Renault TRAFFIC, year of manufacture: 2006/ 2001 water, 20l foam, 20kg dry powder, pump: Rosenbauer UHPS M400, capacity 38l/min at 100 bars.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No.
7.3 If your airport possesses a Fire Training Simulator, is it used for training for operators of fire fighters? Firefighter-training polygon just for internal use.
7.4 List any other equipment that is used for CFR? None.

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: 40 days.
8.3 Average snow depth: 20cm.
8.4 Maximum snow in 24 hours: 30cm.
8.5 Annual number of days of de-icing activities: 10 days.

9. WINTER ORGANISATION
9.1 How many airport- and sub-contracted winter services personnel are available per shift? 4 to 6 employees for a/c de/anti-icing. For snow clearing (runway, taxiways, aprons, stands and service roads), there are three groups with 12 members each. In case of heavy snow there is an an outsourcer partner.
9.2 Are any design or engineering changes being implemented to improve winter operations? None.
9.3 Are there any plans to purchase new equipment? No.
9.4 Have you employed any special means to the improvement of winter services? No.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purchase year, number of units (for example, compact jet sweeper, Schmit, CIS 720, 4 units): 1x Friction tester AAAB, 1x Renault Cango with friction tester SARSYS, 4x Sweeper, Scharf P17, P18 and P17B, 6m - 30km/h, 2x Sweeper Blender, Schering P17, 6m - 30km, 1x Snow plough, Schmit, 5,7m, 7x Snow plough, Riko, 5,2m, 1x Snow plough, Schmit, 2.5m, 3x Truck Mercedes 2031, 3x Truck Mercedes 2032, 1x Truck Mercedes 2032 with combine spreader EPOKE SH 4520 (solid and fluid), 2x Truck TAM 260 TB, 1x Snow blower Mercedes UNIMOG 1200 with spreader for solid, 2x Snow blower BUCHER ROLBA 3000, 1x spreader for solid.

11. PROBLEMS AND METHODS
11.1 Please state the order of prioritisation of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility:
11.2 Have you any comments on the reliability of friction index measuring? None.

12. EXPERIENCE WITH CHEMICALS
12.1 State which pavement de-icers you use, along with the quantities used last season.
12.2 Have you any comments on effectiveness of chemicals at low temperatures and achieved holdover times etc: Urea (solid): approximately 45 tonnes. Effective to -25°C.
12.3 Have you any comments on storage capabilities of the chemicals that you use? Chemicals storage capabilities are suitable.
12.4 Do you have any comments on experience with anti/de-icing chemicals? No.
12.5 Have you any comments on effectiveness of chemicals at low temperatures and achieved holdover times etc: Urea (solid): approximately 45 tonnes. Effective to -25°C.
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: One freezing point detector on RWY 30 touchdown zone (ILS approach).
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? Yes.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Comment will be made after planned upgrades.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: 2x de/anti-icer, Vestergard, Elephant 400 I; 1x de/anti-icer, 1x 8000; 1 x de/anti-icer, Vestergard, Elephant Gama.
14.2. Are you required to have dedicated de-icing positions or do you de-ice the parking areas? 1x de/anti-icer, 8000; 1 x de/anti-icer, Vestergard, Elephant Gama.
14.3 Are you required to have dedicated de-icing positions or do you de-ice the parking areas? Yes.
14.4 At what temperature do you de-ice? Practically never.
14.5 Are you required to have dedicated de-icing positions or do you de-ice the parking areas? Yes.
14.6 Are you required to have dedicated de-icing positions or do you de-ice the parking areas? Yes.

15. FRICTION TESTING
15.1 What model(s) of friction tes- ter do you use? Saab Friction Tes- ter, SARSYS Friction Tester.
15.2 Have you any comments on the reliability of friction indexes? For some carriers the friction index is relevant just in the case of ice and compacted snow. For flush and standing water, wet snow and dry snow the measured friction index is for them, unreliable. In such cases the measured height of deposits on RWY surface are more relevant.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your current winter services equipment? No.
16.2 Do you plan to purchase new equipment or vehicles? If so, please state: No.
16.3 Do you currently have equipment or other protective measures on order? Yes.
16.4 Do you have any winter services equip- ment that you would like to sell? No.
PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Gatwick Airfield, London Gatwick Airport.

2. MOVEMENT AND MANOEUVREING AREA DATA

2.1 Please list the identities of primary operational facilities, including the surface areas (for example: total RWY length (or lengths), Take-Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other; RWY 08R: 3316x45m, TORA 3150m, TODA 3311m, ASDA 3233m, LDA 2766m; RWY 26L: 3316x45, TORA 3255m, TODA 3407m, ASDA 3318m, LDA 2831m; RWY 08L: 2565x45m, TORA 2565m, TODA 3040m, ASDS 2565m, LDA 2423; RWY 26R: 2565x45m, TORA 2565m, TODA 2703, ASDS 2565m, LDA 2148. 26L has a 150 m starter extension. The 28L landing threshold is displaced by 424m. The 08R threshold is displaced 393m. Paved shoulders extend 7.5m beyond each side of Runway 08L/26R. Paved shoulders extend 15m beyond each side of Runway 08R/26L. The 08L threshold is displaced by 322m. The 26R landing threshold is displaced 417m. A maximum weight limit of 562,000kg applies to aircraft operations on Runways 08R/26L and 08L/26R. 1,900,000 sq/m of manoeuvring area.

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

- RWY 08R: CAT IIB; RWY 26L: CAT IIIb.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that “an 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? Gatwick Airport Ltd (GAL) has a well-developed Safety Management System. The GAL board oversees this through the Managing Corporate Responsibility Board (MCR). Each department operates a risk register. Risks are identified, mitigated and reviewed at departmental levels and at the Managing Corporate Responsibility Board. They are captured on a company standard risk register. The risk register is reviewed and updated quarterly. When there is a change in processes/procedures (current and future); when new equipment or plant and or process are introduced; incident review; high level risks reviewed monthly at the Managing Corporate Responsibility Board. A CAA Audit carried out in February 2012 found no issues with the Gatwick Airfield SMS. GAL was PAS55 certified – Asset Management System – with effect from October 2012.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

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

a) Training: Included as part of initial Induction Training for all staff required to work on the airfield. Also included in the Airfield driving syllabus. Specialist vehicle operating training for GAL staff involved in FOD removal.

b) Inspection by airline, airport, and airline handling agent. OD requires Handling Agent Dispatchers to carry out a FOD inspection of aircraft stands, prior to each aircraft arrival. GAL has an Airfield Operations team who continually monitor the airfield for FOD and carry out removal as required. GAL issues a number of Directives covering various airfield issues related to FOD prevention and the responsibility of all airfield users to minimise FOD generation and ensure that any FOD is disposed of in the correct way. Three Tier inspection procedure by Airfield Operations. Routine, detailed and Senior Management audit.

c) Maintenance (use of sweeping, magnetic bars, runway ID, FOD containers etc): The GAL Airfield Support staff operate specialist sweeper vehicles, in addition to manual FOD removal. FOD bins are provided on aircraft stands for collection of small items. Strategically positioned FOD fences to catch wind blown debris. Airfield civils maintenance programme. Skips placed on the airfield must be issued with a permit and be covered with a lid. Airport cleaning contractors trailers must be totally enclosed. Airfield Projects work sites must conform with GAL fencing standards, which do not allow FOD to escape from the site. An Airport Directive requires all vehicle cabs to be free from FOD at all times.

d) Co-ordination of multiple agencies using anti-nuisance technologies: Runway Safety System - AMASS; or ASDE-X, the Model (Please specify product name and add any comments): No.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? RTF, A-SMGCS, RIMCAS. Airfield Operations vehicles are fitted with transponders for operating on the runway.

5.2 Are any design or engineering changes being undertaken or required to eliminate perceived hazards? Installation of TUBS (Taxiway Unavailable Bar System) being installed on the REA as part of the 2012 runway rehabilitation works. LED lighting on runway 08R/26L, taxiways 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, AFADS, controllable runway guard bars.

5.4 Comment on the use of any innovative and other lower-cost technologies: Runway Ahead sign at holding point Bravo 1; All runway entry points are CAP 168 compliant; The use of shunters at night on stopways when runway 08L/26R is not active; Threshold strobe lights installed on runway 08L/26R; Holding point Alpha has red and white barriers installed to prevent vehicle induced runway incursions; Installation of TUBS; Taxiway pavement designators used at locations where issues have been identified, including FOD prevention.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Driver training course, specifically for those who are required to drive on the manoeuvring area plus regular refresher training. Specialist airfield drawing maps, clearance of the FOD area (maps updated every 6 months). Maps must be carried in every vehicle; Flight Ops Performance Committee, hosted by GAL, every two months.

Local Runway Safety Team, jointly hosted by GAL and National Air Traffic Services (NATS), every two months; Local Runway Safety Team airfield airfield tour carried out in daylight and darkness during the year; NATS delivered a number of Airfield Resource Management courses.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the “no-penalty” principles such as “no-penalty reporting” Runway safety incidents are discussed jointly between GAL and NATS and shared with members of the Local Runway Safety Team, which also includes representation from Airlines, Handling Agents and the UK Flight Safety Committee. Those involved in a runway safety incident will be invited to complete a joint GAL/NATS Human Factors Questionnaire. The aim of any investigation is to promote and share learning and identify any contributory issues, ie. training, airfield infrastructure and procedures that may need to be addressed to try and prevent a recurrence. All runway incursion investigations include playback of RTF comms and ground radar image and these are shared at the Local Runway Safety Team meetings. Sharing of safety reports between third parties is positively encouraged and discussed to identify any learning opportunities and to promote information sharing.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Bird Hazard Management: The aim of bird hazard management at Gatwick is to maintain, as far as is reasonably practicable, a bird-free airfield. An Airfield Duty Manager is designated as the Bird Co-ordinator and bird hazard management duties are carried out by the Airfield Duty Team H24. GAL uses the standards below to control birds on and around the aerodrome in accordance with CAP 772: Birdstrike Hazard Map - A bird hazard safeguarding map is maintained. This is based on an Ordnance Survey map and highlights the assessed local hazards and also shows on a wider scale such sites as landfills, gravel extraction, and water bodies; Local Bird Calendar - Gatwick Airport have an aerodrome specific bird calendar. The calendar is based on statistical data and known bird activity over a number of years. The calendar is used on a monthly basis as a tool to assess the year to assess any likely change to the bird strike hazard; UK CAA Birdstrike Committee – Gatwick Airport has representation on this Committee. All Airfield Operations personnel who carry out bird hazard management duties are trained and hold a firearms certificate which must be revalidated every 3 years; All staff attend an approved bird hazard management.
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) and year of manufacture (e.g. Ford F-150; 08 Fire 3: 6,000l water, 840l foam; Panther Fire 4: 12,500l water, 1,500l foam).

7.2 Future developments – are there plans to purchase/use new equipment? New fire appliances being purchased over the next 12 months. A high access platform is also being purchased during 2013 for A380 operations.

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

PART 2: LIQUID CHEMICALS QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

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

8.2 Average temperatures and achieved holdover times etc: 1.0cm.

8.3 Average snow depth: 1.2cm.

8.4 Maximum snow in 24 hours: 1.2cm.

8.5 Annual number of days of de-icing activities: 45.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? As few as 10, when no snow is forecasted for the next seven days, and more than 100 when snowfall is imminent.

10. WINTER EQUIPMENT INVENTORY

10.1.1 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: 9 Overasen RS400 – Mercedes Actros 4x4 Runway Sweepers; 2 Oshkosh Snow Cutters; 2 Liquid Anti-De-Icer Spreaders; 1 Constant Flux Anti-Ice Spreaders; 1 Winter Tyre; Taxiway System: 9 Schorling – Unimog 4x4 Runway/Taxiway Sweepers; 3 Liquid Anti-De-Icer Spreaders; 1 Combi Liquid/Solid Anti-De-Icer Spreaders; 1 Robin Snow Cutter. Stands, roads and other airside areas: 4 Small Liquid Anti-De-Icer/De-Icer Trailer Sweepers; 12 Multihog Brush/Plough/Anti-De-Icer Spreaders; 24 John Deere Tractor Brushes, John Deere Tractor 4 meter ploughs; 2 John Deere Tractor Sulky Solid Anti-De-Icer Spreaders; 4 John Deere Gator Plough/Solid Anti-De-Icer Spreaders; 4 Kabuto Plough/Solid Anti-De-Icer Spreaders; 12 Pedestrian Plough & Cutters.

11. PROCEDURES AND METHODS

11.1.1 Please state here order of priority of snow clearance of major operational facilities (runways, taxiway, aprons etc) stating identity of each facility: a) runway(s) in use, including rapid exits and all other operational areas; b) runway holding areas, taxiways and aprons that are to be used; c) all other areas and roads.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: The method of clearing snow will vary in detail with the severity of the snow event. The principle will be to use the Runway Snow Sweepers and other standard 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.

11.3.1 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? Moderate snow - visible snowing up to 3 cms; Runway sweeping commences, requiring restricted runway operations and clearance on taxiways and stands. Significant delays are likely to occur until the runway blockages will be required as a result of reduced ATC arrival and departure rates.

12. EXPERIENCE WITH CHEMICALS

12.1.1 State the make of anti-icing equipment you use, along with the quantities used last season.

Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc.

Clearway 3 / Brothertons Safetygrit + – Liquid acetate chemical; Clearway 6S – Solid acetate chemical; Brothertons Solid formate chemical; Kompetent, Komed – Liquid Grit / Ice Melter. This product will only be used at the discretion of the Airfield Duty Manager in line with London Gatwick Airport Airfield Operations Non-slip Usage Checklist.; Grit – conforming to the most published version of BS 812, 1973, Part 3.

12.2 Comment on storage capabilities of the chemicals that you use. Clearway3/Brothertons Safetygrit +: 170,000kg, 5000 litres; Clearway 6S/Brothertons Aviform 6: 25,000kg; Grit: 20,000kg.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away” factor etc: Our solid de-icer we generally pre-wet with a liquid anti-icer because of the of the blow away factor. However, we find using it on stands that are unlikely to be used within an hour solid de-icer is great solid, as long as it is given time to work.

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

12.5 Have you employed any special means to economise on chemical use? We operate the Advance Surface Friction Tester, which has the ability to tell us when moisture is likely to freeze, this helps the decision making process as to how much chemical de-icer we use.

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

12.7 Do you use other chemicals or sand on operational areas? We use Grit on passenger walkways only.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Three Vaisalas.

13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? As part of the runway re-habilitation work we have installed more ice warning sensors on runway 08R/26L. The ASFT will give us this information too and we use this as an additional monitoring device.

13.3 Comment on your experiences of the sensitivities/benefits of ice warning systems: They are good as a tool to aid anti-icing / de-icing decision making.

14. AIRCRAFT DE-ICING

14.1.1 Does the airport have a directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Aircraft anti / de-icing operations are carried out by handling agents.

14.2.1 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-icing is predominantly carried out on aircraft parking stands. For Winter 2012/2013 a dedicated area has been identified in the Snow Plan, which will be used at the discretion of the Snow Co-ordinator during adverse weather conditions.

14.3 Is glycol recovered? If so, please state methods: Yes – mechanical sweeping.

15. FRICTION TESTING

15.1 What is the airport anti-icing / de-icing tester do you use? ASFT Mark 4 Airfield Surface Friction Tester.

15.2 Have you any comments on the reliability of friction index readings?

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? A-CDM Implementation Program.

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

16.3 Do you currently have equipment or other
1. AIRPORT NAME: Aeroporto de Madeira

PART 1: GENERAL AIRSIDE SAFETY

1. MOVEMENT AND MANOEUVRING AREA

Aeroporto de Madeira

1. AIRPORT NAME: Aeroporto de Madeira

PART 1: GENERAL AIRSIDE SAFETY

1. MOVEMENT AND MANOEUVRING AREA

2. Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY length 2781m, RWY 05 TORA 2631m (including 150m of pavement before threshold), RWY 23 TORA 2631m (including 150m of pavement before threshold), RWY width 45m, shoulder widths 3m, total apron area 8,248,700m², ramp area 11,080,900m².

2. Landing aids for each RWY (e.g. CAT II): Visual approach for both RWYs 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? No recent changes.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

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

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Aircraft and vehicle movements are controlled and co-ordinated by local ATS (TWR).

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? The measures taken have been effective till now, currently there is no need to take other measures.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment); Aircraft movement guidance is accomplished by a taxation/safety light system and, if by a taxation/ marking guidance system, followed by apron lighting and marking guidance system with intermediate holding position markings/ lights and edge markings.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Markings and lighting installed in accordance with ICAO Annex 14. RWY guard lights are installed.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Training sessions and meetings are done in accordance with SMS Committees (apron, runway and emergency).

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

6. BIRD AND WILDLIFE CONTROL

6.1 Do your staff attend recognised bird control training courses? Staff are concerned by the matter and aware of the risks. There is no specific course but briefings are made by airport operations and the safety office.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Yes. All bird control staff are employed by the airport. They are familiar with the intervention area and aircraft procedures. They have 8-hour shifts during the day.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/ manufacturer, product name and capacities, year, etc): CANNONS AND A SCARECROW DISTRESS CALL SYSTEM.

6.4 Do you carry out a bird strike risk assessment? Every three months, and it is an audited process.

6.5 Do your staff log all their bird control activities to manage success in dealing with the problem, and to use in defence in case of lawsuits? Yes. Every bird control activity is recorded and sent to the responsible bird strike manager (safety manager).

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

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture; Vehicle: Oshkosh P 19 (4x4), 1989 – water 3,850l, foam 492l, powder 227kg, Hallon 68kg. Vehicle: Oshkosh T 1500 (6x6), 1991 – water 6,000l, foam 776l, powder 317kg, Hallon 68kg. Vehicle: Oshkosh T 3000 (6x6), 1999 – water 11,356l, foam 1,590l, powder 204kg, NAF P 100kg. Vehicle: Oshkosh Striker 3000 (6x6), 2012 – water 11,356l, foam 1,590l, powder 204kg. 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? Madeira Airport doesn’t have a training campus.

PART 2: WINTER SERVICES QUESTIONNAIRE

15. FRICION TESTING

15.1 What model of friction tester do you use? A friction test was done by ANA, S.A in April 2012 and, to determine the coefficient of friction testing was performed continuously at an average speed of 65km/h and 95km/h, at night time, with dry weather, and using equipment (ASFT – CFME, Airport Surface Friction Tester – Continuous Friction Measurement Equipment).

15.2 Have you any comments on the reliability of friction indexes? In the overall results of the evaluation of friction coefficient in April 2012, the analysis by sections does not point to the need for intervention.

16. FUTURE DEVELOPMENTS

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

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Not applicable.

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

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

MADEIRA

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

15.1 What model of friction tester do you use? A friction test was done by ANA, S.A in April 2012 and, to determine the coefficient of friction testing was performed continuously at an average speed of 65km/h and 95km/h, at night time, with dry weather, and using equipment (ASFT – CFME, Airport Surface Friction Tester – Continuous Friction Measurement Equipment).

15.2 Have you any comments on the reliability of friction indexes? In the overall results of the evaluation of friction coefficient in April 2012, the analysis by sections does not point to the need for intervention.

16. FUTURE DEVELOPMENTS

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

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Not applicable.

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

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

MADEIRA

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

15.1 What model of friction tester do you use? A friction test was done by ANA, S.A in April 2012 and, to determine the coefficient of friction testing was performed continuously at an average speed of 65km/h and 95km/h, at night time, with dry weather, and using equipment (ASFT – CFME, Airport Surface Friction Tester – Continuous Friction Measurement Equipment).

15.2 Have you any comments on the reliability of friction indexes? In the overall results of the evaluation of friction coefficient in April 2012, the analysis by sections does not point to the need for intervention.

16. FUTURE DEVELOPMENTS

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

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Not applicable.

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

16.4 Do you have any winter services equipment that 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? A-SMGCS (SMC); ASDE-X, ISM; Multilateration

5.2 Are any design or engineering changes being undertaken/recommended to eliminate perceived hazards? No

5.3 What is the problem, and to use in defence in case of 6.5 Do your staff log all their bird control activities (to manage success in dealing with other wildlife-related incidents. 6.6 Do you have any problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No, the airport doesn’t have any important problems with other wildlife.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory

8. BIRD AND WILDLIFE CONTROL

8.1 What is the designated period of winter readiness? Human and material resources are maintained, however, winter conditions usually occur between 15 November and 15 March.

8.2 Average snow depth: In the period from January 1 1950 to January 1 2009 there were 14 snowfalls with an approximate depth of 10cm, in which snow covered the ground surface for about 24 hours.

8.3 Average snow depth: In the period from January 1 1950 to January 1 2009 there were 14 snowfalls with an approximate depth of 10cm, in which snow covered the ground surface for about 24 hours.

8.4 Maximum snow in 24 hours: 3.1cm.

8.5 What safety devices are currently in use? A lifting platform arriving first term 2013

8.6 What specialist equipment do you employ for bird control training courses? Yes, as it is included in the Airframe Manual

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? Two airport employees and up to 150 sub-contracted employees perform airport maintenance activities.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units; snow plough, ATEGO, RS400 MKIII, 9 units; snow blower, Rolba, Zaugg Modelo 1500, 2 units; liquid spreader, MAN, Boschung 15 M 62037, 3 units; mini loader, Bobcat, S 230, 14 units; loader, Volvo, L180, 6 units; truck, MAN, FE 40,414, 5 units; snow truck, MAN, 6x6 TGS 33,360, 9 units; all roads, Mitsubishi, L200, 4 units.

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: Runways: the western runways, one for arrivals (14R/32L) and one for departures (18R/36L). Taxiways A, M, B, N, J3, H3 and de-icing areas. Aprons, firstly the South part of T4 and of T4S, secondly T123 and rest of T4 and T4S.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: The vehicles were built in 2010 and are subject to all revisions stipulated by the manufacturer of each. There’s also regular training of the personnel who operate it: theoretical and practical training including several drills to test the routes and machinery formations established in the airport’s Winter Action Plan. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? There are three cleaning routes defined to clean up the four runways and associated taxiways, so the cleaning of each runway is done in about 30 minutes. Approximately 40 minutes in total adding the time needed for friction coefficient verification.

12. EXPERIENCE WITH CHEMMICALS

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-icer used last season (there was not much adverse weather): Potassium formate, 18,000l and urea, 90,000kg.

12.2 Comment on the potential toxicity of the chemicals that you use: The potassium formate is stored in four tanks of 50,000l each, and two tanks of 33,000l each, so there’s a total storage of 200,000l. Urea is kept in a closed vessel to be protected from adverse atmospheric conditions of temperature and humidity. The airport has storage of 150,000kg, but the storage
16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? A-CDM is being implemented.
16.2 Do you plan to purchase new equipment or vehicles? Yes. The staff have started training courses? Yes. The staff have started training courses. 
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 that you would like to sell? Yes, 6 Øverasen RS400 MKII runway sweepers with Merco trucks; 2 Volvo Cille 15m3 CL10050 ABUD liquid spreaders and 4 MAN snow trucks, 6x6 TGS 33,360.

MARSEILLE PROVENCE
PART 1: GENERAL AIRSIDE SAFETY
2. AIRPORT NAME: Aix-en-Provence Airport
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, other: RWY 13R: 3500x45; TORA 3500; TODA 3500; ASDA 3500; LDA 3160. RWY 31R: 3500x45; TORA 3500; TODA 3500; ASDA 3500; LDA 2640. RWY 13R: 2370x45; TORA 2370; TODA 2370; ASDA 2370; LDA 2265. Apron surface: 500,000m² (approximately) 2.2 Landing aids for each RWY (e.g., CAT II): RWY 13R: APCH Cat II-420m-L/H/L. RWY 31R: APCH Cat I. RWY 13R: APCH Cat I. PAPI RWY 31R: PAPI
3. SAFETY MANAGEMENT SYSTEMS
3.1 The IGCA specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? The SMS structure is described in the chapter 6 aerodrome manual of the Marseille Provence airport. Its structure leans on the order of November 30th, 2006 (implementation of the SMS). Details of the structure – chapter 1: General arrangements, chapter 2: Implementation of the safety politics, chapter 3: Insurance of the safety system, chapter 4: safety promotion. Date implementation: December 2012.
3.2 Does your airport have its own SMS? It is being implemented. Other parties active in these processes? The airport has made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits. Date implementation: December 2012.
3.3 Are there any special systems or software solutions you employ for FOD control? Yes. A specific software is used to reinsert observations and actions of bird controls.
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of: a) Training; b) Inspection by airline, airport, and airplane handling agency personnel; c) Maintenance of sweeping, magnetic bars, rumble strips, FOD containers etc; d) Co-ordination of multiple agencies using airport (airlines, handling agents etc); e) Airfield, runway, apron inspections are inspected by firefighting service 3 times a day (soon in the morning, midday and in the end of the afternoon). They produce a report including what they have seen (FOD, deterioration of runways or taxiways …) and its localization. If necessary, the surface identified is cleaned (oil, …). Firemen in charged of inspection are trained during half a day for this operation. 4.2 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? Each vehicle and aircraft in the movement area (runways / taxiways) are in contact with navigation controller who is in charge of the separation. In 2013, a ground radar will be in service to improve the monitoring.
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.
5.4 Comment on the use of any innovative warning systems or guards – use of paint, signs, lighting and other measures. In many 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 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, the license need a training, each 3 years for apron, each year for movement area.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? A runway Safety team has been implemented by DGAC 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.
6. BIRD AND WILDLIFE CONTROL
6.1 Do your staff attend recognised bird control training courses? Yes. The staff have a special training approved by the Techni- cal Service of General Aviation (STAC).
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously. The inspection is – ½ an hour 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 scare bird with sound effects (made by Sterella) lasers, shotguns, explosive cartridge pistols and CAPA.
6.4 Do you carry out a bird strike risk assessment? The process is audited by DGAC once a year.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of law suits)? Yes. A specific software is used to register observations and actions of bird controls.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No, problems are only with birds.
7. CRASH FIRE RESCUE
7.1 Future developments – are there any plans to purchase or dispose of any equipment? Only for the change plan.
PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1 What is the definition of winter readiness? 15th November / 15th March
8.2 Average annual days of snow: 1 day every 2 years
8.3 Annual number of winter-related deicing activities: Around 10
9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel
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 of clearance: main RWY 13L/31R over its entire length of 3500 m and width of 40 m and the taxiways connecting its ends to the main parking area and the taxiways to the ends of the secondary RWY 13R/31L second RWY 25L/07R 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 parking (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 hold-over times etc: De-icer: SAFEGRIP FR
12.2 Comment on storage capabilities of the chemicals that you use: total de-icing agent reserves: 100 000 l
12.4 Have you experienced any corrosion problems with de-icers? No
12.5 Have you employed any special means to economise on chemical use? Not really necessary, de-icing is not performed very often in Marseille Airport.
12.7 Do you use other chemicals or sand on operational areas? No
14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufacturing, 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): Departure hold bay 134,000 sqm; North Apron 322,000 sqm; Runway 18-36, 256,000 sqm; Taxiway+holding bay 134,000 sqm; North Apron 322,000 sqm; West Apron 65,000 sqm; TOR: 2.442 m.
12.2 Landing aids for each RWY (e.g. CAT III): RWY 36 CAT III.
15. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “the aerodrome operator...” has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal SMS audits? No.
3. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme 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 airline handling agency personnel: Once a week, in the presence of one representative of the airlines operating at LIN Airport, a SAF qualified agent inspects one stand and the FOD for that stand is collected. c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD contain-ers etc): Maintenance is performed using airport-sweeping equipments that operate over 16 working hours. Moreover, FOD bins have been placed on the apron. d) Coordination of airport agencies using airport (airlines, handling agents etc): The personnel are airport staff. In the monthly Safety Committees, all representatives of agencies using airport are informed about problems and priorities concerning FOD.
4.2 General: Are there any special systems or software solutions you employ for FOD control? Yes. (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 monitor- ing 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 microwave anti-intrusion system.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting or other lower-cost solutions: Coordinating bars together with microwaves anti-intrusion systems are used. There are sign markings like Runway Head and No Entry in addition of anti-intrusion systems for each Taxiway serving Runway. Besides, a light- ing system for pilots is under investigation.
5.5 What specific procedures are there for train- ing and awareness among vehicle operators, controllers, mechanics, airport vehicle operators, and other people who work at the airport? For airport operators a special driving license is issued by Airport Authority after training and examination.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do you safeguard the “non-punitive” principles such as ‘no-penalty’ reporting? There is a Local Runway Safety team in charge of evaluating events/hazards. Monthly, during the Safety Committee, the reports on runway safety events are discussed with the airport operators involved. These procedures are managed by ATS.
6. BIRD AND WILDLIFE CONTROL
6.1 Do you maintain a bird management plan? Yes. (Please state relevant species and methods to manage them): Recurrent grass cutting, native vegetation management, use of sustainable products to minimize presence of midges. Agreements have been defined with territorial public bodies for bird and wildlife monitoring and control.
6.2 Do you maintain a local committee to address these issues being addressed? Wild rabbits, wildlife (deer, for example) and, if so, how are you handling agency personnel: Once a week, in the presence of one representative of the airlines operating at LIN Airport, a SAF qualified agent inspects one stand and the FOD for that stand is collected. c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD contain-ers etc): Maintenance is performed using airport-sweeping equipments that operate over 16 working hours. Moreover, FOD bins have been placed on the apron. d) Coordination of airport agencies using airport (airlines, handling agents etc): The personnel are airport staff. In the monthly Safety Committees, all representatives of agencies using airport are informed about problems and priorities concerning FOD.
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5.5 What specific procedures are there for train- ing and awareness among vehicle operators, controllers, mechanics, airport vehicle operators, and other people who work at the airport? For airport operators a special driving license is issued by Airport Authority after training and examination.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do you safeguard the “non-punitive” principles such as ‘no-penalty’ reporting? There is a Local 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.
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6.1 Do you maintain a bird management plan? Yes. (Please state relevant species and methods to manage them): Recurrent grass cutting, native vegetation management, use of sustainable products to minimize presence of midges. Agreements have been defined with territorial public bodies for bird and wildlife monitoring and control.
6.2 Do you maintain a local committee to address these issues being addressed? Wild rabbits, wildlife (deer, for example) and, if so, how are you handling agency personnel: Once a week, in the presence of one representative of the airlines operating at LIN Airport, a SAF qualified agent inspects one stand and the FOD for that stand is collected. c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD contain-ers etc): Maintenance is performed using airport-sweeping equipments that operate over 16 working hours. Moreover, FOD bins have been placed on the apron. d) Coordination of airport agencies using airport (airlines, handling agents etc): The personnel are airport staff. In the monthly Safety Committees, all representatives of agencies using airport are informed about problems and priorities concerning FOD.
4.2 General: Are there any special systems or software solutions you employ for FOD control? Yes. (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 monitor- ing 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 microwave anti-intrusion system.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting or other lower-cost solutions: Coordinating bars together with microwaves anti-intrusion systems are used. There are sign markings like Runway Head and No Entry in addition of anti-intrusion systems for each Taxiway serving Runway. Besides, a light- ing system for pilots is under investigation.
5.5 What specific procedures are there for train- ing and awareness among vehicle operators, controllers, mechanics, airport vehicle operators, and other people who work at the airport? For airport operators a special driving license is issued by Airport Authority after training and examination.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do you safeguard the “non-punitive” principles such as ‘no-penalty’ reporting? There is a Local 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.
8.2 Average annual days of snow: 5-7 days
8.3 Average snow depth: 7-10 cm
8.4 Maximum snowfall: 24 cm
8.5 Annual number of days of de-icing activities: about 70 days

9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 97 airport-telephone personnel.

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, CIS 720, 4 units):
SEA supplies: n. 2 snow type Fresia F:90ST; n. 2 turbo-scrappers Rolba 1000r; n. 4 Fresia self-propelled polishing machines; n. 2 blower driven sweeper Rolba; n. 1 spreader Omer keco 35 1/2; n. 1 spreader Bombelli; n. 1 crawlers Prinero L 3 (snowmobile); n. 2 de-icing sprayers track Schmidt and Giletta; n. 2 Saab skiddometer; n. 2 Schmidt sweepers sweeping; n. 2 tractor Deutz-Fahr with front roller and back sprayer; n. 2 tractor Deutz-Fahr with back spreader.
Third parties supply: n. 10 trucks for knife attack m. 4,5; n. 1 brush truck with front m. 4,5; n. 20 loading trucks for snow; n. 10 mechanical shovels np:70/100; n. 20 tractors with blade m. 3,2 and 2,5; n. 5 tractors with frontal “V” blade; n. 8 mini excavators Bob Cat; n. 2 trucks for loading and snow removal.
Others: n. 10 blade Rolba AR 450; n. 16 blade Rolba SL25; n. 9 blade Bombelli 3,2; n. 5 blade Mainardi “V”; n. 2 blade Assaloni ATM 2 RV; n. 1 brush front moderate snow; n. 1 brush front brush Schmidt.

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 spreaders. Operations on Aprons are performed with blades. Snow is amassed and removed; afterwards pavement is treated with glycol liquid.
11.3 Are there any problems with the snow removal? How quickly do you expect to achieve ‘black top’ on the runway? 20 minutes about.

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 subsequently treated with liquid.
12.2 Comment on storage capabilities of the chemicals that you use: Safe way KA. Safe way SD has been used to prevent deposit of snow on pavement.
12.3 Have you experienced any corrosion problems on runway/asphalt? No problems occurred with chemical use.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-icing services? Yes, so, please state vehicle or other facility manufacturers, and number of units: De-Icer Westergaard Beta n. 14. 14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Yes, we have remote dedicated de-icing positions.
14.3 Is it possible to define state methods: The glycol is recovered in underground metal containers.

15. FRICTION TESTING
15.1. What model 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 tested? No comment. Once a year, SEA performs a calibration check with ASFT technical support.

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

MILAN MALPENSA

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Milan Malpensa Airport
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY lengths, Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Runway 1TL-3R, 235,000sqm; Runway 17L-17R, 235,000sqm; Taxiway, 552,000sqm; Apron T1, 1,150,000sqsm; Apron T2, 319,000sqm; TORA: 3.920m.
2.2 Landing aids for each RWY (e.g. CAT II): RWY 35 R/L CAT III b, RWY 17 L CAT I.
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome.” Has your airport made any recent changes to its SMS following the recommendations of ICAO?
3.2 Monthly, during the Safety Committee meetings, the most dedicated de-icing positions.
3.3 In-house dedicated de-icing positions or do you de-ice on the airport operators in- volved. These procedures are managed by ATS.
4. BIRD AND WILDLIFE CONTROL
4.1 Do your staff attend recognised bird control training courses? A dedicated unit called Bird Control Unit has been created to ensure the bird control and exclusion in the airport. The BCU is composed by a group of professional figures (biologist). The training activity refers to birds’ biology and attitudes, the procedures to be carried out in order to avoid the presence of birds in airport and on the monitoring data collection. The training activity refers also on procedures of airport circulation and safety manual. Since 1 August 2010, SEA has been commissioning Bird Control Italy srl (BCI), Italy’s leader in the field, for the monitoring and bloodless removal of birds and mammals from inside the airport.
4.2 Are your bird control staff working on the airfield continuously, hourly, less often? Hourly.
4.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/ manufacturer): (Spacemaker) fixed dissuasion system with 2,5 km jet path at W power; shotguns, distress call, L-RAD and propane cannons installed near the runway.
4.4 Do you carry out a bird strike risk assessment? Yes.
a blade n.4 min tractors spreader. / cubic capacity; n.7 mini-tractors with farm Tractor dump from; n.10 wheel c
 Others: n. 21 tractor with blade; n.15 tractor w / trailer not exceeding 35 cubic; n.33 with rotary brush 2 mt; n.2 friction Tester. and 1 Schmidt; n.3 versatil tractor; n.3 tractor brush; n.3 spreaders multi de-icing – 2 Giletta n.2 snow compactors; n.2 tractor with rotary 1 Fresia F90ST with blade and sprinkle liquid; support 4 mt; n. 4 tractor blades with brush; n. 1 Fresia F90ST with blade and sprinkle liquid; n.2 snow compactors; n.2 tractor with rotary brush; n.3 spreaders multi de-icing – 2 Giiletta and 1 Schmidt; n.3 versatil tractor; n.3 tractor with rotary brush 2 mt; n.2 tractor fiction. Third parties supply: n.14 truck blade mt. 4 and n.24 spreaders; n.24 tractor blades; n.12 farm Tractor w / trailer not exceeding 35 cubic; n.33 wheel loader mt. 2.5; n.8 tractor with blade mt. 2.7; n.10 mini-tractors with blade. Others: n. 21 tractor with blade; n.15 farm Tractor dump from; n.10 wheel c / cubic capacity; n.7 mini-tractors with a blade n.4 min tractor spreaders. 11. PROCEDURES AND METHODS 11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Priority one: Runway 17R-35L Taxiway “B”, Taxiway “M”, part of Taxiway “A”, Taxiway “C” pertaining to Apron Terminal 2, Link 7, stands area “D” and De-icing area “Z” of Apron Terminal 2, ”A” of Apron Terminal 2, Taxiway “W” and “K” to the intersection with Taxiway “U”; Taxiway “U” Taxiway “Y”, Taxiway “G west”, Taxiway “P”, Taxiway “R”, Taxiway “S”, Taxiway “T”, Taxiway “AA”, Taxiway “AB”, Taxiway “BA”, Link 0, 1, 2, 3, 4, 5; Stands area “A”, “B”, “G”, “H” and “F” “X” of Apron Terminal 1; Priority two, Runway 17L-35R; Taxiway “E”, Taxiway “F”, Taxiway “O” from Link 7 to intersection Taxiway “D”, Taxiway “CB”, Taxiway “CA”, Taxiway “G east”, Taxiway “WB”, Taxiway “V” and remaining Taxiway “W” e “Y”, Link 6; Stands area “C” and remaining areas A” and “B” of Apron Terminal 1; Remain- ing Taxiway “A”, Taxiway “AA”, Taxiway “AB”, stands “B” of Apron Terminal 2; Priority three; Remaining Taxiway “C”, Taxiway “DB”, Taxiway “CF”, Taxiway “F” and Taxiway “BA”. 11.2 State the vehicles, formations and general methods used in the operation of taxiway and apron clearance Operations. On runways and taxiways are per- formed with sweepers, snow blowers and liquid spreaders. Operations on Aprons are performed with blades, “H” of Apron Terminal 1 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 minutes. 12. EXPERIENCE WITH CHEMICALS 12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Safety KA, 157.000 litres; Safety SA, 19,000 kg. Safety KA has been used to prevent deposit of snow on pavement. Safetyw SA has been used in case of pavement with ice and subsequently treated with liquid. 12.2 Comment on storage capabilities of the chemical facilities used: Safety KA, 220,000 litres; Safety SA, 34,000 kg. 12.4 Have you experienced any cor- rosion problems with de-icers? No prob- lems occurred with de-icer use. 14. AIRCRAFT DE-ICING 14.1. Does the airport directly provide aircraft anti/de-icing operations? If so, please state ve- hicle on which the equipment is mounted, and number of units: De-Icer Vestaergaard Beta n. 7, Vester- gaard Beta Model 15 n. 9, JBT Tempest n. 6. 14.2. Are you required to have dedi- cated de-icing positions or do you de-ice on the parking area? Yes, we have re- mote dedicated de-icing positions. 14.3 Is glycol recovered? If so, please state method; The glycol is recovered in underground metal containers. 15. FRICTION TESTING 15.1. What model(s) of friction tester do you use? Runway friction tester vehicle SAAB SFT9000, 1 unit (1999) – Volkswa- gen SFT Sharan 2008, 1 unit (1998). 15.2 Have you any comments on the rel- iability 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 air- port’s methods? No changing in the short term. 16.2 Do you plan to purchase new equip- ment or vehicles? If so, please provide details: Airside Operations Department is continuously looking at new vehicles and equipment.

MUNICH Airport

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Munich Airport International
2. MOVEMENT AND MANEU- VRING AREA DATA
2.1 Please lists the identities of primary op- erational areas, runways, taxiways and apron areas for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other: RWY 08L/ 26R: 4000 x 60m TORA: 4000m LDA: 4000m
Total RWY Surface Area: 612.840 sqm Tot Apron Surface Area: 2.280.000 sqm 2.2 Landing aids for each RWY (e.g. CAT II): PAPI, RVR, ILS 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? No recent changes.
4. FOREIGN OBJECT DAM- AGE (FOD) PREVENTION
4.1 Describe your airport’s pro- gramme to control FOD in terms of: a) Training: FOD awareness is part of ramp handling personnel /operations staff training programs. FOD awareness campa- gns within framework of SMS. b) Inspection by airline, airport, and airplane handling agency personnel: Stand Pre-use FOD inspections is part of annual agency obligation. Daily routine FOD Inspection by Air- port Operations Staff every 4 hours scheduled H24.
5. WINTER EQUIPMENT INVENTORY
5.1 Please list specialist snow clearing, de-icing and other relevant winter equip- ment stating purpose, manufacturer and number of units (for example, compact jet sweepers: Schmidt: CJS 200, 4 units) SEA supplies: n.5 turbo cutters Fresia F90ST; n.1 self-propelled sweeper blower Schmidt; n.3 suction sweepers with front roller; n.8 self-propelled sweeper blower Fresia F2000; n.2 self-propelled sweeper blower Schmidt; n.1 self- propelled sweeper blower Boschung; n.2 blower driven sweeper Rolbaj; n.25 tractor blades with support 4 mt; n. 4 tractor blades with brush; n. 1 Fresia F90ST with blade and sprinkle liquid; n.2 snow compactors; n.2 tractor with rotary brush; n.3 spreaders multi de-icing – 2 Giiletta and 1 Schmidt; n.3 versatil tractor; n.3 tractor with rotary brush 2 mt; n.2 tractor fiction. Third parties supply: n.14 truck blade mt. 4 and n.24 spreaders; n.24 tractor blades; n.12 farm Tractor w / trailer not exceeding 35 cubic; n.33 wheel loader mt. 2.5; n.8 tractor with blade mt. 2.7; n.10 mini-tractors with blade. Others: n. 21 tractor with blade; n.15 farm Tractor dump from; n.10 wheel c / cubic capacity; n.7 mini-tractors with a blade n.4 min tractor spreaders.

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clearance. Any subcontracted airside works will be guarded by airport manpost with continuous radio contact with ATC and Airport Operations. Runway Inspections are carried out on ATC frequency and using English phraseology. 5.6 Have the reporting procedures for runway safety incidents been set up cooperatively with other parties active in these processes? Further, do they safeguard the "non-punitive" principles such as "no-penalty" reporting? Reporting System is part of the SMS. Incursion Data will be exchanged between ATC and Airport within the framework of Runway & Movement Control Safety Committee. Munich encourages a "non-punitive" culture unless the incursion or incident demands inevitably disciplinary action. 6. BIRD AND WILDLIFE CONTROL 6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: "Long grass policy"; Elimination of attractive trees and bushes within the runway system; Reduce available nesting and roosting sites by modifying buildings to limit ledge space. Close entry holes through the use of screens and boards; Cover areas of open water with wire or netting. Has management according to recommendation of the national German bird strike prevention committee (DAVVL). 6.1 Do your staff attend recognised bird control training courses? Yes. The company manufactures, and number of units: 1. Command Vehicles (ELW1) 2. Aerial Ladder and Platform (DLK) 23-12-GL C; MAN 4x4; 4 Rescue Fire-Fighting Vehicle (HLF), MAN 4x4; 2500 l water, 300 l foam 1 MAN 4x4 1 Rescue Unit (WR) MAN 4x4 1 Inter-combo-box-truck (WLF), MAN 6x6; 2 Passenger Rescue Stairs X 4 4 Mercedes / Rosenbauer 7.2 Future developments – are there plans to purchase or dispose of any equipment? No plans 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No training to other airports available. PART 2: WINTER SERVICES QUESTIONNAIRE 8. RECENT WINTER CONDITIONS 8.1 What is the designated period of winter readiness? 01 Nov – 30th Apr 8.2 Average annual days of snow: 67 days 8.3 Average snow depth: 42.5 cm 8.4 Maximum snow in 24 hours: 52 cm 8.5 Annual number of days of de-icing activities: 67 days 9. WINTER ORGANISATION 9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 80 airport employees, 18 sub-contracted companies with a total of 370 employees. 10. WINTER EQUIPMENT INVENTORY 10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CA; 5 units; pusher or other facilities (runways, taxiway, aprons etc) stating identity of each facility: 1. Runways and TWYS, 2. Apron, 3. De-icing positions or do you de-ice on the parking area? 20 minutes after beginning of runway? 20 minutes after beginning of winter service measures. 11. EXPERIENCE WITH DE-ICING CHEMICALS 11.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures. Have you achieved holdover times etc: Potassium formate, RWY’s and TWY’s, 1.321 to; Potassium formate, Apron, 1.050 to; Sodium formate, RWY’s, 75 to; Apron, 227 to. The effectiveness of formate chemicals at low temperatures is good. The holdover time depends on weather conditions. 12.2 Comment on storage capabilities of the chemicals that you use: Potassium formate: 600,000 ltr; Sodium formate: 100 to 12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “slow-away factor” etc: Solid deicers are used to extend the "hold-over" time. When spreading solid deicers, areas with increased jet blast are omitted. 12.4 Have you experienced any corrosion problems with de-icers? Yes, with potassium. 12.5 Have you employed any special means to economise on chemical use? Yes, we are constantly working to optimize our usage of chemical products: including special training in the use and application of chemicals as well as updating our fleet with new innovations equipment. Additionally, all of our de-icing vehicles are equipped with GPS; this helps us better determine how to deploy both chemicals and manpower. 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, we use sand on operational areas. 13. ICE WARNING SYSTEMS 13.1 State model and number of ice warning systems: GFS 2000 (Bosch- hung), 12 outdoor measuring-stations. 13.2 Have you planned to purchase further ice warning systems and if so, which model(s)? Yes, a replacement of the existing system is planned for 2013. No final decision yet about the model. 13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Ice warning systems are useful in supporting decisions to purchase further/ conduct de-icing operations at any given time. 14. AIRCRAFT DE-ICING 14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: Yes, EFM on behalf of Munich Airport. 21 units Vestergaard BET. 2 units Vestergaard BET; 1 unit Vestergaard MY. 14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Yes, Munich Airport operates 12 dedicated de-icing areas located close to the runways. 14.3 Is glycol recovered? If so, please state methods: Munich Airport employs a special "recapture" system consisting of runoff canals in the cement platform on which the de-icing stations are based. This allows us to recapture 50-60% of the de-icing chemicals used on aircraft; which are then consolidated and recycled fluid as aircraft de-icing fluid. 15. FRICTION TESTING 15.1 What model(s) of friction tester do you use? SFT 9000, SFT 95
15.2 Have you any comments on the reliability of friction indexes? Munich is actively participating in the ICAO Friction Task Force. Beside other means, friction measurements are used as one tool for an overall runway condition assessment. Primarily the assessment of the runway’s surface friction is based on contaminant type, depth and coverage. Friction Values are not reported.

16. FUTURE DEVELOPMENTS

16.1 Are you planning to change any of your airport’s methods? Yearly readjustments on the requirements of airport handling.

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes, we are constantly working to improve our winter service-activities – this includes buying / leasing new equipment when necessary, keeping abreast of the latest innovations via trade publications / informational material, etc.

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.

16.5 Where are these activities taking place? Munich.

16.6 Is there a need for additional winter services equipment? No.

16.7 Do you have plans for a new winter service depot or buildings? No.

17. EXPERIENCE WITH CHEMICALS

17.1 Have you any comments on the use of any innovative de-icing or anti-icing products or materials? No.

17.2 Are there any design or engineering changes you have made that have improved de-icing effectiveness? No.

17.3 After moderate snow, how quickly was the RWY handled? Four plough trucks with jet brooms enter the RWY via APN CENTRAL and TWY C. The provider use trained birds, firearms, dogs.

17.4 Have you any comments on the use of any innovative de-icing or anti-icing products or materials? No.

17.5 What specific characteristics are the commercial equipment of your de-icing activities? (to manage success in dealing with high winds, potential road closures, etc.) No.

17.6 Have you any comments on the use of any innovative de-icing or anti-icing products or materials? No.

17.7 Are you currently or have you been purchasing or disposing of any equipment? No.

17.8 What was the designated period of winter readiness? 1OCT – 30APR

17.9 Average annual days of snow: 120

17.10 Average snow depth: 10 CM

17.11 Maximum snow in 24 hours: 25CM

17.12 Annual number of days of de-icing activities: 45

19. WINTER ORGANISATION

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

20. WINTER EQUIPMENT INVENTORY

20.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units)

1 x compact plough – jet sweeper, MB Actros, Schmidt 560

1 x plough truck TATRA 815 + jet broom Schorling P15

1 x plough truck IAA 111

1 x plough truck TATRA 148

1 x plough, snow tank, SPL55

1 x MB UNIMOG, plough and sander-gritter

2 x snow cutters

1 x snow cutter ZETOR

3 x plough tractors ZETOR

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.

RWY 04/22

TWY`s

APN CENTRAL

APN SOUTH, NORTH

22. Other surfaces

22.1 State the vehicles, formations and general method of runway, taxiway and apron clearance. Four plough trucks with jet brooms enters the RWY via APN CENTRAL and TWY C. The snow banks are pulled sides of RWY and then snow cutter moves them of of RWY. The same procedure is applied on TWY’s and APN.

22.2 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 50 minutes takes clearing of RWY at full length and width.

22.3 Describe the de-icing products you use, along with the quantities used last season.

x MB UNIMOG, plough and sander-gritter
1. x tractor ZETOR sander gritter
Nitrile acrylic amide/(carbamide) is used for chemical treatment of pavements. Effective use at temperature range 0 to –8°C.
1.2 Comment on storage capabilities of the chemicals which you use. Storage in a safe location.
1.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. Carbamide mixed with water is used to defrost solid ice layer.
1.4 Have you experienced any corrosion problems with de-icers? No experience.
1.5 Have you employed any special means to economise on chemical use? Chemical treatment responds to actual weather forecast to minimise excessive use.
1.6 Do you have any other comments on experience with chemicals? No.
1.7 Do you use other chemicals or sand on operational areas? No

13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems. No ice warning system at the moment.
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? Do not intent purchase ice warning system.

14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. 2x MD GLOBAL 8000 DEAR
14.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Yes, de-icing is provided at APN CENTRAL stand No.1 and APN SOUTH at dedicated stand.
14.3 Is glycol recovered? If so, please state methods.
14.4 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): Currently no special systems or software solutions applied.

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Procedures for movements on the operating areas are in place. Further, there is visual supervision of movements on the ground by air traffic control staff, Fire & Rescue staff (observation tower) and ramp supervisor.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No design or engineering changes are undertaken.
5.3 What safety devices are currently employed? (AIRPORT): Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment); None mentioned safety devices from the list.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, light- ing and other lower-cost technologies: None.
5.5 What specific procedures are there for training and awareness amongst pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Adequate Program within the Center for professional staff training of Public Enterprise Airports of Montenegro.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes, mainly with the terminal air traffic control with a view to the condition of the operating areas. After each inspection, person responsible for control of the operating areas reports to terminal air traffic control in writing. In case of identifying any irregularity/non-compliance with the procedure on aircraft and vehicle movement on the ground, the person who identified it writes a statement of claim and submits it to the airport operator manager. Such a case is considered at the session of Airport Security Committee, on which occasion the respective course of activities is defined.
6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: Procedure for technical and aerial security ref. QP 2.09
6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously.
6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer); Sirens mounted vehicles and shotguns.
6.4 Do you carry out a bird strike risk assessment? No data available.
6.5 Do your staff log all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? According to doc9137- AN/898 report is delivered to CAA.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? According to local procedure the problem of wild deer is solved.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inven- tory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre); type and year of manufacture: Year of manufacture - 2004 Type - Rosenbauer Chassis – 4x4 Axle – 6x6 Capacity – water – 12,000 litres of water, foam – 1500 litres Number of vehicles – 2 Year of manufacture - 1992 Type - AmerTek Chassis - Axe – 4x4 Capacity – water – 4000 litres of water, foam – 500 litres Number of vehicles – 1.7.2 Future developments – are there plans to purchase or dispose of any equipment? No 7.3 If your airport possesses a Fire Training Sim- ulator, is this available to other airports for train- ing purposes? We do not possess a fire training simulator, but we do practical exercises/drills.

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

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

7.1 Please detail your CFR vehicle inven- tory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre); type and year of manufacture: Year of manufacture - 2004 Type - Rosenbauer Chassis – 4x4 Axle – 6x6 Capacity – water – 12,000 litres of water, foam – 1500 litres Number of vehicles – 2 Year of manufacture - 1992 Type - AmerTek Chassis - Axe – 4x4 Capacity – water – 4000 litres of water, foam – 500 litres Number of vehicles – 1.7.2 Future developments – are there plans to purchase or dispose of any equipment? No 7.3 If your airport possesses a Fire Training Simul- ator, is this available to other airports for train- ing purposes? We do not possess a fire training simulator, but we do practical exercises/drills.

2.1 Please list the identities of primary opera- tional 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); Dimensions of runway 2500m x 45m Strip dimensions 2620m x 300m Apron area 28000m² Apron area for general aviation 5220m² 2.2 Landings/take off (RWY (e.g. CAT II); RWY 18 – Non-instrument approach (approach light unique system) RWY 36 – CAT I (ALPA ATA)

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

4. FOREIGN OBJECT DAM- AGE (FOD) PREVENTION
4.1 Describe your pro- gramme to control FOD in terms of: a) Training: The staff engaged for the purpose of the operating areas main- tenance is well trained and familiar to the applicable training program.

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16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? Currently no.
16.2 Do you plan to purchase new equipment or vehicles? Yes. 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.

17. CRASH FIRE RESCUE

17.1 Please detail your CFR vehicle inventory stating: type of vehicle; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture: Volkswagen Transporter 4x4 (UHS) – 1x (from 2003, water 200 l, foam 20 l); Mercedes Benz Atego 4x2 – 1x (from 2000, water 2 500 l, foam 200 l); Scania 4x2 – 1x (from 2010, water 2 500 l, foam 200 l); Mercedes Benz Buffalo 6x6 – 2x (from 1998, water 8 000 l, foam 1 000 l); PANTHER II Rosenbauer HRET 6x6 – 1x (from 2009, water 12 500 l, foam 1 000 l); PANTHER II Rosenbauer 6x6 – 1x (from 2008, water 12 500 l, foam 1 500 l); PANTHER Rosenbauer 6x6 – 2x (from 2003, 2004, water 12 000 l, foam 1 500 l); Scania Container Carrier incl. medical container – 1x (from 2005, water 2 500 l, foam 200 l); Iveco Magirus DLK 37 CC – ladder (37 m); Iveco Daily – HAZMAT, technical support; Scania Container Carrier incl. medical container, foam container and various technical equipment (especially DAR operation); Mercedes Sprinter – mobile command post; Skoda Octavia – IC car. 17.2 Future developments – are there plans to purchase or dispose of any equipment? We plan to replace MB Atego with a new medium size truck vehicle with 6x6 and crew cab design in 2013 and both of the MB Buffalos with one new medium size truck. According with new run- way system we plan to reinforce with one heavy vehicle system we plan to reinforce with one heavy truck with HRET and hydrochem technology (the category of Panther) and located it to new sub- sidary fire station. In 2013 we plan to replace Iveco Magirus with new generation ladder 7.
17.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No. 17.4 Does your airport participate in any other fire training exercises? No.
17.5 Are your aircraft personnel trained in the fire field? The fire field is trained in firefield exercises.
10. WINTER EQUIPMENT INVENTORY
10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 units): Compact jet sweeper Boschung Jet-broom Runway, 4 units; Compact jet sweeper Boschung, Jet-broom 8000, 1 unit; Compact Blower-sweeper, Schöring, P17C, 4 units; Compact Blower-sweeper, Schöring, P21C, 4 units; Towed Blower-sweeper, Schöring, P17, 4 units; High speed snowblower, Kalibachter, 2 units; Snowblower Rolba 4000, 1 unit; Snowblower Schmidt 1500, 2 units; Airport Sprayer, Schmidt, 1 unit; Airport Sprayer, EPOKE, 1 unit; Airport twin disc sprayer Schmidt, 1 unit; Airport twin disc sprayer Schmidt, 1 unit; Airport disc sprayer Krobot, 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 Lodal, 1 unit; Small sweeper Bucher CityCat 2000, 2 units; Tractor sweeper, 9 units; Jet Blower, 3 units; Snow removal: truck, 4 units; loader, 3 units; tractor platform trailer, 4 units; subcontracted truck and loaders.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility:
- 1. RWY in use + RWY exits + TWY parallel to RWY in use, apron NORTH (number of stands covering real traffic), access to Fire Fighting Rescue Service stations, entries to equipments of Aeronautical Meteorological Service an radio navigation aids relating to RWY in use.
- 3. Second RWY + RWY exits + TWYS.
- 4. Apron EAST and apron SOUTH.
- 5. Rest of the apron NORTH.
- 6. Rest of the apron EAST and apron SOUTH.
- 7. Rest of movement area, equipments of Aeronautical meteorological Service, radio-navigation aids and manipulation areas.
- 11.2 State wording and general method of runway, taxiway and apron clearance: Airside working group is responsible for cleaning of whole Maneuvering area: RWG - Runway Working Group; AWG - Apron Working Group; GWG - Gate Working Group. Lanside working group is responsible for cleaning of whole Lanside:

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: Movement area - potassium acetate (Clearway 1); approx. 900 000 liters. Roads / parking lots - salt approx. 400 tons. We are satisfied with effectiveness at low temperatures. However, it would be useful to increase a holdover time of de-icers particularly when freezing rain or freezing fog.
12.2 Comment on storage capabilities of the chemicals that you use: Storage for 200 000 liters directly at the airport.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc: Experience with solid de-icers were not good, so we don't use it anymore.
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? Application of the sand on operational areas is prohibited by CAA and urea is prohibited due to environmental reason.

13. ICE WARNING SYSTEMS
13.1.1 State number of ice warning systems: Boschung Mecatronic, 8 stations.
13.2 Have you plans to purchase further ice warning systems and if so, which model(s)? No.
13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: The ice warning system is very good tool for monitoring of the pavement condition. It also helps us with alarms of bad conditions on the runway. Its function to store historical data is very useful.

14. AIRCRAFT DE-ICING
14.1.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state plane or vehicle structure or other facilities manufactures, and number of units: De-icing and anti-icing is provided by 3 companies (ground handlers);
- Czech Airlines Handling – 4 de-icing vehicles;
- Menzies Aviation – 2 de-icing vehicles;
- Czech Ground Handling – 2 de-icing vehicles.
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 method: Not yet.

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? SARSYS Friction Tester based on SABRA 9-5, 2 units.
15.2 How often do you perform tests on the reliability of friction indexes? No.

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

16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: Yes, we have an action plan for replacement of existing units and increasing capacity and capability of winter services for the future.

16.3 Do you currently have equipment or other programs dedicated to surface safety? 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? Not yet.

PULA
PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT NAME: Pula Airport
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY: 2946x45m; TORA: 2946m; TWY WIDTH: 23m; SHOULDER: NONE; RAMP: approx. 64.200 square meters.
2.2 Are there any landing aids for aircraft (e.g. CAT II): RWY09 - CAT I Simple Approach Lighting System. RWY27 - CAT I Basic Approach Lighting System.

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by independent audits? Yes, it has.
4. FOREIGN OBJECT DAM.
4.1 Describe your airport’s program to control FOD in terms of: a) Training: We have internal procedures for ensuring the control of FOD and yearly safety refreshment trainings are being conducted along with licensees extension trainings.
- b) Inspection by airline, airport, and airline handling agency personnel. Airport employees are conducting inspections of FOD on operating areas several times per year. Airlines and handling agencies are conducting inspections of FOD on operating areas. Procedures for controlling FOD are presented to the airlines and handling agencies during audits.
- c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). We use FOD containers and sweeping methods.
- d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). Coordination with ATC, there is no other multiple agencies.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments.) Our employees use a special Pula Airport software ("IMS") in order to log all daily inspections of operating areas in the terms of FOD’s control.
5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Monitoring is ensured through DTS system, video surveillance (video, records) and personnel observations.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No, there are none.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) Above
mentioned devices currently are not employed. 5.4 Comment on the use of any innova-
tive warning, de-icing and other relevant winter equip-
ment stating purpose, manufacturer and number of units (For example: compact jet
6.4 Do your airport have problems with
other wildlife (deer, for example) and, if so, how are these issues addressed? No, we do not
7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inven-
tory stating: vehicle type; chassis (e.g. MAN);
7.2.2 Landing aids for each RWY (e.g. CAT
8. MOVEMENT AND MANOE-
U. how to deal with the problem? 8.5 Annual number of days of de-icing
activities: 17-25 on DashQ400
9. WINTER ORGANISATION
9.1 How many people are employed or sub-con-
tracted winter services personnel are available per shift? Pula Airport does not have a special winter service. In the case of severe meteoro-
logical conditions, winter service is formed from maintenance personnel and technical
service personnel. The number of available personnel per shift would be min. 12-15.
10. WINTER EQUIPMENT INVENTORY
10.1. Please list specialist snow clearing,
de-icing and other relevant winter equip-
9.1. Please detail your habitat management
policy and how it reduces the attraction of the
airfield to birds. The attraction of birds to the
airfield is reduced by careful planning of herb
9. What is the designated period of
winter readiness? 8.10 - 15APR
8.2 Average annual days of snow: 1-2
8.3 Average snow depth: 5-20cm
8.4 Manual spreader or sub-con-
tracted winter services personnel are available
per shift? Pula Airport does not have a special
winter service. In the case of severe meteor-
ological conditions, winter service is formed
from maintenance personnel and technical
service personnel. The number of available
personnel per shift would be min. 12-15.
10. WINTER EQUIPMENT INVENTORY
10.1. Please list specialist snow clearing,
de-icing and other relevant winter equipment
stating purpose, manufacturer and number of units (For example: compact jet
sweeper, Schmidt, CIS 720, 4 units)
1. Anti/de-icing truck, Man-Sroder,
16/232 F-Automatic, 1 unit
2. Paving sweeper, FMS, 1 unit
3. De-icers spreader, 1 unit
4. Other sub-contracted vehicles and equipment
11. PROCEDURES AND METHODS
11.1. Please detail the method of
snow clearance of main opera-
tional facilities (runways, taxiways, aprons etc) stating identity of each facility.
1. Runways
2. Taxiways C, F and then A and others
3. Apron
11.2. State the vehicles, formations and
general method of runway, taxiway and apron
10. Do you have to worry about de-
icing on the parking area? We are perform-
ing de-icing on the parking area.
14.2. Are you required to have dedi-
cated de-icing positions or do you de-ice
1. AIRPORT NAME: Riga Airport
2. MOVEMENT AND MANOE-
U. LMG.); axes (4x4, 6x6); capacities (kg/
litre and type); year of manufacture. Pula Airport vehicles:
1. PANTHER I, 6x6, Rosen-
tank: 1500l, Powder tank: 250kg
2. PANTHER II, 6x6, Rosen-
tank: 1500l, Powder tank: 250kg
3. PANTHER III, 6x6, Rosenbauer, 2005.
4. WAU, 6x6, Rosenbauer, 1984. Wa-
ter tank: 9000l, Foam tank: 1000l
5. MAZDA, 4x4, R2550 TD, Mazda, 2004.
6. Future developments – are there
plans to purchase or dispose of any equip-
ment? At this moment, the construction of
a new Firing Simulator is in progress.
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 future plans. PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1. What is the designated period of
winter readiness? 01NOV - 15APR
8.2. Average annual days of snow: 1-2
8.3. Average snow depth: 5-20cm
8.4. Manual spreader or sub-con-
tracted winter services personnel are available
per shift? Pula Airport does not have a special
winter service. In the case of severe meteor-
ological conditions, winter service is formed
from maintenance personnel and technical
service personnel. The number of available
personnel per shift would be min. 12-15.
5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitor-
ing vehicle and aircraft movements on the ground? And is it expected to be in operation by 2013?
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Guardrails and stopbars installed on RTHPs, signs for vehicles entering manoeuvring area and ILS critical area are installed, upgrade of ground team radio equipment to a certified system is in progress.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Move-
ment Area Safety System - AMASS; or ASD-X, the Model X Airport Surface Detection Equipment) A-SMGCS.
5.4 Comment on the use of any innova-
tive warnings or guards – use of paint, signs, lighting and other de-icing/road tech-
nologies. Special marking is in place where apron borders Manoeuvring area.
5.5 What specific procedures are there for training and updating pilots, control-
lers, mechanics, airport vehicle operators, and other people who work at the airport? Runway/apron safety bulletins issued occa-
sionally. Special Driving rules and training programme for driving in the Manoeuvring Area.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the non-punitive principles such as no-penalty” reporting? All incursions are communicated between ATC and Airport Au-
thority and investigated by Safety management team. Anonymous reporting option is available. All safety information is also relayed to the CAA.
6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. No food sources; open water bodies fitted with criss-cross wires and bright pieces of metal; black and small trees cut; hangar door always-closed policy; chemical bird repellent on aerodrome signs, rooftops and edges; and removal of nests. 6.2 Do you have a recognised bird control training courses? In May 2009 a week-long on-site training was commenced by MJ Airports, 2010 – ACI course. 6.3 Are your bird control staff working on the airfield? 6.4 Do your staff attend recognised bird control training courses? By MJ Airports, 2010 – ACI course.
6.5 Do your staff label all their bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Yes, by means of Scarecrow Ultima. 6.6 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Foxes, dogs, and cats occasionally observed. Beavers cause a lot of trouble but they operate outside the fence. Most of fence is buried at least 30cm under surface. Trees are cut to create a 6m wide clear buffer behind the fence.
7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inven-
tory stating: 1xScania, 4x4, 2,500 litres, type A, 1999; 2xVOLVO FCT, 4x4, 9,000 litres, type A, 1973; 1xVOLVO CCT, 4x4, 9,000 litres, type A, 1973; 4x4, 9,000 litres, type A, 1973.
7.2 Future developments – are there plans to purchase or dispose of any equipment? No. If your airport possesses a Fire Training Simulato, is it available to other airports for training purposes? No.
7.3 Please state vehicle or other facility manu-
facturer and type details. The new de-icing pads be operational in winter 2013/2014.
9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel (farmers, contractors, airport dynamo duty engineers, 2 workers and 13 drivers. 10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units: universal aerodrome vehicle, BOSCHUNG JETBROOM, 6 units; aerodrome sweeper/ snow plough, MOAZ DE-224, 3 units; front-loader, CASE and Liebherr, 2 units; tractor, Various, 6 units; snowblower, DE-226, 2 units; snowblower, OVERRAN UTVE630, 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. Runway, operational taxiways, RFFS, apron 1, apron 2, apron 3, apron 4, service roads, non-operational taxiways.
12.2 State the vehicles, formations and general method of running taxiway and apron clear-
ance. Centre-line-to-edges method when no significant crosswinds present. 4 vehicles on the runway, 2 – on taxiways. After two full
length runs, any vehicles move to taxiways, the other 2 remain on runway to “fine-clean” the corners and edges.
11.3 After moderate snow, how quickly do you expect to achieve “black top” on the runway? 13-15 minutes.
12. EXPERIENCE WITH CHEMICALS
12.1 Which type of de-icers do you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. In 2013 Proviron liquid 120t, Aviform solid 180t per winter. Previous winter Kemira Cleanway liquid and solid. 12.2 Do you comment on storage capabilities of the chemicals which you use. Solid agent is very well stored in the original plastic bags, 50m3 fibreglass storage tank for liquid agent.
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. We do not mix. Blow-
away is much dependent on granular shape. We normally choose irregular granules.
12.4 Have you experienced any corrosion problems with de-icers? Minimal. Issues are mostly reported when galvanized steel parts get in contact with vaporized agent or the solid agent sticks to some parts of trucks where it does not get washed away immediately.
12.5 Have you employed any special means to economise on chemical use? Substi-
tute 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 number and number of ice warning systems. None
13.2 Have you plans to purchase further ice warning systems and if so which model(s)? N/A
13.3 Comment on your experience of the benefits/disbenefits of ice warning systems. N/A
14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti-icing operations? If so, please state vehicle or other facility manu-
facturers, and number of units. N/A
14.2. Are you required to have dedicated de-
ing/icing positions or operations in 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 rate glycol recovery system, to be operational in winter 2013/2014.
15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? Sarynsy Saab 9-5 (main); Bowmnon AFM2 Mk3 (back up).
15.2 Have you any comments on the reliability of friction indexes? This is-
16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your air-
port’s methods? The existing model works well.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details. None
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? None.
SKOPJE

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Alexander the Great Airport

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, ramp area, other): RWY 34 length 2.950 m = TORA (TORA/ ASDA)/425 m = LDA, RWY16= 2.450m; RWY width 45 m, shoulder 7.5 m, total apron area 60 520 m, ramp area 64 080 m.

2.2 Landing aids for each RWY (e.g. CAT II): ILS CAT RWY 34 (LLZ, GP, OM, MM, VOR/DME and visual aids: ALS & runway lights CAT II, PAPI) and RWY 16 only visual approach.

3. SAFETY MANAGEMENT SYSTEMS

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

3.2 Are any design or engineering changes being undertaken/required to eliminate operational facilities and the surface areas. (for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, ramp area, other): CAT II: 3243/6x6/9.000/1.000/250 FLF/2002; Rosenbauer FF truck MB Actross 1225 4x4; 2.400/300/250 fix mix; 2002; Rosenbauer Universal FF truck MB Actross 3434/6x6 500/800/250 UFL foamat- ic/2002; Rosenbauer FF truck MB Actross 3434/6x6/9.000/1.000/250 FLF/2002.

3.3 What safety devices are currently employed? (please specify purpose, manufacturer and number of units): No

3.4 Do you have plans to purchase further ice warning equipment: No

3.5 Have you employed any special means to control icing activities? (to manage success in defence in case of lawsuits) Yes.

3.6 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes. 6.5 Do you carry out a bird strike risk assessment? Yes. 6.5 Do you carry out all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes.

3.7 How are these issues being addressed? No.

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

6.2 Are your staff employed at a state level or at a local level? (please specify): No.

6.3 What specialist equipment do you employ for bird control? (please specify state relevant supplier/manufacturer): Bird guard pro super.

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

6.5 Do you carry out 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.

9. CRASH FIRE RESCUE

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

9.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): No

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example: compact jet sweeper, Schmidt CJS 720, 4 units); Compact Jet Sweeper CJS 914 Super II x 5 units/Solid and liquid spreader with snow plough Mercedes-Schmidt SSM-ST-50 x 1 unit/Liquid sprayer Mercedes-Schmidt ASP 25 m span x 1 unit/snow blower Roska R 3000 x 1 unit/Snow blower Schmidt Supra 3000 x 1 unit/Snow plough Schmidt Supra 3000 x 1 unit/Snow plough Mercedes-Schmidt 4 m width x 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Runway 34/16, TWY A & H, apron.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Centre line to edges. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway/centre line? 11.4 Have you experienced any commotion problems with de-icers? No

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

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

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment about manufacturing chemicals at low temperatures and achieved hold-over times etc: Aviform L-50, 43.800 l.

12.2 Comment on storage capabilities of the chemicals 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 commotion 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

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: handheld infrared thermometer. 13.2 Have you planned to purchase further ice warning systems and if so which model(s) No.

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: n/a

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units: PMC LMD 2000, 2 pcs.

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

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

15. FRICTION TESTING

15.1 What model(s) of friction test do you use? SAAB SFT 340 i.

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

16. FUTURE DEVELOPMENTS

16.1 Are you planning to change any of your airport’s methods? No

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

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

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

AIRSIDE SAFETY SURVEY 2013 P53

AIRSIDE SAFETY SURVEY 2013 P53
is installed and is operating at Sofia Airport. Daily (24/7) inspections by Sofia Airport Bird Strike & Wildlife Prevention Unit within the structure of Safety Management Department of Sofia Airport. Bird strike prevention Manual is adopted and implemented at the airport.

6.1 Do you have a standardised bird control training courses? Yes, they do.

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

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Bird deterrent system: Phoenix Walizer Mk III.

6.4 Do you carry out a bird strike risk assessment? Yes, of course. It is a part of Annual Safety Report.

6.5 Do you staff log all their bird control activities (to manage success in dealing with the problem, and to use in defense in case of lawsuits)? Yes, the records are put in the Report Book.

6.6 Does your airport has problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? Rabbits, dogs and foxes are in fact present at the airfield. Bird & Wildlife Flight Control Unit deals with prevention of accidents connected with other wildlife.

7. CRASH FIRE RESCUE

7.1 Please, tell us about your CTR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/acre and type; year of manufacture: Mercedes UNIMOG, 4x4, 1000/1000, 1; unit: Mercedes SAURUS, AS 12 + 250, 6x6, 10000/1200, 2 units; Tata CAS 815, 6x8, 8000/800, 2 units; Mercedes truck with tank of 22000/700, 1 equipped with an installation for runway foaming 1 q. unit.

7.2 Future developments – are there plans to purchase or dispose of any equipment? There are plans for order of Fire Fighting Vehicle and of Emergency Vehicle.

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

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

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

8.2 What is the designated period of winter readiness? November – March

8.3 Annual number of days of de-icing activities: 54 – 70 days

9. WINTER ORGANISATION

9.1 State which pavement de-icers you use, on the runway? For 35 minutes.

9.2 Comment on storage capabilities (to manage success in dealing with the problem, and to use in defense in case of lawsuits)? Sofia Airport provides directly de-icing equipment. The following vehicles are in use: Ford 1800TM – 2 units. FMC CJS 720, 4 units; Truck-trailer, Tatra with plough. 2 units; Tatra with Plough, Schmidt – 9 units; Rotor sweeper, Ural – two units; Rotor sweeper, Rolba Bucher – 2 units; Brush blower, Overasaen, 6 units; Brush blower with plough, Boshung – 2 units; Brush blower with plough, Fresia – 2 units; Specialized snow cleaning combined machine, Boshung – 1 unit; Specialized snow cleaning combined machine, Bucher – 2 units; IFA – 1 unit; De-icing machine, Boshung – 1 unit.

9.3 Comment on effectiveness of chemicals along with the quantities used last season. Comment on experience with chemicals that you use: 200 t.

10. EXPERIENCE WITH CHEMICALS

10.1 What model(s) of friction tester do you use? Saab 9000 SFT; Saab 95 SARSYS

10.2 Have you any comments on the reliability of friction indexes? Yes, we haven’t.

10.3 What is your experience with the runway, taxiway and apron clearance: Yes.

11. EXPERIENCE WITH CHEMICALS

11.1 State here order of priority of the chemicals that you use: Carbamid (urea), 200 t

12. FUTURE DEVELOPMENTS

12.1 Are you about to change any of your airport’s methods? No. Do you plan to purchase new equipment or vehicles? If so, please provide details: No. Do you currently have equipment or other products on order? If so, please state manufacturer, and number of units: Yes. Do you have any winter services equipment that you would like to sell? No, we haven’t.
b) Inspection by airline, airport, and air-through SMS trainings.

a) Training: Training is done 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 air- and plane handling agency personnel: Regular audits and daily FOD inspection.
   c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc): FOD-boss is used on Split Airport. Twice a day our workers do “walking checks”, looking for FODs. We have FOD containers.
   d) Co-ordination of multiple agencies using airport (airlines, handling agencies etc): There are no multiple agencies using airport.

4.2 General: Are there any special systems or software you employ for FOD control? (Please specify product name and add any comments): Split Airport has an own software solution called “Galiot”. Every FOD that was found needs to be filled in “Galiot”. On that way we collect more information about FOD and we do analysis.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Movements on the ground are regulated by the Airport local rules.

5.2 Any design or engineering changes being undertaken/required to eliminate perceived hazards? Yes.

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

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: We have warning signs.

5.5 What are the procedures are there for training and awareness among pilots, controllers, mechanics, aircraft vehicle operators, and other people who work at the airport? All participants shall follow procedures stated in Airport Manual.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the “non-punitive” principles such as “no-penalty” reporting? We have been set up jointly with other parties. We respect “non-punitive” principles.

6. BIRD AND WILDLIFE CONTROL

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

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

6.3 Are your bird control staff working on the ground, hourly, less than hourly? Our bird control staff are checking airfield continuously.

6.4 What specialist equipment do you employ for bird control? No.

6.5 Do you carry out a bird strike risk assessment? Yes, using Wildlife Manage-
5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitor-
ing vehicle and aircraft movements on the ground? Ground radar is in use, and visibility by beacon light requirement on vehicle.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Check list is used on daily inspection. Local Runway Safety Team is a resource regard pilot reports and feedback. Construction site are continuously sur-
vayed and analysed regarding obstacle, FOD and “hot work”. Meetings are held on daily and weekly basis.

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): LAM system will be implemented in 2013.

5.4 Comment on the use of any innova-
tive warnings or guards – use of paint, signs, lights and other lower-cost tech-
nologies: Blue colour is in use for ground operations (special required tax operation). Require Follow Me and signal guidance.

5.5 What specific procedures are there for training and awareness among pilots, control-
lers, mechanics, airport vehicle operators, and other people who work at the airport? All personnel operating on airside, is trained by special course before receiving proximity card. Common procedure and regulations are presented by the instructor. Interactive courses regarding airside safety must be passed.

5.6 Operations on manoeuvring area, re-
quire special skills and training, and are limited to a group of persons.

5.7 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further development on the “non-punitive” principles such as ‘no-penalty’ reporting? Procedures and investigation routine is based on national regulations. CAIA will be informed by the pilot and controllers report.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: 3 large lasers are continuously covering the airfield, FOD and “hot work”. Meetings are held on daily and weekly basis.

6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? It varies, based on the amount of birds/ weather condition. Bird control is always in vicinity of the takeoff/landing area.

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Hand lasers, bird-X system, bird repellers.

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 deal-
ing with the problem, and to use in de-
fence in case of lawsuit? Yes

6.6 Does your staff have problems with other wildlife (deer, for example) and, if so, how are these issues being ad-
dressed? We have a small amount of deer, which are dealt with immediately.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6, etc); year of manufacture; 3 x Rosenbauer Panther 6x6 CA Euro 5; Chassis: Rosenbauer Motors 36.705 4x4, 705 hk Caterpillar engine, Twin Disc Automatgir (1200ltr water / 1500ltr. foam / 250 kg powder); 2 x Rosenbauer MAN 8000ltr water and 500ltr foam. (1998) (Backup).

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

7.3 If your airport possesses a Fire Train-
ing Simulator, is this available to other airports for training purposes? NO

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1.10-1.5

8.2 Average maximum snow depth: 2.75 cm

8.3 Average snow depth: No data available.

8.4 Maximum snow in 24 hours: <25 cm.

8.5 Annual number of days of de-icing activities: 90

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-con-
tracted winter services personnel are available per shift? Normally 1 – 4 person’s pr. shift. 5 sub-contracted personnel available on request.

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 blow-
ers: 3 - (1 Fresa, 24-24); 3 Snow plows: 1-6

11. FRICTION TESTING

11.1.1 Please state here order of priority of snow clearance of main operational fa-
cilities (runways, taxiway, aprons etc) stating intensity, manufacturer and number of units in use, in taxways in use to Apron 9 (Terminal)

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: 4-5 sweeper, 1 Snow blower, 1 chemical/sand-spreader, 1 lampbrush, 1 wheel loader and 1 supervisor.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 20 minutes - runway only.

12. EXPERIENCE WITH CHEMICALS

12.1.1 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:

Pavement on Dei-ce area is sealed asphalt, with drainage guttering. The amount of glycol used in season 2011/2012, was 79129 ltr. 12.2 Comment on storage capabilities of the chemicals that you use: 60,000 ltr are distributed in to storage tanks.

12.3.1 Comment on your experiences with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: Solid de-
icers mixed with liquid glycol is used only a few times on compact snow/ice. The result was: Normally we struggle for black top, because of fast change in weather.

12.4 Have you experienced any corrosion prob-
lems with de-icers? Insignificant. The equipment is always flushed with water after use.

12.5.1 Have you encountered any other chemical means to economise on chemical use? No restriction, but common sense.

12.6 Do you have any other comments on experiences with chemicals?

12.7 Do you use other chemi-
cals or sand on operational areas? Chemicals and sand is in use.

13. ICE WARNING SYSTEMS

13.1.1 State model and number of ice warning systems: Surface tempera-
ture is monitored by 3 sensors.

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

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: The system is only one of several aids for the operators. Human factor always plays a part in decisions. Knowledge and ex-
perience is the main key for success.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide air-
craft anti-de-icing operations? If so, please state vehicle or other facility manufact-
urers, and number of units by handling agent. 4 vehicles available.

14.2. Are you required to have dedi-
cated de-icing positions or do you de-ice on the parking area? Dedicated area.

14.3 Is glycol recovered? If so, please state methods: Cashed by drain-
age system, in to storage tank.

14.4 Do you plan to change any of your airport’s methods? No

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

14.6 Do you currently have any de-icing or other products on order? If so, please provide details including manufacturer and number of units: Yes. 1 Snowblower and 1 sweeper.

TALLINN

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Lennart Meri Tallinn

2. MOVEMENT AND MANOEU-
VING AREA DATA

2.1 Please list the identities of primary opera-
tional facilities and the surface areas (for exam-
ple: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other: RWY 08, 3070x45, TORA 3070, TODA 3370, ASDA 3130m, LDA 2820m; RWY 26, 3070x45, TORA 3070, TODA 3370, ASDA 3130m, LDA 2820m; RWY 26, 3070x45, TORA 3070, TODA 3370, ASDA 3130m, LDA 2820m.

3. SAFETY MANAGEMENT PERFORMED

3.1 The ICAO Manual on Certification of Aerodromes states that: “The aerodrome operator shall establish a Safety Manage-
ment System for the aerodrome.” Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, SMS elements are regularly reviewed and
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5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? A-SMGCS; by TWY and aprons surveillance cameras (CCTV)

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

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

5.4 Comment on the use of any innovative warning systems or guards – use of paint, signs, lighting and other low-cost technologies: Stop-bars; guard lights and marking most effective warnings.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Manouevering area driving training program; Airport Safety Team.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punititive’ principles 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: Do not make airfield attractive for birds.

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

6.3 What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer): Audio systems, Guns, Pyrotechnic, ScareyMan

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 birds: Do not make airfield attractive for birds and how are these issues being addressed? No

7. CRASH FIRE RESCUE

7.1 Please list the identity of the vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/ litre and type); year of manufacture: LJ 11 Scania 113h 6x6 1996. Reg.nr 139AIR;

Rosenbauer, water 9000 l, foam 1000l, renovated in 2011. Pump 6000 l/m L21 Scania 1996 reg.nr 132AIR; Rosenbauer, water 9000l, foam 1000l, renovated in 2011. Pump 6000 l/m LJ31 Scania 480r 6x6 2009, reg nr. 137BCF. Water, water 9000l, foam 1000l, pump 6000 l/m

7.2 Future developments – are there plans to purchase or dispose of any equipment currently? A water container has been purchased, all resources are reviewed yearly according to budget.

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

PART 2: WINTER SERVICES QUESTIONNAIRE

6. RECENT WINTER CONDITIONS

6.1 What is the designated period of winter readiness? 15 October - 15 April

6.2 Average annual days of snow: 65

6.3 Average snow depth: 28 cm

6.4 Maximum snow in 24 hours: approx. 50 cm

6.5 Annual number of days of de-icing activity: 120

9. WINTER ORGANISATION

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

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (if applicable): compact jet sweeper, Schmidt CJS 720, 4 units; Schmidt CJS 914-2 units; Vammas SB 4500litres-10units; Vammas Trucks IN X4-4 units; MB Acros 6X-7 units; Schmidt SCL and Vammas PS 3500 snow cleaning appliance for runway and taxiway lighting; Snow Cutter-Blowers: Vammas B 400-2 units; De-icer equipment: spreader for solid and liquid Schmidt Stratos 3 units; Friction tester: ACE skidometer BV-11 –3units; Tractors: Valtra with several equipment –4 units, Bobcat –1 unit, Wheel loaders: W 821C with plough and bucket 4 units; Airport Sweepers: Bucher Schöring 3000; Schmidt 990: CityCat 2020.

11. PROCEDURES AND METHODS

11.1 Please list priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY 8/26, TWY B, exit road from fire station and ILS critical areas; 2-1.15 ACFT stands on the Apron A; 3. TWA 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 RW 26 and from RWY 08 to 26 and back. TWY and Aprons cleaning system is same: from centre to shoulder. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? “black top” on the runway achieved in 10-15 min.

12. EXPERIENCE WITH CHEMICALS

12.1 State which de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Unisalt SF 200 tons. Unisalt BA150 tons.

Unisalt is used very quickly. No experience with using below –10c.

12.2 Comment on storage capabilities of the chemicals that you use: We store approximately 30-50 tons of Unisalt BA (liquid).

12.3 Comment on your experience with solid de-icers, for example mixtures with liquids, “blow-away factor” etc: Do you have any experience of corrosive 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 experience with chemicals? Trying to vary (to use more environment friendly chemicals).

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

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Runway temperature sensors (6 sensors on RWY by Vaisala).

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

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Have been beneficial.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other product on order, and number of units: Airport is not providing aircraft anti-de-icing service directly, Tallinn Airport GH is providing these services. They have 4 units by Vestervig.

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

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

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? ACE skidometer BV-11 –3units

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

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? Yes, we are changing our methods ever year.

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

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.
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that "The aerodrome operator shall establish and manage a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? SMS is not available at Tivat Airport, neither as part of Aerodrome (Certification) Manual nor as a standalone publication.

4. FOREIGN OBJECT DAM-
AGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training: FOD training is provided by Airports of Montenegro Training Centre through either safety awareness training for all airside personnel or/and specific courses (Ramp agent training, GSE operator training,...)
b) Inspection by airline, airport, and airplane handling agency personnel:
   Once a year, at least, inspections and/or audits are performed by airlines.
c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD contain-
eries etc): Airfield Sweeper "FOD BOSS"
d) Google map: multiple agencies using airport (airlines, handling agents etc):
   Maintenance of movement and manoeuvr-
ing area is responsibility of airport operator i.e. Tivat Airport (Airports of Montenegro).
4.2 General: Are there any special principles such as 'no-penalty' reporting? N/A
4.3 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):
   Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment
4.4 Comment on the use of any innovative warnings or guards - use of paint, signs, light-
ing and other lower-cost technologies: N/A
4.5 What specific procedures are there for
   training and awareness among pilots, control-
   lers, mechanics, airport vehicle operators, and other people who work at the airport? N/A
4.6 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' prin-
ciples such as 'no-penalty' reporting? N/A

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitor-
ing vehicle and aircraft movements on the ground? N/A (Radio communication only)
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? nil.
5.3 What safety devices are currently em-
ployed? (A-SMGCS; Airport Movement Area Safety System - AMAS; 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, light-
ing and other lower-cost technologies: N/A
5.5 What specific procedures are there for training and awareness among pilots, control-
lers, mechanics, airport vehicle operators, and other people who work at the airport? N/A

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? Continuously.
6.3 What specialist equipment do you employ
   for bird control (Please state relevant supplier/manufacturer): ARFF trucks (ROSENBAUER PANTHER 6X6) and start gun /shotgun.
6.4 Do you carry out a bird strike risk assessment? N/A
6.5 Do your staff log all their bird control activities in deal-
   ing with the problem, and to use in de-
   fence in case of lawsuits? Yes
6.6 Does your airport have problems with other wildlife (not bird) for example, and, if so, how are these issues being addressed? No

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inven-
tory status: vehicle type; chassis (e.g.
   MAN); axes (4X4, 6X6); capacities (kg/ litre and type); year of manufacture: Type: Rosenbauer – Panther, 2 units; Chassis:
   MAN; Axle: 6x6; Capacity: water/12.000 llt.; foam/1.500 lt.; Year of manufacture: 2004.
7.2 Future developments – are there plans to purchase or dispose of any equipment? N/A
7.3 If your airport possesses a Fire Train-
ing Simulator, is this available to other airports for training purposes? N/A

8. BIRD AND WILDLIFE CONTROL
8.1 What is the designated period of winter readiness? De-Anti-icing between begin-
ing of September and end of May
8.2 If your airport possesses a Fire Train-
ing Simulator, is this available to other airports for training purposes? Yes
8.3 Average snow depth: 40-50cm
8.4 Maximum snow in 24 hours: 40 cm
8.5 Annual number of days of de-
icings Average: 1100

9. WINTER ORGANISATION

1. How much of your airport's manual or sub-contracted winter services personnel are available per shift? Ground Handling incl.

De-Anti-icing personnel average 10 available per shift? Ground Handling incl. contracted winter services personnel are at enough distance to prevent jetblast from blowing fluid onto or off an aircraft. 14.2. Are you required to have dedicated de-icing positions or do you de-ice on the runway? Immediately do you expect to achieve 'black top' for the upcoming hours? Yes, we use sand, gravel and other materials to obtain the desired friction index. 15.1 What model(s) of friction tester do you use? 3 SAAB Friction tester for operations, including refueling procedures, damage to aircraft or airport facilities and the surface areas (for example: total RWY length (or takes), 3.5 km, or 2.5 km, or 1.5 km, depending on the distance to the airport's runway and the availability of aircrafts. 1.1 After moderate snow, how quickly do you expect to achieve "black top" of your airport's methods? No.

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 nr. 1, TWY nr: 2, APRONS nr: 3.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: See p. 4.1 C

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ for the upcoming 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: Aircraft de-anti-icing fluids by Clariant have, according to our experience, a high efficiency. Both type I and type II show to be working well in low temperatures and gives a fair hold-over time. Quantities used last season was: Type I, 176.000 litres and Type 2, 47.000 litres.

12.2 Comment on storage capabilities of the chemicals that you use: Type I 23.000 litres as a fixed container inside a building, Type II stored in cubitainers of 1000 litres.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with lidocaine and water, "blow-away factor" etc: Aircraft de-icing fluids: No problems with either, mixing in our Beta is Propmix according to OAT. Stands are at enough distance to prevent jetblast from blowing fluid onto or off an aircraft.

12.4 Have you experienced any corrosion issues with your de-icing fluids? No, regarding aircraft de-icing fluids.

12.5 Have you employed any special measures to economise on chemical use? No, flight safety comes in first hand.

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, we use sand, urea and chemicals on the RWY.

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: Waisala OY.

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 helpful, reduce use of chemicals

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti-icing services, or do you buy these from other service providers? If so, please state vehicle or other facility manufacturer and number of units: Yes. Two de-anti-icing units, one Vestergaard Elephant Beta propmix and one Vestergaard Elephant My premix for aircraft de-anti-icing. Schmidt, CJS 720, 4 units: One Vestergaard Elephant Beta propmix and one Vestergaard Elephant My premix for aircraft de-anti-icing.

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

14.3 Is glycol recovered? If so, please state methods: Yes. By a vehicle that absorbs fluids from the ground.

15. FUTURE DEVELOPMENTS

15.1 What model(s) of friction tester do you use? 3 SAAB Friction tester

15.2 Have you any comments on the reliability of friction testers? Yes, we trust the equipment used.

16. FUTURE DEVELOPMENTS

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

16.2 Do you currently have equipment or other products on order? If so, please provide details: Aircraft de-icing: A new truck, Vestergaard Beta, is planned Q2 2012.

16.3 Do you currently have equipment or other products on order? No.

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

VARNA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Varna Airport, Fraport Twin Star Airport Management AD.

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 takes), 3.5 km, or 2.5 km, or 1.5 km, depending on the distance to the airport's runway and the availability of aircrafts.

2.2 Landing aids for each RWY (e.g. CAT II): RWY 09 L-1, ILS category I; RWY 27 CAT I NON P Co-located VORD/ DMA.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome." Has your airport made any recent changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Varna Airport has implemented and established a Safety Management System since 2007. The SMS structure and guidelines that apply for the ICAO Manual on Certification of Aerodromes. Safety Manager nominated. Aerodrome manual is available. An Airport Safety Committee has been established. There is training program for staff.

3.2 Are there any investigation systems. Safety relevant processes have been identified and published. Hazards will be eliminated with all necessary changes. (A-SMGCS; Airport Movement Area Safety System - AMASS, or ASDE-X, the Model X Airport Surface Detection Equipment): No. Specific safety devices are currently employed.

3.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Reflective pavement paint, illuminated signs. Airport constantly upgrades infrastructure. Ceilings of all cars moving on manoeuvring area are covered with reflective foil.

3.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airside services, and other people who work at the airport?

3.6 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-punitve' principles such as 'no-penalty' reporting? Reporting system is part of the SMS. Fraport Twin Star Airport Management AD Varna Airport has local regulations for reporting system. Reporting procedures for runway safety incidents are being 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 wildlife to the airport: The airport area has a length of grass – 15-20cm. Insecticide used to discourage insects. We use static audio bird repellent system, static scarecrow bird, static gas gun, mobile laser, mobile acoustic system, trained staff, who make patrols in airport for breaking and chasing of birds with off-road car. The car is equipped with mobile acoustic system and system for emission of specialised 'distress
calls’. The staff use gas pistol and flares.

6. Do your staff attend recognised bird control training courses? Yes, internal training courses. Comments on experience with chemicals? N/A

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? It depends on the weather condition - 2 - 3 hours.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comments on effectiveness of chemicals at low temperatures and achieved holdover times etc: Safeway KA HOT, Safeway SF/Clariant.

12.2 Comment on storage capabilities of the chemicals that you use: Safeway KA HOT 40t.

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

12.4 Have you experienced any corrosion problems with de-icers? There are no corrosion problems.

12.5 Have you employed any special means to economise on chemical use? Yes

12.6 Do you have any other comments on experience with chemicals? N/A

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warning systems: VAISALA-RWY 09/27-1 sensor

13.2 Have you any plans to purchase further ice warning systems: No

13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: We are satisfied.

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft ant/de-icing operations? Yes, please state vehicle or other facility manufactures, and number of units: Yes - DYF FMG - 1 unit, VOLVO SAFE AERO – 1 unit.

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

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

15. FRICATION TESTING

15.1 What model(s) of friction test do you use? SARSYS

15.2 Have you any comments on the reliability of friction indexes? We are satisfied.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your existing de-icing equipment? 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

TORA 3.500m; RWY 16/34 3.600m x 45m + 7,5m shoulders TORA 3.500m; Apron Total app. 1,000,000 m², TWY app. 2,200,000 m²

2.2 Landing aids for each RWY (e.g. CAT II): RWY 11 CAT I, RWY 16 CAT IIb, RWY 29 CAT IIIb, RWY 34 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 major changes – continuous improvement

4. FOREIGN OBJECT DAM- AGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of: a) Training: FOD prevention is part of airside regulations training (initial and recurrent), Flyer’s and Handouts for the prevention of FOD. b) Inspection by airline, airport, and airplane handling agency personnel: FOD inspections are performed by airport operations on manoeuvring areas and parking positions before aircraft entering the parking stand

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Eye contact, Surface Movement Radar

5.2 Are any design or engineering changes being undertaken/requisite to eliminate perceived hazards? Cars on the manoeuvring areas are equipped with transponders to become visible on the Airport Movement Guidance and Control System

5.3 What safety devices are currently employed? - A-SMGCS – ASTOS – AVIBIT

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies: Chains and signs

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Recurrent training of vehicle operators (manoeuvring area). Short time works only under supervision of trained staff.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the “non-punitive” principles such as “no-penalty” reporting? Incidents and safety relevant matters can be reported non punitive (Safety Report)

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds: No

6.2 Are your bird control staff qualified?
ing on the airfield continuously, hourly, less than hourly? Continuously
6.3 What recent equipment do you employ for bird control? (Please state
relevant supplier/manufacturer): Recorded distress calls, pyrotechnics.
6.4 Do you carry out a bird strike risk assessment? Part of SMS
6.5 Do your staff log all their bird control activities (to manage success in dealing
with them and to use in defense in case of lawsuits)? Yes
6.6 Does your airport has 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); axes (AXA, 6X6); capacities (kg/litre and type); year of manufacture: Several vehicles to fulfill ICAO CAT 9 requirements for both RWYs
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 airport services.
8.3.1 What is the designated period of winter readiness? Oct. 15th to Mar. 31st.
8.4 A period in which the airport is defined as being in winter conditions: Several vehicles to fulfil ICAO CAT 9 requirements for both RWY.
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 256 airport employees in total app. 70 airport employees and 2 sub-contracted per shift
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, Schnell 72.7; jet sweeper, Boschung 10; Jetbroom BJB8000, Boschung; 6; Snowblower, Kahlbacher, 7; Snowplough, Mercedes Unimog, 8; Tractor with Snowplough, Steyr, 8; LiquiDeicer, Kopper Weisser, 20000l; Multi Deicer, solid wet, Schmidt-Nido, 1; Small Multifunction Deicer with plough or brush, Boschung Pony, 6, Pfaud/Schmidt, 3
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: 1. RWY’s & Apron, 2. TWY’s
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: RWY: 10 JetbroomRunway, 3 Snowblower 7 Unimog with plough – one run concept, TWY: RWY vehicles according to TWY width, APRON:6 Jetbroom BJB8000, several Snowplough’s and other available vehicles 11.3 After an airport has been closed completely do you expect to achieve „black top“ on the runway? Staff to be expected on the airport after 75min. “black top” within 30min.
12. FOD MANAGEMENT
12.1 What do you do after you recommend a chemical or sand on operational areas? No
12.2 Comment on storage capa-
blities of the new equipment: 50000l liquid, 40000kg solid
12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “low-anti-factor” etc: application solid with 35% liquid deicer
12.4 Have you experienced any corrosion problems with de-icers? Yes
12.5 Have you employed any special means to economise on chemical use? Heightened use of solid de-icing chemicals combined with mechanical cleaning
12.6 Do you use any other comments on experience with chemicals? Deicing material must be environment friendly and is consequently less effective and very expensive.
13. ICE WARNING SYSTEMS
13.1 State model and number of ice warning systems: Findlay Irvine ICELERI
13.2 Have you plans to purchase further ice warning systems and if so, which models? No
13.3 Comment on your experiences of the benefits of your ice warning systems: Around 0°C questionable reliability
14. AIRCRAFT DE-ICING
14.1 Does the airport directly provide aircraft anti/de-icing operations? If yes – name aircraft and total RWY length (or lengths), for example: total RWY length (or lengths), for example: total RWY length (or lengths), for example: 10 Safeaero 220 and 5 Vestegaard 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: No
15. FRICHTION TESTING
15.1 What model(s) of friction tester do you use? Skidmeter BV11
15.2 Have you any comments on the reliability of friction indexes? No
16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? No
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details: No
16.3 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units: Jetbroom 8
16.4 Do you have any winter services equipment that you would like to sell? No
17.2.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? In VMC primary method is visual monitoring done by ATC. Surface Movement Radar (SMR) is treated as advisory measure. Additionally Airport Duty Officer monitors TW and GND frequency and dedicated frequency for communication between ATC and vehicle drivers.
17.2.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? To improve safety on hot spot area taxiway M3 will be closed in 2014. It will be replaced by a, new rapid exit taxiway to be built outside of hot spot area.
17.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System – AMASS; or ASDE-X, the Model X Airport Surface Safety System): There are no special systems or software solutions you employ for FOD control? (Please specify product name and add any comments): There are no special systems or software solutions you employ for FOD control.
18. AIRPORT SURVEY 2013
mechanics, airport vehicle operators, and other people who work at the airport? “Manual on vehicle operation and movement regulations at Warsaw Airport” describing rules for vehicular and pedestrian traffic—applies to all airport vehicle operators as well as mechanics, controllers and every person working at the movement area.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Reporting system established according to national regulations (reports from airport, ATC, airline and State Commission on Aircraft Accident Investigation. All runway related reports are subject to investigation by Runway Safety Team established at the aerodrome. Non-punitive principles are implemented by 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; agrotechnological works—grass cutting to height which is not attractive to birds; cutting of trees at the airport; remove bird nests from the trees around the airport; acoustic bird dispersal system installed at each approach area and at runway crossing (5 000 m2). Number of acoustic bird dispersal arrangement—ULTIMA V3 and PATROL TWO; use of pyrotechnic shotgun; development of map of presence of different kind of birds; development of routine cuttings near airport; control on pigeon breeding around the airport— with assistance of City Guard and land owners.

6.2 Your staff attend recognised bird control training courses? 2011 – Bird Management Conference and Workshop—London Luton. 6.2 Are your bird control staff working on the airfield continuously, hourly, less than hourly? Continuously. What specialist equipment do you employ for bird control? (Please state relevant supplier/manufacturer). acoustic bird dispersal system (Response by manufacturer: big super pro amp BirdControl; ULTIMA V3 – Scarecrow Bio-Acoustic System; PATROL TWO – 2 pieces; pyrotechnic shotgun – 1 piece – mod. 36 BB, 3 rounds – 22 calib. and 1 dog. 6.4 Do you carry out a bird strike risk assessment? Bird strike risk assessment is done once per year, the process is audited. 6.5 Do you have bird control activities (to manage success in dealing with the problem, and to use in defence in case of lawsuits)? Presence of different kind of birds on or close to manoeuvring area is a case of lawsuits (e.g., print etc.). Presence of different kind of birds—management of pyrotechnic shotgun; development of map of presence of different kind of birds; development of routine cuttings near airport; control on pigeon breeding around the airport— with assistance of City Guard and land owners.

6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? There is small population of hares and foxes. Falconer removes animals from the airport area.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x2, 6x2, 8x2); capacities (kg/ltre and type); year of manufacture: Tiger, E-One, 6x6, 9,000 litres, 2007; Eagle, E-One, 4x4, 5,000 litres, 1999; Tiger, E-One, 6x6, 9,000 litres, 2007; Eagle, E-One, 6x6, 12,000 litres, 1999; Eagle, E-One, 6x6, 12,000 litres, 1999; Bar- racuda, Boughton, 6x6, 12,000 litres, 1997; Eagle, E-One, 6x6, 12,000 litres, 1999.

7.2 Future developments—are there plans to purchase or dispose of any equipment? 2.8 Do you have a vehicle to be introduced in December 2012.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Fire Training Simulator is not available.

8.3 Safety training

8.4 Annual number of days of de- icing activities: 77 days.

9. WINTER ORGANISATION

9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 16 – 22 airport-employed are available per shift.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example, compact jet sweeper, Schmidt, CJS 720, 4 pieces; snow removal vehicles MB ACTROS 2041 truck tractor with a plough and Schlegli P17, Overaesaen RS 400 and RS 200 runway sweepers; 5 Boschung BJ8 8000 compact sweepers with sprinker-spreaders; Schmidt CFB 5500 S runway sweeper supported by two Unimog tractors with MF 3.3 snow ploughs and sprinkler-spreaders; 6 sprinkler- spreaders includes Schmidt ASS 6000, Kupper Weisser STA 95, Dammann FEA 20036, Dammann-Boschung FEA 2024, 2 x Schmidt NIDO 900; 4 Snow blowers including 2 x Bucher Rolba 3000, 1 x Kahlbacher KFS 1600-HY, 1 x Ural-Rotor; 2 x JCB loaders-excavators enable efficient load and unloaded of granulated chemicals.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: RWY 11/29 or RWY 15/33 depends on TWR and current weather conditions. RWY 18/36 adjacent to current cleaning RWY 3. Other TWRs. 11.2 State the vehicles, formations and general method of runway, taxiway and apron clear- ance: Snow Ploughers; Snow Ploughers forma- tions first snow removal, second 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? Depending on traffic and weather conditions.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc: Safeway KA liquid based on potassium acetate and Safeway SF granulate based on formic acid which are imported materials, are used at Warsaw Airport. 12.2 Comment on storage capabilities of the chemicals that you employ. Liquid de-icer is stored in 4 x 60, 90 and 48 litres tanks. 12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. No comments.

12.4 Have you experienced any corro- sion problems with de-icers? No 12.5 Have you employed any special means to economise on chemical use? No

12.6 Do you have any other comments on experience with chemicals? No 12.7 Do you use other chemicals or sand on operational areas? No

13. ICE WARNING SYSTEMS

13.1 State model and number of ice warn- ing systems: Ice Avenue 3, 2006.

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 of the ice warning systems: Good

14. AIRCRAFT DE-ICING

14.1 Does the airport directly provide aircraft anti/de-ice operations? If so, please state vehicle or other facilities, manufacturer and number of units: No, the airport does not provide aircraft anti/de-ice 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, Apron 6 and Apron 10. 14.3 Is glycol recovery used? If so, please state methods: No

15. FRICTION TESTING

15.1 What model(s) of friction tester do you use? ASFT VOLVO V70; ASFT Saab 9-5 SE; ASFT Saab 9000; Grip Tester MKIV.

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 air- port’s methods? Different methods and patterns in the column of sweepers/snow blowers will still be tested to obtain more effective results. 16.2 Do you plan to purchase new equip- ment or vehicles? If so, please pro- vide details: Yes, we plan to purchase new sprinklers 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: No 16.4 Do you have any winter services equipment that you would like to sell? No
4. FOREIGN OBJECT DAM-
AGE (FOD) PREVENTION

4.1 Describe your airport’s pro-
gramme to control FOD in terms of:
(a) Training: Employees working on the stands are alerted to the topic of FOD by special trainings and the distribution of information (e.g. flyers).
(b) Inspection by airline, airport, and air-
plane handling agency personnel:
Runways and Taxiways are checked on a regular basis by the Airport Authority. An FOD check on the stand is to be performed by the han-
dling agent before the arrival of the aircraft.
(c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc.):
Stands: Two cleaning teams are on duty 7 days/ week from 3.30 to 21.30 o’clock. During the remaining time an on-call service is estab-
lished.
Runways: A cleaning interval twice a week. Apron and Taxi Areas were swept with FOD Boss.
Runways: No regular cleaning concept. However cleaning is done when necessary and requested and after maintenance, bird strike incidents, etc. Runways are inspected four times a day.
d) Co-ordination of multiple agencies using airport (airlines, handling agents etc): Beside the cleaning teams of the Airfield Maintenance, all airport partners are requested to pay attention to FOD and remove it. Specially marked FOD bins are stationed on various locations accordingly.
2.1 General: Are there any special systems or software solutions you employ for FOD con-
trol? (Please specify product name and add any comments): Momentarily no such software basis.
5.2 Are any design or engineering changes be-
in your airport’s runway design and the FOD preven-
tion? Yes. We’re collecting bird strike messages from the main carrier logic station in Sempach (if necessary also at the Safety Management System and therefore total evaluation is reported annually to the FOCA.
5.3 What specialist equipment do you em-
ploy for bird control? (Please state relevant supplier/manufacturer): For controlling FOD are introduced and used during trials.
6. Do your staff log all their bird control activities: Yes. We’re collecting bird strike messages from the main carrier logic station in Sempach (if necessary also at the Safety Management System and therefore total evaluation is reported annually to the FOCA.
6.1 How often do you check your FOD preven-
tion? Two times a day the Airport Authority
5.4 Is your airfield protected in case of an emergency with regard to fire-fighting?
6.2 Future developments – are there plans to introduce new systems or technology?
7.1 Please detail your CFR vehicle inventory stat-
ting: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/ftre and type); year of manu-
ufacture: Crash Fire Tender: Ziegler Z 2 MAN, 5 vehicles, 12.500 L water, 1.500 L extract, 8x8, 2000; MAN, 5 vehicles, 16.500 L water, 1.500 L extract, 8x8, 1994.
Command vehicle: Volvo VX90, 4x4, 2006;
Skoda Octavia, passenger vehicle, 4x4, 2007.
Fire engine: Scania VGT, 2.660 L water, 1.000 L extract, 1.000 kg pow-
er, 90 kg CO2, 6x6, 2003; Scania P420 Rusterholz, 4x4, 2.680 L water, 2007.
Small one: Mercedes Atego, extinguish-
vehicle, for multi-storey car park, 400 L water, 12 L foam extinguisher, 4x2, 2010.
Others: Mercedes Brändle, pioneer vehicle, 6x6, 1998; Mercedes 1834AF Rusterholz, pioneer vehicle, 4x4, 1998; Auto Aerial Lad-
der, Mercedes Econic 1833, 4x2, 2009.
Mercedes Con-trac, passenger evacuation train, 4x4, 1993; MAN MNG Wald, res-
piratory protection vehicle, 4x2, 1996;
Mercedes 412 D, oil protection vehicle, 4x4, 1999; Mercedes 164CDI, oil and water protec-
tion vehicle, 4x2, 2007; Mercedes Unimog Hänni, hose transport vehicle, 4x4, 1979.
Mercedes 409 D, lighting vehicle, 4x4, 1987, 2 vehicles; Mercedes Unimog Hänni, carbinic acid vehicle, 4x4, 1997; Mercedes Unimog Hänni, pioneer vehicle, 4x4, 1998; Auto Aerial Lad-
der, Mercedes Econic 1833, 4x2, 2009.
Mercedes Con-trac, passenger evacuation train, 4x4, 1993; MAN MNG Wald, res-
piratory protection vehicle, 4x2, 1996;
Mercedes 412 D, oil protection vehicle, 4x4, 1999; Mercedes 164CDI, oil and water protec-
tion vehicle, 4x2, 2007; Mercedes Unimog Hänni, hose transport vehicle, 4x4, 1979.
Mercedes 409 D, lighting vehicle, 4x4, 1987, 2 vehicles; Mercedes Unimog Hänni, carbinic acid vehicle, 4x4, 1997; Mercedes Unimog Hänni, pioneer vehicle, 4x4, 1998; Auto Aerial Lad-
der, Mercedes Econic 1833, 4x2, 2009.
Mercedes Con-trac, passenger evacuation train, 4x4, 1993; MAN MNG Wald, res-
piratory protection vehicle, 4x2, 1996;
Mercedes 412 D, oil protection vehicle, 4x4, 1999; Mercedes 164CDI, oil and water protec-
tion vehicle, 4x2, 2007; Mercedes Unimog Hänni, hose transport vehicle, 4x4, 1979.
Mercedes 409 D, lighting vehicle, 4x4, 1987, 2 vehicles; Mercedes Unimog Hänni, carbinic acid vehicle, 4x4, 1997; Mercedes Unimog Hänni, pioneer vehicle, 4x4, 1998; Auto Aerial Lad-
der, Mercedes Econic 1833, 4x2, 2009.
Mercedes Con-trac, passenger evacuation train, 4x4, 1993; MAN MNG Wald, res-
piratory protection vehicle, 4x2, 1996;
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tion vehicle, 4x2, 2007; Mercedes Unimog Hänni, hose transport vehicle, 4x4, 1979.
Mercedes 409 D, lighting vehicle, 4x4, 1987, 2 vehicles; Mercedes Unimog Hänni, carbinic acid vehicle, 4x4, 1997; Mercedes Unimog Hänni, pioneer vehicle, 4x4, 1998; Auto Aerial Lad-
der, Mercedes Econic 1833, 4x2, 2009.
Mercedes Con-trac, passenger evacuation train, 4x4, 1993; MAN MNG Wald, res-
piratory protection vehicle, 4x2, 1996;
Mercedes 412 D, oil protection vehicle, 4x4, 1999; Mercedes 164CDI, oil and water protec-
tion vehicle, 4x2, 2007; Mercedes Unimog Hänni, hose transport vehicle, 4x4, 1979.
10. WINTER EQUIPMENT INVENTORY

10.1 Please list specialist snow clearing, de-icing and other winter equipment (including purpose, manufacturer, and number of units for (example, compact jet sweeper, Schmidt, CJS 720, 4 units): Snow clearance aisle (Flughafen Zürich AG owned equipment): compact jet sweeper, Boschung plough 6m, 9; compact jet sweeper, Boschung, plough 8.4m; 4; truck (for plough), TV 1520, 3; rotary snowsweeper, Rolba, R-10,000, 2; rotary snowsweeper, loader, Bucher, R-600, 1; loader / blower, Schmidt, Supra, 3; snow-blade* Ramphog 6m, 1; snow-blade* Overseen 6m, 1; snow-blade*, Ammann, 6m 1; plough** Peter / Zaug 4m, 32; truck (for plough), Mercedes, 6.

*truck from contractors

**truck from contractors

De-icing vehicles: multi de-icer, Küpper-Weisser 40m, 4; multi de-icer, Küpper-Weisser 8m, 2; multi de-icer, PONY 4m, 2; multi-de-icer, Tractor 4m 1. Snow-clearance landside: plough / gritter, Unimog, 1; plough / gritter, Mercedes, 1; plough / gritter, John Deere, 3; plough*, van Doorn, 1; plough / gritter, Zaug 1.5m, 1; plough / PONY Zaug 1.5m, 2.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance equipment and additional facilities (runways, taxiways, aprons etc) stating identity of each facility: Air- and landside have equal priorities. First priority aisle: RWY 16/34, 3.7 km (incl. TWY’s); RWY 09/27, 3.3 km (incl. TWY’s); Apron (docks’ area snow clearance), all non-covered parking lots; Apron / apron-taxiways. Second priority aisle: Service roads, Maintenance areas, General Aviation area.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Two formations with 7 trucks (mounted plough, blow-sweeper each), 2 trucks (mounted plough only), 1 rotary snow, 1 multi de-icer.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway within 45-60 minutes.

12. EXPERIENCE WITH CHEMICALS

12.1 State which pavement de-icers you use, along with the quantities used last season. Comment on storage capabil- ity of the chemicals that you use: Storage capacity 500’000 litres 24 hour additional supply guarantee.

12.2 Comment on storage capabil- ities of the chemicals that you use: Storage capacity 500’000 litres 24 hour additional supply guarantee.

12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: In recent years, no solids were used. It may not be disclosed.

12.4 Have you experienced any corrup- tion problems with de-icers? Some problems with corruptions at vehicles.

12.5 Have you employed any special means to economise on chemical use? Heated trucks go to the Zurich waste water treatment and recycled; the rest as carbon denitrification goes to the Zurich waste water treatment or on a sludge stabilisation digesting tower.

15. FUTURE TRENDS

15.1 What model(s) of friction tes- ter do you use? BV-11; 2 units.

15.2 Have you any comments on the re- liability of friction instruments?

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.

b) Inspection by airline, airport, and airplane handling agency personnel. Any airplane not con- trolled, when feasible, should join the airport staff in daily airline inspections. This practice helps increase familiarity with local airfield conditions, and promotes a better commu- nication between the airport and airlines.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of moni- toring 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 problems with FOD? No.

5.3 What safety devices are currently em- ployed? (A-SMC: Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X-Airport Surface Detection Equipment).

5.4 Comment on the use of any innovative warnings or guards - use of paint, signs, light- ing and other lower-cost technologies: Yes.

5.5 What specific procedures are there for training and awareness among pilots, control- lers, mechanics, airport vehicle operators, and other people who work at the airport? 6-month refreshing training for drivers (communication).

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ 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 airfield to birds: Flight ornithological security assur- ance. Due exposure and liquidation of condi- tions contributing to bird concentration in the airport and nearby area: Flight ornithological maintenance is aimed at prevention of bird strike in airport area. Due and qualitative execution of prophylactic (prevention) works for scaring birds. Training of many staff with improvement of their knowledge. Performance elaboration and fulfillment for flight ornithological security improvement in “Zvartnots” Interna- tional Airport. Due to the above mentioned policy birds strike reduces for 20% each year.

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

6.2 Are your bird control staff work- ing on the airfield continuously, hourly, less than hourly? Our bird control staff is working on the airfield continuously.

6.3 What specialist equipment do you em- ploy for bird control? (Please state relevant supplier/maker): Bird patrols in vehi- cles, Bioacoustics Super BirdX peller PRO, electronically generated noise, propane cannons - Zon Mark, pyrotechnics, shoot- ing to scare, netting hangar rafters, ponds.

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

6.5 Do your staff log all their bird control activities? (to manage success in deal- ing with the problem, and use in de- fence in case of lawsuits): Yes.

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT NAME: Zvartnots Airpor 2. MOVEMENT AND MANOEUV- VRING AREA DATA

2.1 Please list the identities of primary op- erational facilities and the surface areas. (For example: total RWY length (or lengths), Take off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other) RWY 09/TORA 3850m, TORA 4250, ASDA 3850m, LDA 3850m. RWY 27, TORA 3850m, TORA 4150m, ASDA 3850m, LDA 3850, 2.2 Landing aids for each RWY (e.g. CAT I): RWY 09: 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 identi- fied by internal/external SMS audits? Yes.

4. FOREIGN OBJECT DAM- AGE (FOD) PREVENTION

4.1 Describe your airport’s pro- gramme 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, includ- ing the potential consequences of ignoring it.
6.6 Does your airport have problems with other wildlife (deer, for example) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type) and year of manufacture: Type: Crash Fire Rescue. Model: Striker-3000. Chassis: Oshkosh. Axles: 6x6. Capacity: Water – 11,350 litres; Foam (AFFF) – 1,590 litres, Dry chemical - 225 kg, Year of Manufacture: 2007.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes. 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? The airport is planning to construct a training centre, which will include the simulator. PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? From December to February.
8.2 Average annual days of snow: 10-15
8.3 Average snow depth: 5cm
8.4 Maximum snow in 24 hours: 15cm
8.5 Annual number of days of de-icing activities: 50 day

9. WINTER ORGANISATION
9.1 How many airport-employed or sub-contracted winter services personnel are available per shift? 15

10. WINTER EQUIPMENT INVENTORY
Please list specialist snow clearing, de-icing and other relevant winter equipment stating: purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): Snow sweeper Scania Vammas, 3 pieces; Snow plough DE-224, 1 piece; Snow brush KAMAZ 4326 (N73), 1 piece; Snow plough PM-130, 11 pieces; Snow collector D-902, 1 piece; Snow collector DE-226, 1 piece; Snow plough and liquid chemical reagent machine KAMAZ PM-116, 1 piece; ZIL-4502 (N70) liquid chemical reagent machine, 1 piece; ZIL-130 (N95) solid chemical reagent machine, 1 piece; Grader (N72), 1 piece; Loader (N107), 1 piece; Dump trucks, 3 pieces; Universal mechanism “Bobcat”, 1 piece (mini loader).

11. PROCEDURES AND METHODS
Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility: Runway, Taxiways, Main taxiway, Aprons, Holding bays, Other areas by necessity. 11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance: Snow-clearing from the RW is done by patrol method by Scania-Vammas, PM-130 snow-clearing machine. Snow cleaning is mainly done from RW axis-line to the edges, then the collected snow of the edges is cleared by the rotors. Cleaning process can be changed getting out of the wind direction changes. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? RW snow-clearing must be done immediately when the snow begins, between take off /landing intervals.

12. EXPERIENCE WITH CHEMICALS
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 chemical reagents used last season: Solid: ANS (nearly 13 ton) and Clearway SF3 (nearly 23 ton); Liquid: Clearway F1 (nearly 17.5 ton), Kilfrost (nearly 7.5 ton), Vzlyot (nearly 5 ton). The mentioned chemical reagents can be used till -400C temperature, except granular ANS chemical reagent (-1200C). 12.2 Comment on storage capabilities of the chemicals which you use: Solid: nearly 70 ton. Liquid: nearly 70 ton. 12.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc: “Zvartnots” airport doesn’t have such an experience. 12.4 Have you experienced any corrosion problems with de-icers? “Zvartnots” airport doesn’t have such problems. 12.5 Have you employed any special means to economise on chemical use? Chemical reagents are used according to norms prescribed quantity. 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: Have not.
13.2 Do you plan to purchase further ice warning systems and if so which model(s)? It isn’t expedient. 13.3 Comment on your experiences of the benefits/disbenefits of ice warning systems: Nil.

15. FRICTION TESTING
15.1 What model(s) of friction tester do you use? Skiddometer BV11
15.2 Have you any comments on the reliability of friction indexes? Nil.

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

DOUGLAS MU-METER MK6 CONTINUOUS FRICTION MEASURING EQUIPMENT

Runway friction measurement is an integral part of airside safety. With all airports that operate within ICAO legally required to inspect their runways, the repeatability, consistency and reliability of this data recording is essential, and the Douglas Mu-Meter ticks all these boxes. Used by both commercial and military airports worldwide, the Mu-Meter Mk6 offers a comprehensive, fully portable means of compiling runway friction reports and contaminant drag measurement data without the need of specialist towing vehicles. Runway rubber deposits, wet and dry surfaces and freezing conditions are all within the Mu-Meter’s portfolio of measurement. The small, three-wheeled unit is capable of collecting data while being towed behind a vehicle as small as a family hatchback. It utilises sophisticated electronic measurement and sensing, which is operated via a touch-screen laptop from inside the tow vehicle. Data can be easily analysed and sent to the airport’s operations team, giving them detailed runway surface conditions. These measurements can then be archived to build a comprehensive picture of the airport runway surface conditions through the seasons. The Mu-Meter has the option of recording not only to the ICAO standard, but also to the prescribed formats for the CAA and FAA, and is offered in two different configurations, either runway or highway measurement.

Since its development in the early 1960s, the Mu-Meter has over 1,000 units sold worldwide, and recent technological advances, such as wireless connectivity, have seen the world’s best-selling CFME system go from strength-to-strength.

CATEGORY: FOREIGN OBJECT DAMAGE PREVENTION

FOD WALKS ARE NO LONGER ENOUGH!

Quiet, pervasive, and deadly – runway Foreign Object Debris (FOD) is one of today’s highest risks to safety for both airports and airlines. Based on data from a major European airport, an airport with 200,000 aircraft movements a year will have an average of five monthly hazardous FOD events. According to ‘Runway Safety Report’ by Iain McCreary and Insight SRI, 80% of FOD is heavier than 10 grams and larger than 13cm (5”) in length. Despite this, visual runway inspections find no more than 3%-4% of runway FOD. Factor in ground-level bird strikes (over 40% of all strikes occur at ground level according to a USDA and FAA report) and other wildlife dangers, and it is clear that runways are dangerously exposed.

In addition to the safety problem, FOD damage costs airports and airlines billions of dollars each year. The direct costs of FOD are significant and known, while indirect costs include flight and passenger delays, runway capacity impairment, aircraft downtime, increased insurance premiums, incident investigation, unscheduled maintenance, cost of replacing equipment, reputational damage and other expenses.

FODetect, Xsight Systems advanced runway management solution, markedly lowers the threat of runway FOD damage, has a major role in bird strike prevention & wildlife management and provides additional surveillance applications as well. Chosen by leading airports worldwide, and fully compliant with FAA regulation, FODetect is collocated with existing runway edge lighting and delivers a day/night, inclement weather, and ground-up perspective on the entire runway. Scanning between each aircraft movement, FODetect not only markedly enhances safety, but also increases operational efficiency and runway capacity.
Our customers requested more wet testing capacity, optional four wheel drive, and more vehicle brand selection! We listened...

An industry leading standard 300 gallon (1200 ltr) or 44,000+ feet (13,400 m) of wet test capacity. Windows software, optional four-wheel drive and GPS. Available in Chevrolet, Dodge, Ford or Toyota full sized pickups with extended or crew cab formats.

**6875 Runway Friction Tester**

The 6875 is FAA/ICAO Approved and AIP Fundable.

Dynatest provides test equipment, surveys and pavement management systems to airports worldwide.

Dynatest®

Sensor Solutions for Safe, Efficient Runways

Dynatest Equipment & Pavement Engineering Specialists

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For further information e-mail: runwayfriction@dynatest.com or mli@dynatest.com

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**FODetect®**

Enhancing Runway Safety and Availability

www.xsightsys.com

FODetect is an advanced runway management solution chosen by leading airports worldwide and fully compliant with FAA regulation. FODetect markedly lowers the threat of Foreign Object Debris, while measurably improving operational efficiency and runway capacity.

**ACI EUROPE WORLD ANNUAL CONGRESS & EXHIBITION 2013**

The Global Meeting for Air Transport Chief Executives and Industry Leaders

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BOSCHUNG’S DIVERSE MACHINERY FOR WINTER MAINTENANCE

In May 1947 Marcel Boschung Senior laid the foundation of the company bearing his name, which in the course of the last 65 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, furthermore spreaders and de-icers in every possible execution and combination, snow blower/cutter B4 + B6, multi-purpose carrier Pony, compact and mounted Sweepers in all sizes and many more. With the establishment of Boschung Mecatronic Ltd. – producer of electronic and electro-mechanical winter equipment – in 1978, activities of the Boschung Group have been extended. This company has specialised in ice early warning systems and automatic thawing agent spray systems.

Boschung has developed mechanical snow sweepers, blowers, spreaders and de-icers for every possible airport need, and also specialises in ice early warning systems and automatic thawing agent spray systems.

INNSBRUCK AIRPORT TAKES DELIVERY OF ITS FIRST ØVERAASEN RSC 400

As well as a high working speed and powerful air blast, the Øveraasen RSC 400 wide broom system can clean a width of 5.5 metres.

Øveraasen’s intelligent winter maintenance equipment is designed for use on runways and narrow apron areas, and offers the highest degree of maneuverability and driving performance. In November 2012, Austria’s Innsbruck Airport began operating its first Øveraasen RSC 400 runway snow sweeper. The machine is a compact unit with a working width of just 5.5 metres. It is built as small as its mechanisms will allow, ensuring a minimal turning radius for ease of mobility, high speed and accurate use in challenging environments.

In addition to the standard air blowing system, the specialised RSC 400 has been built with a front blowing unit. Air nozzles in front of the brush catch snow and blow it directly out to the left or right side, distinguishing the RSC 400 as a unit with revolutionary cleaning power.

During 2012, Øveraasen has once again seen large growth in its sales of both runway sweepers and snow blowers, and has firmly secured its position as a major competitor in the sweeper and snow blower industry.

CATEGORY: WINTER EQUIPMENT

CATEGORY: BIRD AND WILDLIFE CONTROL

THE ULTIMA REPORTING SOFTWARE

Scarecrow, a known leader in airside bird dispersal, offers some unique reporting tools to capture data with Ultima.

Ultima is a highly effective bird dispersal system and data analysis tool. Using a rugged tablet touch-screen PC, a GPS receiver and data collection software, it creates a real-time record of dispersal management. The system recreates an audited trail featuring, for example, date, species, flock size and dispersal direction.

As well as dealing with and recording bird and wildlife activity, the Ultima is known for its Ultima Reporting Software, and the additional Runway Inspection module.

These have been designed to produce reports and give an overview on a number of airside operational functions such as runway incursions, foreign object damage, general runway inspections, the level of observed wildlife presence, firearm management and more. The outcome of the analysis of these reports can lead to improved risk management. The software can be delivered to existing systems, so there is minimal disruption to management programmes.

With growing concern regarding air safety, the Ultima is an ideal tool to keep track of airside management needs, ultimately reducing cost and increasing efficiency by effective reporting solutions.
KEMIRA’S WATER-FRIENDLY DE-ICERS

Kemira is improving airside and runway safety at airports worldwide with its range of chemical innovations for effective ice and snow melting. The company specialises in the development of both liquid and solid de-icing solutions, which are produced in accordance with increasingly stringent environmental demands. A predictable take-off and landing must be guaranteed even in case of black ice and snowfall, and Kemira’s Clearway range of airport de-icers promises to ensure safe airport operations by being efficient, fast, and unfailing.

The Clearway range – widely acknowledged as the leader in the airport de-icer market – has been developed to include both acetate and formate based liquids, along with a complimentary solid product line.

Products are dedicated to clearing and preventing the bonding of ice on runways, taxiways and aprons and improving safety and traffic flows at airports through anti-icing – preventing the formation of an ice sheet – and de-icing – an operation intended to break the bindings of already bonded snow and ice.

Clearway airport de-icers are classified WGK1 on the German Water Hazard scale, both for their excellent biodegradability and because of their low aquatic toxicity, meaning that they are not generally water endangering.

PROVIRON’S DE-ICING TECHNOLOGY

Snow and ice control at Proviron is an art combined with science. Over the last decade, Proviron Industries N.V. has established itself in the market as a reliable supplier of environmentally benign formate and acetate-based airport runway and highway de-icers.

All of its products are considered safe for the environment, exhibit low toxicity to vegetation and aquatic life, have low corrosion rates and work longer than common de-icers. Proviron is constantly working on the development of even more ecologically driven ways of keeping roads and runways free from ice or snow.

Its team of experts is happy to assist you with inquiries and upon request, come and visit you for a more detailed presentation of the company and its de-icing products.

Proviron’s extensive product range includes: Provifrost KA ECO Liquid Potassium Acetate; Provifrost KF ECO Liquid Potassium Formate; Cryotech E-36 Liquid Potassium Acetate – all AMS1435 approved; Cryotech NAAC solid sodium acetate – AMS1431 approved; Cryotech CMA solid calcium magnesium; and Cryotech CMA40 solid blend of 40% CMA and 60% rock salt.

KILFROST PREPARES FOR SEVERE WINTER CONDITIONS

Kilfrost, a global leader in de/anti-icing products for aviation, predicts an extremely harsh winter for Europe this year. The ice protection fluids developer monitors long-range weather forecasts, and is expecting circumstances this season to equal the conditions of winter two years ago (2010/11), which was the second coldest in the UK since 1985/86.

Its analysis of upcoming weather trends is crucial for ensuring supplies of its safety-critical fluids are in place across dozens of international airports. Kilfrost’s Chief Executive, Gary Lydiate, said correct interpretation of weather trends is crucial for maintaining supplies to its clients across Europe and around the world.

Lydiate said: “The telltale signs started in June and we’ve been responding to those pointers ever since by ensuring that our customers are fully stocked with de-icing and anti-icing products ahead of the very cold weather taking hold.”

Kilfrost has seven depots across Europe, each containing two million litres of product for aviation use. However, as a typical short haul aircraft can require up to 500 litres, these stocks can be depleted extremely quickly in severe weather. The company is upping production in anticipation of increased demand in Eastern Europe where cold weather has already taken hold.

During the 09/10 winter, the most severe since the late 1970s, production at Kilfrost’s facilities peaked at 22 million litres a month.
chiphol Group hosted last year’s ACI Airport Exchange in November. The event was, once again, held in collaboration between ACI EUROPE and ACI Asia-Pacific. Bringing together delegates from Europe and Asia, the event attracted an attendance of more than 1,500.

Jos Nijhuis, CEO, Schiphol Group, commented: “Given our ambition to be and remain Europe’s Preferred Airport, it is essential that we look to the future and respond to the latest market trends and developments. Airport Exchange is an excellent catalyst, generating new inspiration through the exchange of knowledge and experience. Amsterdam Airport Schiphol aims to be a frontrunner in modernisation and sustainable innovation in this industry.”

Last year’s agenda saw four conferences running concurrently – Security Summit, Airport Operations Conference, Airport Development Conference, and new this year, Future Travel Experience Europe. Each was addressed by a broad range of high-level speakers, with representatives from key industry stakeholders, including airport operators, airlines, air navigation service providers, regulators and government agencies.

New at last year’s Airport Exchange were the Schiphol Interactive Forums, led by Schiphol staff and the airport’s partner network, which were designed to give delegates an insight into the Schiphol approach. The three Interactive Forums focused on Baggage, Airport Planning, and Sustainability and Innovation.

Crucially, Airport Exchange 2012 also provided a key networking platform, with Schiphol Group hosting a spectacular Welcome Reception at the Amsterdam Arena, and a Gala Dinner at the Stedelijk Museum Amsterdam.

The conference programme was complemented by the largest ever exhibition at ACI Airport Exchange, in which many of the industry’s leading suppliers showcased the latest innovations in equipment, technology and services. Meanwhile, the conference stage on the exhibition floor saw leading suppliers outline their visions of the airport of 2020, covering four key areas: Development and Environment, IT & Systems, Security, and Baggage Advancements.
Bertrand Piccard, Founder and Chairman, Solar Impulse, delivered an inspirational keynote address in the Airport Development Conference, focusing on the world’s first intercontinental flight in a solar-powered plane.

Marjeta Jager, Director for Policy Coordination and Security, DG MOVE, European Commission, delivered a keynote address in the Security Summit. She focused on the long-term aviation security models being studied by the EU to address existing and emerging terrorist threats.

Pieter Elbers, Managing Director & COO, KLM, delivered an enlightening keynote address to the Future Travel Experience Conference, focusing on airports, airlines and customers expectations, towards 2020. He explained that the relationship between airports, airlines and passengers is constantly and structurally changing.

The ACI Airport Exchange exhibition was officially opened by: Patti Chau, Regional Director, ACI Asia-Pacific; Declan Collier, CEO, London City Airport and President, ACI EUROPE; Jos Nijhuis, CEO, Schiphol Group; and Olivier Jankovec, Director General, ACI EUROPE.

ACI Airport Exchange 2013 takes place in Doha. Pictured at the official handover are: Jos Nijhuis, CEO, Schiphol Group, and Patrick Muller, Executive Vice President, Doha International Airport Qatar.

ACI Airport Exchange 2013, DOHA, QATAR

ACI Airport Exchange 2013 will, once again, be held in collaboration between ACI EUROPE and ACI Asia-Pacific. The event returns to the Asia-Pacific region, and will be hosted by Doha International Airport at the Qatar National Convention Centre on 18-20 November 2013.
Proviron
Safe Runways and a Clean Environment

Let’s beat the elements together!

Cryotech E-36
Cryotech NAAC
Provifrost KF ECO
Provifrost KA ECO
Cryotech CMA
Cryotech CMA40

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

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