AIRSIDE SAFETY SURVEY 2010

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 2010

Our annual survey of ACI EUROPE member airports provides an invaluable and comprehensive guide to airside operations. This volume of data identifies common trends and also highlights the varying practices in areas such as winter services, safety management systems, FOD prevention, bird and wildlife control, crash fire rescue and friction testing.

We have left the responses largely unedited, retaining an array of colourful responses. These vary considerably, which is only to be expected when the airports surveyed range from the biggest hubs, such as Amsterdam Airport Schiphol and Frankfurt, to the smaller regional airports. Winter services preparations aptly demonstrate the varying requirements of Europe’s airports; Umea, for example, has 101 annual days of snow and 180 days of de-icing activities, while Podgorica reports 0-2 annual days of snow and Marseille only one day of snow every two years.

Significantly, the survey also identifies airports that are looking to acquire new equipment. Manufacturers should note that Frankfurt Airport is building a new runway and plans to purchase vehicles to service the extra capacity; similarly, Oslo is working on a project that will expand the terminal, increase the number of aircraft stands and the size of the
INTRODUCTION

manoeuvring area – ‘this will also demand more of all types of winter equipment. Details are not worked out yet’. Keflavik reports that 80% of its equipment is overage and following a worldwide tender the airport authority is ‘purchasing seven “snow combinations” (a Scania P400 ploughing truck towing a Schmidt TJS 560 sweeper) within the next three years’.

WILDLIFE MANAGEMENT

The survey details an array of different specialist equipment and methods of bird control. London Stansted has a comprehensive bird control strategy: ‘Scarecrow digital bird distress call units installed in all operations vehicles (6 units); 2 x 12 Bore Beretta double barreled shotguns; 1 x 0.410” calibre ‘Hush Power’ silenced single barreled shotgun; 1 x 0.22” calibre single shot air rifle with scope; 4 x 1.5” calibre ‘Apsley’ Flare pistols with 12 bore adaptors.’

Amsterdam Airport Schiphol employs a ‘long grass policy’, with grass species developed by scientific research. Long grass is said to be unattractive to all species of birds, especially gulls and lapwing. The airport also uses green laser equipment, distress calls, pyrotechnics, Border Collie dogs and shotguns. It is also undertaking a risk assessment concerning the presence of geese.

Common forms of bird control include recorded distress calls, pyrotechnics and shotguns. Budapest Airport also uses falcons, gas cannon and traps.

Zurich reports that: ‘For controlling accumulation of birds mainly pyrotechnic means (signal pistol type Heckler & Koch P2A1 with signal rockets, and Röhm Revolvers RG 56) are used. Various others for hunting permitted firearms are used only by the licensed hunter. Lasers and falcons have been introduced and used during trials.’

The survey also highlights the problems airports face with various other forms of wildlife. Rabbits are a common problem – at Aberdeen they are gassed regularly, while Copenhagen says simply that ‘they are being terminated’. More unusually, Basel Mulhouse has experienced problems with wild boar: ‘The solution was, for example, to check and reinforce the fence and some farming is prohibited on the airport area.’

Meanwhile, Paris Orly reports instances of wandering pets, mainly cats and dogs, which airport staff are trained and equipped to deal with. ‘If they cannot handle it, specialists are called by airport staff to catch it. If the animal is on the airside, it has to be monitored so that it cannot reach runways or taxiways. If it is too close, it has to be moved away to a place where aircraft cannot access.’

FRICION TESTING

Most airports surveyed appear happy with the reliability of friction indexes. Keflavik was particularly enthusiastic: ‘We have been using friction testers since the early seventies with very good results. As long as the equipment is well maintained, properly calibrated and the operators thoroughly trained, the use of such tools is by far the best way to derive the friction characteristics of runways and taxiways.’

Munich is actively participating in the Joint Winter Runway Friction Measurement Programme: ‘The Research project is aimed at harmonising different friction measurement devices and improving the correlation between aircraft braking characteristics and ground friction measurement devices.’ Brussels, meanwhile, asserts that worldwide standardisation of runway friction values is necessary.

Dortmund explained that ‘according to pilots the indexes are reliable’, while Göteborg Landvetter similarly said ‘they are in general credible’.
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Whatever system you use to detect birds, you still have the problem of dispersal. Scarecrow’s Ultima is a complete vehicle based system – every aspect of use logged and stored for future, long term, analysis.

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. . . you’ve still got to disperse them
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- Istanbul Airport
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- Phoenix-Mesa Gateway Airport
- Munich Airport
- Pula Airport
- Maastricht Aachen Airport
- Airports of Montenegro
- Lisbon Airport
- İzmir Airport
- Tallinn Airport
- Dubrovnik Airport
- Zagreb Airport
- Porto Airport
- Cologne Bonn Airport
- Faro Airport
- Helsinki-Vantaa Airport
- Cork Airport
- Bahrain Airport
- Bratislava Airport
- Palma Airport
- Warsaw Airport
- Dube Tradeport
- Stuttgart Airport
- Verona Airport System
- Marseille Provence Airport
- Malmö International Airport
- Haitai Stanfield International Airport
- Potsdam Airport
- Jersey Airport
- Katowice Airport
- Orlando Airport
- Huatulco Airport
- Oaxaca Airport
- Mérida Airport
- Casarre Airport
- Cancún Airport
- Veracruz Airport
- Antalya Gazipasa International Airport
- Lille Airport
- NSL Airport

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

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. Grass length kept at between 6-8inches, herbicides used to discourage weed growth and insecticides used to kill the hatching larve that grows into the insects that attract bird activity. 6.2 Do your staff attend recognised bird control training courses? Yes through CSL our bird management auditor 6.2 Are your bird control staff working on the airfield a) continuously? yes 6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. Recorded distress calls, pyrotechnics, shotguns 6.4 How often do you carry out a bird strike risk assessment, and is this process audited? Annually through CSL Audit, they are also undertaken quarterly mid-term visits 6.5 What procedures are in place to identify bird species following a bird strike? If Ops Team cannot identify through their training and bird ID books, species are identified via CSL Audits. They also undertake quarterly mid-term visits 6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? These figures are collated monthly and reported monthly 6.7 Do your staff log all their bird control activities? (in case of lawsuits) Yes, we currently have local databases, an operational database and a lotus notes database 6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Rabbits, which are gassed regularly

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture. 3 x MAN 10.224 x4, 2 x Mitsubishi Shogun 4 x 4. Clearway 3, amount used last year 283,000 litres. Clearway is effective when surface is not contaminated at average freezing temperatures at Aberdeen, holdover of 2 – 3 days can be achieved when temperature remains below zero and no further contamination occurs, normally at Aberdeen temperature rise above zero and clearway starts to degrade as designed, when temperature fluctuates between -10 and 0 the previously contaminated holdover can be as little as 3 hours 7.2 Future developments – are there plans to purchase or dispose of any equipment? NONE

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes 7.4 If any, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport, N/A

8. WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 1st Oct till 31st March 8.2 Average annual days of snow: 15 8.3 Average snow depth: 4 cm 8.4 Maximum snow in 24 hours: 25cm 8.5 Annual number of days of de-icing activities: 30 8.10 WINTER EQUIPMENT INVENTORY

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? 10.9 How many sub-contracted winter services personnel are available per shift? 4

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweep, Schneider, CIS 720, 4 units). Runway Sweeper – Schorning P17A x 5, Schorning P21 x 2. Apron Sweeper – Holmes Brushes x 2, Mitsubishi P21 x 2. De-icers - BVE 24m x 1, BVE 15m x 1. Getter - Ecopek x 2

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility. Runways, taxiways, passenger areas, roadways, apron areas. 11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. Runway – 5 Runway Sweepers available at all times. Taxiways – 2 Runway Sweepers available at all times, additional sweepers when Runways cleared. Passenger areas – Kubota x 2. Access Roads – Holmes Brushes.Apron – Mikro and Holmes Brushes and Runway Sweepers when Runway/Taxiway cleared 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 20 minutes with optimum clearing conditions

12. FRICTION TESTING

12.1 What model(s) of friction tester do you use? Mu Meter 6 x 2, Mu Meter 5 and Grip Tester 12.2 What are the typical intervals between friction tests? Weather dependant (after snow clearing/de-icing run or snowshowers) 12.3 Have you any comments on the reliability of friction indices? We do not comment on friction ratings during winter ops as per current CAA legislation

13. EXPERIENCE WITH CHEMICALS

13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Clearway 3, amount used last year 283,000 litres. Clearway is effective when surface is not contaminated at average freezing temperatures at Aberdeen, holdover of 2 – 3 days can be achieved when temperature remains below zero and no further contamination occurs, normally at Aberdeen temperature rise above zero and clearway starts to degrade as designed, when temperature fluctuates between -10 and 0 the previously contaminated holdover can be as little as 3 hours 13.2 Comment on storage capabilities of the chemicals which you use. Prolonged storage...
is not required at Aberdeen due to fluid use, storage between season is not a problem

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

13.4 Have you experienced any corrosion problems with de-ice chemicals, e.g. corrosive to plated metals and galvanised materials.

13.5 Have you employed any specific means to economise on chemical use? Yes, use of GPS

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

13.7 Do you use other chemicals or sand on operational areas?

14. ICE WARNING SYSTEMS

14.1 State model and number of ice warning systems, Ice alert

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

14.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. Provide support to the decision making process of when to anti-ice, however sometimes as an aid

15. AIRCRAFT DE-ICING

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

15.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Designated on Aircraft Parking Areas

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

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) Yes, testing to be undertaking on the Eindhoven runway

16.2 Are there any areas of your winter operations which require improvement? Less reliance in the vicinity of taxiways and runways, again to
to anti-ice, however only used as an aid

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

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

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

17.1 Describe your airport’s programme to control FOD in general.

17.2 a) Training. Regulations about FOD are described in our Handbook Safety and Security. Every employee is
tested upon his/her knowledge of this handbook before he is allowed to work airside. Authority personnel are
tested upon his/her knowledge of this handbook before
to ensure that operations are carried out in a demonstrably controlled way and are improved where necessary. The outline the SMS
for your airport, and the date of its introduction. Based on Plan-Do-Check-Action cycle. Introduced and

17.3 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified

17.4 The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out

17.5 Does your airport have a dedicated de-icing positions or do you de-ice on the parking

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

17.7 Are there any areas of your winter operations which require improvement?

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

17.9 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Designated on Aircraft Parking Areas

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

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

18.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airport operations management.

18.2 Contact information: Amsterdam Airport Schiphol, PO Box 7501, 1118 ZG Schiphol-Centre, Tel: +31 (0)20 601 9111 (Airport at EXT), +31 (0)20 601 2116 (Airport office/Apron Manager Service) -31 (0)20 601 2115 (Airport Authority), Fax: +31 (0)20 604 1475, Email: admin@schiphol.nl

18.3 Amsterdam Airport ICAO code and category: EHAM (Amsterdam, Schiphol) ICAO category: 10

18.4 Please detail your habitat management policy and how it reduces the attraction of the

18.5 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. Grass policy, with grass species developed by scientific research; Long grass policy is, in general over the year, unattractive for all birds species (and especially for nesters).

18.6 How often do you carry out a bird strike risk assessment, and is this process audited? At the moment we are doing a risk assessment about the presence of geese; We are audited every year by several organisations.

18.7 What procedures are in place to identify bird species following a bird strike? The knowledge of our individual Bird Strike Coordinators is the final identification; For the future DNA identification.

18.8 How do you disburse bird strikes and report numbers to your regulatory authority? How often do you report? No, we do not report these to our regulatory authority;

18.9 Do you have any other comments on the presence of geese? We are audited every year by several organisations.

18.10 Do you collect bird strikes and report numbers to your regulatory authority? How often do you report? No, we do not report these to our regulatory authority;

18.11 Do you have any staff log data on bird strikes? (in case of lawsuits) Yes, as well on paper as digital.

18.12 Does your airport have problems with other
Clearway de-icers for runways
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We listened...
Windows software, optional four wheel drive and GPS

6875 Runway Friction Tester

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11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. We spray chemicals to prevent icing and snow building. For the RWY we use the sprinkle-devices of 33 mtr wide and for RW and aprons 16 mtr wide.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? On average it takes 30 minutes to clear the RWY that is including the exits.

12. FRICTION TESTING

12.1 What model(s) of friction tester do you use? We have 2 Wk Sharan’s with Airport Surface Friction Tester from Sweden.

12.2 What are the typical intervals between friction tests? After each sweep of the RWY the tests are taken.

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

13. EXPERIENCE WITH CHEMICALS

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

13.2 Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. The usage in 2008-2009 was; 1.455.655 kg KA-C36 on airside, 1.110.000 kg salt on landside.

13.3 Comment on storage capabilities of the chemicals which you use. We store up to 480.000 litres of KAC.

13.4 Have you experienced any corrosion problems with de-icers? Yes, but it is hard to measure the influence of de-icers and prevent corrosion. All vehicles are coated to minimize the effect of the de-icing materials.

13.5 Have you employed any special means to economise on chemical use? The usage of weather-stations and sensors for precise temperature readings to decrease the amount of used chemicals.

13.6 Do you have any other comments on experience with chemicals? No, but the environmental issues will become even sharper in the near future.

13.7 Do you use other chemicals or sand on operational areas? At this moment we only use KAC and no sand. It is however possible that due to environmental issues and the lack of KAC we are forced to use sand.

14. ICE WARNING SYSTEMS

14.1 State model and number of ice warning systems. Every RWY has its own weather-station with sensors. With these sensors it is possible to measure the surface temperature, ground temperature at -30cms, dew point and the amount of liquids still available. This helps to determine the use of spraying or not.

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

14.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. Due to the information gained from the weather-station-sensors it is far more accurate to determine the necessity and amount of surface de-icing chemicals. Therefore we are able to reduce the costs for winter operation for as much as 300.000 during an average winter.

15. AIRCRAFT DE-ICING

15.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facilities/psturcures, and number of units. No.

15.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We use dedicated de-icing positions primarily so we can manage the spalls and glycol on the parking area.

15.3 Have you any other comments on experience with de-icers? Yes, we have been using the spraying method more based on RWY usage.
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• Stepless mixing system 3-97%

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• Nozzle working height 23 m
• Operator’s eye height 17 m
• Tank capacity up to 14000 litres
• Hot@Nozzle
• Mix@Nozzle

SAFEAERO 220EH
Features:
• One-person operated
• Car-like driving experience
• Nozzle working height 22 m
• Side reach 13 m
• Tank capacity up to 8500 litres
• Electric and/or diesel heater
• Revolutionary nozzle control system
• Stepless mixing system 3-97%

Minimum glycol consumption with Safeaero’s state of the art spraying and mixing system

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• Side reach up to 10 m
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AGI EUROPE AIRSIDE SAFETY QUESTIONNAIRE 2008

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT INFORMATION

1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airfield operations management. Contact information: Antwerp International Airport Inspection tel003232856532-fax003232856531 e-mail inspectie, ebaw (at) mov.vlaanderen, be General airport phone. 003232856500 1.2 Airport ICAO code and category: EBAW

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): Dimension Rw 11/29 (m) 1510 x 45 TORA 11(m) 1510 TORA 29 (m) 1510 TDA 11 (m) 1510 TDA 29 (m) 1510 LDA 11 (m) 1366 LDA 29 (m) 1510 LDA 11 (m) 1366 LDA 29 (m) 1510

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

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. For info about the airport safety management contact the airport commander

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments.) There is a constant FOD control by inspection and for people these processes? Further, 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. We use fake birds and scare them with noise.


6.6 Do you report collision birds and report numbers to your regulatory authority? How often do you report? + 4 times a year

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

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture, FAUN 6 x 6 12000 litre water 1200 l foam product (year1997). PANTER 6x6 12000 litre water 1500 litre foam product 500 kg extinguishing powder (year 2008). SIDES 6x6 9000 litre water 1100 litre foam product 1500 kg extinguishing powder (year 1997) Mercedes 4x4 fire and rescue equipment.

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

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

8.3 Winter conditions

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

8.2 Average annual days of snow: 14 days

8.3 Average snow depth: 3 a 4 cm

8.4 Maximum snow in 24 hours: 10 cm

8.5 Annual number of days of de-icing activities: 20-25 days

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? 6 persons

9.2 How many sub-contracted winter services personnel are available per shift? none

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmitt, CJS 720, 4 units) Snow plough MB Track, 3 towed blowers Shorting, Mercedes de-icing vehicle 4000 litre potassiumacetaat

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility. First Rw 11/29 then Twy’s and Apron 1 and 2

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. Start sweeping on the Rw axis with 2 snowblowers working close together - the first on the axis and the second 3m out of the axis in the back of the first, then working the snow out to the edges taking care not to cover the Rw light systems. Same procedure for the Twy’s.

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

12. FRICTION TESTING

12.1 What model(s) of friction tester do you use? SAAB friction tester

12.2 What are the typical intervals between friction tests? As much as necessary.

12.3 Do you have any comments on the reliability of friction indexes? Reliability is good

13. EXPERIENCE WITH CHEMICALS

13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. 42.000 litre used Cryotech Potassiumacetaat effectiveness good and a good hold over time

13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow- away factor” etc. In case we need a strong reaction (black ice ) we spread prilled potassiumacetate and moisten the product with liquid potassium acetate.

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

13.5 Have you employed any special means to economise on chemical use? Previous use of the liquid dealer and a close control of the physical action of the chemicals. Close follow up of the meteo conditions.

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

14. ICE WARNING SYSTEMS

14.1 State model and number of ice warning systems. 2 sensors on the Rw

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

14.3 Comment on your experiences of the benefits/ disadvantages of ice warning systems. The warning system is for us a second help, in the first place personal control of the pavements is necessary.

15. AIRCRAFT DE-ICING

15.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units. Done by private company

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

15.3 Is glycol recovered? If so, please state methods.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) No

16.2 Are there areas of your winter operations which require improvement? No

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

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

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

Pius 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 Are there areas of your winter operations which require improvement? No, but we plan to use other chemicals halfway through the season that have less environmental impact.

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

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

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

ANTWERP
ARMENIA
ACI EUROPE AIRSIDE SAFETY QUESTIONNAIRE 2010
PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT INFORMATION
1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airfield operations management, Contact information: Operations and Safety, Armenia International Airports.” Mr. Sergey Nalbandyan. Phone 374 010 282 036 ext. 7278. Telefax 374 010 493 000 ext 7112. SITA: EVNOPHH. E-Mail snalbandyan@aia-zvartnots.aero
1.2 Airport ICAO code and category: UDY2 category- 4D
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): RWY 09, TORA 3850m, TODA 4290m, ASDA 3850m, LDA 3850m. RWY 27, TORA 3850m, TODA 4150m, ASDA 3850m, LDA 3850m. 2.2 Lading aids for each RWY (e.g. CAT II): RWY 09: CAT II 900m LH, PAP
3. SAFETY MANAGEMENT SYSTEM
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. OPERATIONS MANUAL – YEREVAN International Airport “Zvartnots”. APPENDIX 14 “Safety Management System (SMS) Approved by DGCA RA, JUne 2007
3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? YES
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
AIA OPERATIONAL MANUAL. I/W/DE/V/310 – Rev.01 FOREIGN OBJECTS ON THE APRON and THERE REMOVAL OF HAZARDS.
5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual monitoring from ramp control in corporation with ATC.
5.2 Are any design or engineering changes being undertaken to reduce the likelihood of incursion? NO
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) NO
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. YES
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? 6 month refreshing training for drivers (communication)
5.6 Are 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, TRIATERAL MEMORANDUM OF RUNWAY SAFETY OPERATION, ZVARTNOTS / SHIRAK AIRPORTS. (Airport-ATC-Aircompany) issued at 2008. The Mandatory Occurrence Reporting Scheme at Airport Zvartnots
6. BIRD AND WILDLIFE CONTROL
6.1 Please describe your aircraft management policy and how it reduces the attraction of the airfield to birds. Wildlife Hazard Management Plan airport ZVARTNOTS, Airport Operation Manual APPENDIX 12 Wildlife Hazard Management 6.1 Do your staff attend recognised bird control training courses? Yes
6.2 Are your bird control staff involved in bird control should be fully trained initially, and undergo refresher training at intervals 1 year.
6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. Bird path in vehicle; 2 Bioacoustics (distress calls) Super BirdX peller PRO; 3 Electronically generated noise; 4 Propane cannons-Zan Mark 4; 5 Pyrotechnics; 6 Shooting to scare; 7 Netting hangar rafters, ponds etc. 6.4 How often do you carry out a bird strike risk assessment, and is this process audited? By contracting company “Zangaj” and audited by safety manager and ramp control . 6.5 What procedures are in place to identify bird species following a bird strike? Only visual. 6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Yes yearly.
6.7 Do your staff log all their bird control activities? How often do you log? How are these issues being addressed? NO.
6.8 Does your airport have problems with other wildlife (sheep/der, for example) and, if so, how are these issues being addressed? NO.
6.9 CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/ftire and type); year of manufacture, 3x Oshkosh Striker 3000 (Go: 3000 US gallon; Year 2007)
7.2 Future developments – are there plans to purchase or dispose of any equipment? YES. 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? NO. 7.4 If any, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. NO.
7.5 ReaNT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? From Dec to Feb. 8.2 Average annual days of snow-clinging: 10-15. 8.3 Average snow depth: 5cm 8.4 Maximum snow in 24 hours: 15cm 8.5 Average snow depth: 5cm 8.6 Annual number of days of de-icing activities: 50 day
9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available per shift? YES.
9.2 How many sub-contracted winter services personnel are available per shift? NO
10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet de-icer stand, CJS 720, 4 units): Snow plough, quantity -12 pieces – PM-130 : Hot-air Splasher machine, quantity 1 piece GM-1 KRAZ - VK-1 aviatoror : Snow collector (POMOP) machines, quantity – 2 pieces (D-902, DE-226); ZIL-4502-70 liquid chemical reagent machine; KAMAZ (liquid chemical reagent machine; ZIL-130-95 chemical solid reagent machine; Hot-air splash GM-1 KRAZ VK-1 aviatoror).
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
12. fRICTION TESTING
12.1 What model(s) of friction tester do you use? Friction coefficient of Runway and Aerodrome other elements is measured with the help of ATT-2 brake and SHIDKODOMETER BV 11 carts, using MITSUBISHI L-200 2500 car.
12.2 What are the typical intervals between friction tests? Time per day, with different runway specifications.
12.3 Have you any comments on the reliability of friction indexes? YES
13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. For removing the ice-crust from the pavement in chemical way the carbamide (AHS) chemical solid or anti-icing liquid as well as heating machine (HM-1 KRAZ VK aviatoror) is used, which move along the Runway axle.
13.2 Do you have any other comments on experience with chemicals? YES
13.3 Do you use any other chemicals or sand on operational areas? NO
14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. Have not.
15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti/ de-icing operations? NO, please state vehicle or other facility manufactures, and number of units. NO. It does by handling company “Zvartnots Handling” 15.2. 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 15.3 is glycol recovered? If so, please state methods. NO.
AIRSIDE SAFETY SURVEY 2010

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT INFORMATION

1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airfield operations management. Contact information: Aeroport International Baia Mare R.A., Tel +34-40-262-293444 ext. 112; Fax: +4-40-262-293444 e-mail: bftm_airport@yahoo.com

1.2 Airport ICAO code and category: LRBM

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. RWY length: 1800 metres, Take Off Run Available [TORA]: 1800 metres, RWY width: 30 metres, shoulder widths: 7.5 metres each side, total apron area: 285 metres x 65 metres, ramp area: NIL, other; 2.2 Landing aids for each RWY (e.g. CAT II): RWY 10: simplified Calvert 900 metres

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport. (Please see the template of its introduction. SMS: n° CSA DAC/ 1041 from 01/10/2008.)

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

4. RUNWAY INCURSION PREVENTION

4.1 Describe your airport’s programme for managing runway incursions. (Recorded database, runway incursion prevention teams, training, SMS, etc.)

5. BIRD AND WILDLIFE CONTROL

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Access control for vehicle and aircraft with trained staff;

5.2 Are your bird control staff working on the airfield a) continuously? - No b) at least every hour? - No c) less than hourly? - No

5.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). State relevant supplier/manufacturer.

6. MOVEMENT AND MANOEUVRING AREA DATA

6.1 Do your staff attend recognised bird control training courses? - NIL

6.2 Are your bird control staff working on the airfield a) continuously? - No b) at least every hour? - No c) less than hourly? - No

6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). State relevant supplier/manufacturer.

6.4 How often do you carry out a bird strike risk assessment? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons).

6.5 What are the designated period of aircraft regularly using the airport. - NIL

6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? - Never

6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) - NO

6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? - Yes, we have problem with wildlife - especially with dogs, deer and rabbits.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type: Romanian APCA; chassis: RO-MAN (e.g. MAN); axles (6x4, 6x6); 6x2; capacities 3000 litres (fire engine-1500 litres), 4000 litres (refillable liquid/ litre and type); year of manufacture: 1994.

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

7.4 If any, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest airport regularly using the airport. - NIL

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? - 01Nov-31March

8.2 Average annual days of snow: 20

8.3 Average snow depth: 10 centimetres

8.4 Maximum snow in 24 hours: 50 centimetres

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

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift?: 15

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units): SNOMIN + SCHORLING snow plow plus snow blade, 1 unit; 2L snow blower, 1 unit; Romanian U650 tractor with snow blade, 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility. Snow clearance, etc. will normally be carried out in the following order: 1. Runway in use and access road from the fire station. 2. Taxiway(s) to runway in use. 3. Apron, Other runways and areas. Measures will be taken to clear the runways to full width but in special cases conditions may dictate that wide runways be opened temporarily for traffic even if cleared to a width of 30m only. Snow clearance will not be considered completed until the runway is cleared to full width. Measures to improve braking action will be implemented when the friction coefficient on runways and taxiways is below the maintenance planning level shown in ICAO Annex 14, Volume I Attachment A, Section 7.

11.2 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? - 30 minutes

12. FRICTION TESTING

12.1 What model(s) of friction tester do you use? - NIL

12.2 What are the typical intervals between friction tests? - 3 Hours

12.3 Have you any comments on the reliability of friction indexes? - NIL

15. AIRCRAFT DE-ICING

15.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units. Yes, Ford D1618 / Trump, 1 Unit.

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

15.3 Is glycol recovered? Yes, state please whether - No

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, etc). If so, please state details. - No

16.2 Are there areas of your winter operations which require improvement? - No

16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. - new deicer vehicles will be delivered to us in December 2009.

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

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

BASEL MULHOUSE

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT INFORMATION

1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airfield operations management. Contact information: Basel Mulhouse Airport, Denis AUDEMAR, +33 (0) 3 89 90 25 91, +33 (0) 6 80 18 93 15, +33 (0) 3 89 90 75 92, daudemar@euroairport.com

1.2 Airport ICAO code and category: LSBF, category 7

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): Piste principale de 3900 mètres et 60 mètres de large en béton : QFU 15 de catégorie 3, QFU 33 de catégorie 1, Piste secondaire de 1820 mètres et 60 mètres de large : QFU 26 et 08 en VFR. Sur le de l'aire de manœuvre : 11 000 m²

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. SMS: N’ CSA DAC/ NE-001/2008. Date of introduction: 31/03/2008

3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Until now, we made no change

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of a) Training, Statistics, evaluation and identification b) Inspection by airline, airport, and airplane handling agency personnel. Inspection by airport personnel only c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). Maintenance by road sweeper only d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). Follow-up of the statistics with agencies using airports (airlines, handling agents)

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? Movement’s areas are inspected three times in day. We have a procedure for those inspections.

5.2 What safety devices are currently employed? (A-SMGS: Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) Operated by French DGAC

5.4 Comment on the use of any innovative warnings or guards – use of paint signs, lighting and other lower-cost technologies. Operated by French DGAC

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 already contracted and will be delivered to us in December 2009.

5.6 BIRD AND WILDLIFE CONTROL

P14 AIRSIDE SAFETY SURVEY 2010
6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds.

6.1 Do your staff attend recognised bird control training courses? Yes, the fireman are trained and controlled by the airport.

6.2 Are your bird control staff working on the airfield a) Yes, it’s operated by the fireman 24h/24

6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. Equipment employed: Recorded distress calls, Pyrotechnics, Shotguns, Laser

6.4 How often do you carry out a bird strike risk assessment, and is this process audited? We can transmit this information all the time. This process is audited all years by the French DGAC.

6.5 What procedures are in place to identify bird species following a bird strike? We can consult documents or transmit photos by mail to the authorities if we need any information about the bird species

6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Yes we do. Documentation and photos are transmitted to the authorities for every bird strike, that same day.

6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes they use the same software which is used for the fireman’s activities.

6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Sometimes, we have had problems with wild boar. The solution was, for example, to check and reinforce the fence and some farming is prohibited on the airport area.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture. Sides VM 90: 9000 litres water, 1100 litres foam product, 250 kg powder, (6x6 year; 1995). Sides VM 90: 9000 litres water, 1100 litres foam product, 250 kg powder, (6x6 year; 1997). Sides VM 60: 6000 litres water, 900 litres foam product, (6x6 year; 2001)

7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes for one vehicle. We are to study the equipments for the next engine.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No we don’t have a Fire Training Simulator.

7.4 If any, list the nationally fixed differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. We are in the category A.

We practise the category ICAO N-1.

PART 2: WINTER SERVICES QUESTIONNAIRE

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. We have: For the runways and taxiways: Their priorities are: Runway 15-33 (principal runway), Taxiways, Runway 08-26 (secondary runway). For the tarmac and service roads: 1 snow cutter with a working width of 4.75m; 1 spraying truck with a working width of 2.4m of liquid de-icing; 1 spraying truck with a working width of 12m of solid de-icing; 1snow cutter with a capacity of snow evacuation of 2800/h and an working width of 2.4m. For the tarmac and service roads: 2 Boschung Jetbrom equipped with sprayer liquid de-icing and a working width of 5.6m; 2 Unimog equipped with sprayer liquid de-icing and a working width of 2.5m; 1 Unimog with a V snow plough; 2 Trucks with a snow plough with working width of 4.75m 13.1.1 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? After a moderate snow and negative friction test, the present firemen begin the clearing of snow operations on the runway and the reserve men are called. When the reserve men arrive at the airport, they replace the present firemen and carry out operational procedures.

12. FRICTION TESTING

12.1 What model(s) of fricton tester do you use? We have a friction tester on a towning.

12.2 What are the typical intervals between friction tests? If the measures are good, the exploitation goes on. If the measures are wrong, the clearing of snow operations begin.

12.3 Have you any comments on the reliability of friction indexes? This measure has been around for 25 years and is verified every year by the assembler: Zurich airport, Antwerp, Before calibration.

13. EXPERIENCE WITH CHEMICALS

13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. We use: Liquid de-icer: Clearway 1; Solid de-icer: Clearway 6. Last year, we used 18 000 litres. We use a solid de-icer when we have icing rain and when the temperature is over -10°C. For all other situations, we use a liquid de-icer. In general, we have good results.

13.2 Comment on storage capabilities of the chemicals which you use. We have a tank of 50 000 litres. In January, we have another tank of 50 000 litres. For the solid de-icer, we have 6 tonnes in bag bag of 500 kg.

13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “slow-away factor” etc. The performance of liquid de-icer is limited with a temperature above -5°C and totally inefficient with a temperature of -10°C. With the necessary time to prepare the machine for the solid de-icer, the mixing ratios with liquids seem for us uninteresting with the results we have had.

13.4 Have you experienced any corrosion problems with de-icers? The de-icer requires a pump and pipe in stainless materials.

13.5 Have you employed any special means to economise on chemical use? This year, we have asked a French laboratory to regard our clearing of snow organisation. The major result is that the concentration rate of de-icer depends of the ground temperature. So, next year, we will install a forecast station which gives us different measures. We plan a formation of our drivers and supervisors in order to determine the good rate.

13.6 Do you have any other comments or experience with chemicals? No.

13.7 Do you use solid de-icers on sand or operational areas? No.

14. ICE WARNING SYSTEMS

14.1 State model and number of ice warning systems. Actually, we have two people who survey the infrastructure of the airport when the temperatures risk being under 0°C. We use: Liquid de-icer, the mixing ratios with liquids seem for us uninteresting with the results we have had.

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

14.3 Comment on your experience with solid de-icers? The de-icer requires a pump and pipe in stainless materials.

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

14.5 Is glycol recovered? If so, please state methods. No. But we could do because we have a sweeping truck for the aircraft which can recover it.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) Yes. See point 13.5.

16.2 Are there areas of your winter operations which require improvement? Yes, an organisation is never perfect. We can always research some new ideas to improve our winter 16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. No. We bought new equipments in 2007 and 2008: - 1 Schmidt CJS Compact for the clearing of snow of runways - 1snow cutter with a capacity of snow evacuation of 2800/h and an working width of 2.4m - 1 spraying truck with a working width of 24m of liquid de-icing

BILLUND PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT INFORMATION

1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for winter operations management. Contact information: Billund Airport, PO. Box 10, DK-7190 Billund, Denmark, Tel.: +45 76505050, Fax: +45 76505076, E-mail: info@billund-airport.dk, Airport manager Jørgen Krab Jørgensen, Winter services Lars Henrik Hansen, E-mail: lhh@billund-airport.dk

2. SURFACE AREA DATA

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

3. SAFETY MANAGEMENT SYSTEM

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

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

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

a) Training, Billund Airport is using a team of fire and rescue personnel who are making the runway inspection at least twice a day. Training is done as a routine perk. b) Inspection by airline, airport, and airline handling agency personnel. Inspections are done by the airport.

c) Maintenance (use of sweeping, magnetic bars, runway charts etc). Maintenance is done with use of sweeping when necessary.

d) Co-ordination of multiple agencies using airport operations management. Contact information: Billund Airport, PO. Box 10, DK-7190 Billund, Denmark, Tel.: +45 76505050, Fax: +45 76505076, E-mail: info@billund-airport.dk, Airport manager Jørgen Krab Jørgensen, Winter services Lars Henrik Hansen, E-mail: lhh@billund-airport.dk

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5. RUNWAY INCURSION PREVENTION

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

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? As soon as any hazard has been perceived, action will be taken.

5.3 What safety devices are currently employed? (A-SMGCS, Airport Movement Area Safety System - AMASS, or ASDE-X, the Model X Airport Surface Detection Equipment) No specific safety device such as ASMGCS, AMASS etc. are currently employed.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Billund Airport is using wig-wag at the entry of the runway and signs and lighting, and markings painted on the taxiways “RWY 06/27”.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Billund Airport have made a training program for all staff, who are working at the airport (excl. pilots) and specific for the staff who has to work in the manoeuvring area.

5.6 Have the reporting procedures for runway safety incidents been established jointly with other parties active in these processes? Further, do they safeguard the “non-punitive” principles such as “no-penalty” reporting? According to the Danish Law, all “near-miss” and runway incursion will be reported to CAE Denmark and to the Airport Safety Management. The reports will also be discussed in the Runway Safety Team.

6. BIRD CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. The airport’s assignment is to prevent game from breeding and disturbing air traffic.

6.2 This is done by inspection of the runway daily and furthermore as needed and by shooting or frightening away the game. Furthermore nests and eggs are removed. BL 3-16 is our legislation in this area.

6.1.1 Do your staff attend recognised bird control training courses? We aim at employees to have game license, apart from that there are no courses.

6.2.1 Are your bird control staff working on the airfield. We are on the runway less than each hour, however as needed.

6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons), Please state relevant supplier/manufacturer. Our supplier is Dätlyg Väbenhandel (Huntinglife) and our firearm is a sporting gun marked Simson Sulih cal. 12. The rifle is a Baikal cal. 22 mm, and apart from these we have a dummy pistol.

6.4 How often do you carry out a bird strike risk assessment, and is this process audited? Risk assessment is included in the yearly report from the hunting consultant. Yes.

6.5 What procedures are in place to identify bird species following a bird strike? If we cannot identify the kind of the game ourselves, we co-operate with a hunting consultant, who assists us in all matters of doubt. The attachment of a hunting consultant is statutory.

6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you do this? Billund Airport has a 4.2 litre engine, used by the Fire-Officer in command, too Simba with a Titan TR 39 816 6x8 chassis, 12 cylinder 880 hp acceleration engine, a 8 cylinder 250 hp pump engine. Equipment on the vehicles is Rosenbauer. Fully loaded they weight up to 46 tons, and have a water capacity of 11,000 litres and 1,000 litres foam concentrate. Acceleration from 0-80 kph in 25 sec. 1987. Two Scammel Nunub 6x8, 8 cylinder engine of 500 hp, which is both acceleration and pump engine. Equipment on the vehicles is Ruberg. They weigh 24,000 kgs and have a water capacity of 11,000 litres and 1,000 litres foam concentrate. Acceleration from 0-80 kph in 38 sec. 1983 & 1987.

6.7 Future developments are there plans to purchase or dispose of any equipment? There are no current plans for new investments.

6.7.1 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We are not in possession of a simulator, but we often use other airports that are in possession of a Mock-up Simulator 1/1.

8. WINTER CONDITIONS

8.1 What is the definition of “black top” and “winter readiness”? November – April

8.2 Average annual days of snow: 11

8.3 Average snow depth: 32,9 mm.

8.4 Maximum snow in 24 hours: 5,7 mm.

8.5 Annual number of days of de-icing activities: 40

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift 5

9.2 How many sub-contracted winter services personnel are available per shift 6

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidtt, CJS 720, 4 units). Blower sweeper, Schörling P12, 3.3m/23 km/h, 6 units; Snow plough, Mercedes, 3m/220 HP, 1 unit; Tractor / sweeper, Stensballe, 3m, 2 unit; Tractor/Brushes, Volvo 320, 2m, 2 units; Snow blower, Beilhach vF3, 230, 1600 T/h, 1 unit; Solid De-icer, Combi 4500 2T, 15m/30km/h/5000 l. unit; Solid De-icer, Combi 4500 2T, 15m/30km/h/3 t, 1 unit; Sand spreader, Epeke SEK 2000, 2m, 1 unit; Tractor/plough, Partner, 2.5m, 1 unit; Tractor/plough, Stensballe, 2.5 m, 1 unit; Loader, Volvo, 2.5 m³, 1 unit; Wheel Loader, CASE 695, 2.5 m³, 1 unit; Tractor/Brushes, 5m Speed Plough, 1 unit; Wheel Loader with 5m moveable snow plough, 1 unit.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility. RWY 09/27 (+ Fire & Rescue road) including twy’s, RWY 14/32 (+ Fire & Rescue road) including twy’s; RWY 09/27 (+ Fire & Rescue road) including twy’s / Kilo, 2. TWy Foxtrot, 3. Apron, 4. TWY’s Juliet, Alf, Charlie, Bravo, Golf, 5. Other 11.2 State operations and general method of runway, taxiway and apron clearance. Snow clearance is performed with 4-6 sweepers from the edge of runway and across the centre line to a distance of about 8m from the opposite runway end, then a snowplough clears this edge, which will leave the snow in a bank. Snow banks will be removed by blowers. If wind is calm, and deposit small, the removal will be initiated from the centre line. Apron tractors with brushes move snow close from aircraft to open area, then it is removed by sweepers. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 35 min.

12. FRICTION TESTING

12.1 What model(s) of friction tester do you use? Skidometer.

12.2 What is/are the typical interval(s) between friction tests? Depending on weather – from 10 min., to only once a day? As needed according to the actual weather conditions.

12.3 How do you have any comments on the reliability of friction indexes? None

13. EXPERIENCE WITH CHEMICALS

13.1 State which pavement de-icers you use, along with the quantities used last season. De-icing and anti-icing is performed with Aviform Solid and Aviform Liquid, depending on situation. Use of Aviform Solid is very restricted on RWY and TWY’s. Aviform Liquid is employed as the main de-icing/-anti-icing material on RWY and TWY, but if we have to remove a thick layer of black ice, it is allowed to use Aviform Solid. Used quantities of Aviform Liquid last season: 209.7 tons. Used quantities of Aviform Solid last season: 26.4 tons. Aviform Solid and Aviform Liquid are used on apron.

13.2 Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Aviform 50 is used since 1995, and until 1998 with good results. It is fast acting, and Aviform 50 behaves much like Glycol, but without Glycol’s ability to dry-up the surface. In the winter 1999/2000 we felt an exceptional drop in holdover times. There is no chemical change in the product, but the reason could be a new coating of the asphalt with change in the structure. We are still investigating the cause.

In the winter 2003/2004 we began testing Aviform Solid as a substitute for Urea. These tests have now been completed and from the turn of the year 2004/2005, Urea was phased out. We have had some problems with the putting down but in co-operation with Epoke Development Department we have solved the worst of them.

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

13.4 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. We have not had any problems with “blow-away”, but we have problems with moisturising of the dry matter to a degree where the holdover time became acceptable. This winter we operate with 50/50 and expect a holdover time of about 30 hours under optimum conditions.

13.5 Have you experienced any corrosion problems with de-icers? We have corrosion on parts of the de-icer vehicle and on lamps from Aviform 50. We have never had corrosion problems with Urea.

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

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

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

14. ICE WARNING SYSTEMS

14.1 State model and number of ice warning systems. Ice warning system, operation. Sensors: 4/5 surface-temperature, Air temperature 1, Dep-point 1, Anemometers 1. Central monitoring unit: PC with own software. All temperatures are updated every minute, and are graphed. Last one hour on the monitor. PC with connection to DMi (the Danish Meteorological Institute’s system)
4.1 Describe your airport’s programme to control FOD in terms of:

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

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Aircraft and vehicle movements are controlled and coordinated by local ATC (TWR) governed by memorandum containing applicable process instructions inside. 5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Airport parking positions and taxiway-markings to eliminate potential pilot confusion about taxi directions. Fenced the area. 5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) Aircraft movement control during low visibility operations (CAT II / CAT III) is accomplished by an active taxiway lighting guidance system with intermediate holding position marklings and lights, stop bars and induction queues. 5.4 Comment on the use of any innovative safety devices (e.g. LPA for bird strike; EML for landing zone). 5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Yearly training for mechanics, airport vehicle operators, and other people who work at the airport (instructions, wireless-communications etc.). The airport duty manager at the airport traffic centre performs yearly training sessions about airport movement areas for authorities including police, MET service personnel and other service personnel. 5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Daily-general-reports. Daily-general-reporting-procedures are used.

6. BIRD AND WILDLIFE CONTROL

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

6.1 Do your staff attend recognised bird control training courses? Yes, internal training (on the job training). 6.2 Are your bird control staff working on the airfield at continuous? Yes. bird control staff is employed by the airport and familiar with the area and airport procedures. 6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. 6.4 Bird control takes place using approximately 48 bars, rumble strips, FOD containers. 6.5 What procedures are in place to identify bird species following a bird strike? If no immediate ID is possible, pictures are taken and sent together with a bird strike report and the remains of the bird to the German Bird Strike Committee (GBSC) dwl and the LBA (Luftfahrtbundesamt). 6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Yes, immediately after each bird strike. 6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes. Every bird control activity is recorded in a report and available to the responsible bird strike manager. 6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Wild rabbits. Control by state approved hunting on a yearly basis and daily / weekly monitoring.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassiss (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture. ELW, VW Sharan 4x4, 1998; ELW Toyota RAV 4, 4x4, 2006; Trolf T 2000, 2000Kg powder, MAN 6x6, 1996; Flughafen-Hubrettungs-Trolf, 2000Kg powder, MAN 8x8, 1989, FLF 60/90 I, 9000 litre water, 1000Kg powder, 1988, FLF60/90 II, 9000 litre water, 1000Kg powder, 1998, FLF60/90 III, 9000 litre water, 1000Kg powder, 1989, FLF 60/90 III, 9000 litre water, 1000Kg powder, MAN 8x8, 1998, FLF 60/60, 6000 litre water, 600Kg powder, MAN 8x8, 1984. 7.2 Future developments – are there plans to purchase or dispose of any equipment? No. 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Fire Training Simulator training procedure externally in Rotterdam and FRA.

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? (Dec/Nov – Mar/Apr) 8.2 Average annual days of snow: 20 days 8.3 Average snow depth: 2 – 4 cm 8.4 Maximum snow in 24 hours: 25 cm 8.5 Annual number of days of de-icing activities: 30 – 50 days.

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? Ca. 2 9.2 How many sub-contracted winter services personnel are available per shift? Sub-contracted winter services personnel on request only.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJ5 720, 4 units) BRE – Equipment: 5 Airlast-Snow-Sweepers (Schörling P17B) towed by 4 Trucks/Mercedes-Benz, Typ 1928, 4x4)- and 1 Truck (MAN TGA 18.350 4x4 BLS, with Snow Ploughs (Schmidt SM) each. 2 Trucks (Magirus 4x4, Mercedes-Benz 4x4) with Snow Ploughs, 1 Snow-Blower (Unimog 1300 4x4 / Schmidt Turbostream TS1). 1_De-Anti-Icing-Units (veco 330-30, 6x8 / Küpper-Weisser Multi-De-Anti-Ice, 9m³ Fluid, 6m³ Solid). 1_De-Anti-Ice –Unit (veco 330-30, 6x8 / Küpper-Weisser , 14m³ Fluid). 1 Singel-Rotation-Sprayer (MB UX 104, Füller 30m³/meter Typ SDA 95, 1,5m³). 1 Singel-Rotation-Sprayer (MB 300GD, 4x4 / Küpper-Weisser Typ SDA 95, 1,5m³). 1 Truck, Sander 5m³ (Magirus-Deutz M232D15 / Epoke), 2 SKW, Splitmeter IV, 1m³/meter Typ 90, 1 TAP.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of
12.5 Do you have any winter services equipment which you would like to sell? No, we have not.

BRUSSELS AIRPORT COMPANY

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT INFORMATION

1.1 Please insert your airport primary and full contact information (phone, fax and e-mail) for safety/airport operations management. Contact Information: The Brussels Airport Company, Dirk Geukens, Senior Safety Manager, tel. 32-2-7536804 fax 32-2-7536810 E-mail Dirk.Geukens@brusselsairport.be 1.2 Airport ICAO code and category: EBBR 4E

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of your unique 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 : 3638 m x 45 m, 7.5m shoulder, Rwy 07L : 3951 x 45 m, 7.5m shoulder, Rwy 25L : 4125 x 45 m, 7.5m shoulder. TORA : rwy 07L 2891m, rwy 25L 2511.3m, Rwy 02/20: 2987m x 50m with 50m shoulder. TOR : rwy 02 and 20 2987m, Tay’s ; with 30 m with 30 m shoulder, Main apron : 4,892,000 m², cargo apron : 170,000 m², General Aviation apron : 21,000 m². 2.2 Landing aids for each RWY (e.g. CAT II): Rwy 25R and Rwy 25L: cat III B, rwy 02 : cat I, Rwy 20 : 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 with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the data of its introduction. Introduction Date: Safety Management Unit in place since 1st of June 2008. Safety Management Manual published since 10th of December 2008. Accepted by local BCAA 28th of February 2009. Full ANN 14 Aerodrome Certificate till 28February 2012. Contents of Manual and description of SMS content: Introduction to the Safety Management System Handbook; Arr of Safety Management at Brussels Airport; Safety Management System - organisation and strategy; Brussels Airport Derrin circle; Structure and organisation of the SMS; Responsibilities and tasks, by level; Safety committees; Working groups; Safety Management Unit discussion-group (SMU Brussels Airport and SMU Belgocontrol); System for determining safety-critical domains; Measures to increase safety and avoid accidents; Safety; Safety vs. risk; Accidents vs. incidents; Occurrence of an accident, an accident or both; Relationship between safety and security; Operational safety policy at Brussels Airport; Method for risk-assessment; Determination of probability; Severity of occurrence; Risk index; Acceptability index; Hazard identification. Guidelines, regulations and procedures; Traffic rules at Brussels Airport; Runway and taxiway incursions; Apron low visibility procedure; Foreign Object Debris (FOD); Wildlife management; Fuel spills; Winter operations and snow/icing procedures; Airfield lighting and visual aids; Aerodrome Manual; Airside works. Measurements, analysis and improvements: SMS strategy and planning; Data sources; Data analysis; Data publishing; Data handling; Data translators; Flight Operations indicator; Brussels Airport flying activity indicator; Hazard indicators; RWY incursions; Wildlife strike incident rate; Fuel spills; FOD checks on RWVs; Safety reporting and enhancement system; Emergency indicators; Facility Management (ERTC) Fire & Emergency Services. Reporting and communications:

Reporting system; Mandatory reporting; Voluntary reporting; Confidential reporting; Principles of a worthwhile reporting-system; Reporting system; SMS Airport inspection incident reporting system; Voluntary reporting system; Incident and Accident investigation. Quality and safety; Responsibilities of the Accountable Manager; Responsibilities of the Audit Unit and the Audit Manager; Responsibilities of the organisation or department being audited; Who is audited, and when; Preparation for an audit; Evaluation criteria; Characteristics of an audit; Audit Report. Change management (structural changes, operational changes or both); Reactive change-management; Proactive management; Responsibilities and methodology; Document Management; Information structure; Clients and partners; Processes; Standard operating procedures; Projects; Departments; Planning and organisation. Staff skills and training; Specific training; Introductory training, Safety Policy of The Brussels Airport Company. Training Certificates 3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? The audit process will start as from 2010. Nevertheless a lot of lessons were already learnt by means of “incident investigation” and by performing “trend analysis”. Major procedural or infrastructural changes are always subject to complete hazard identification and a new audit/assessment process.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

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

a) Training. A lot of promotion and prevention campaigns, regular safety newsletters with lessons learnt and performance indicators, mailings, courses for all personnel on all safety concerns regarding operations on airside.

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

c) Maintenance (use of sweeping, magnetic bars, new FOD bins). A sweeping program by special sweeping vehicles equipped with magnetic bars, new FOD bins installed near each airport stand and prevention on tool management for our partners.

d) Co-ordination of multiple agencies using the airport (airlines, handling agents etc.)

Poster campaigns, etc... in Apron Safety Committee and Local Runway Safety Team. 4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments.) planned for 2010

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual observation, SMR, Multilateration, Radio contact, Brussels Airport inspection vehicles will be transponder equipped.

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Replacement of signage on exits and entries, more and better stopbars. A vehicle tracking system and RIMCAS are under study. Brussels Airport inspection vehicles will be transponder equipped.

5.3 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Additional painted markings and signs to avoid Ray line-up confusion between Rwy 25R and Rwy 20, Usability of night-time, crossing Rwy operations as well as during LVP.
5.4 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? RTF and standard ICAO phrases are the primary vocabulary for vehicle drivers. Refreshers courses and awareness campaigns, safety newsletters implementation of the “European Guidelines for the Prevention of Roy Incursions”, regular Local Roy Safety Team meetings.

5.5 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? The Civil Aviation Safety Occurrence Reporting is regulated by the Belgian CAA Circular CIR/ INS/01, covered by a Royal Decree of 22/04/2005. The “just culture” concept has been adopted by the “Independent Investigation Cell for Air Accidents and Incidents” of the Ministry of Transportation. Brussels Airport has implemented a voluntary reporting system, available online via www.brusselsafe.by.

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, no agriculture or vegetation that can attract birds.
6.2 Are your bird control staff working on the airfield a) continuously? daily between 6 am – 10 pm
6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons), Please state relevant supplier/manufacturer.
6.4 How often do you carry out a bird strike risk assessment, and is this process audited? Implemented within SMS.
6.5 What procedures are in place to identify bird species following a bird strike? bird species are sent to CAA
6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Yes, report numbers are sent to CAA once a year
6.7 Do your staff log all their bird control activities? (To manage success in dealing with the problem, and to use in defence in case of lawsuits) yes
6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? rabbits, regular hunting is organised
7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (l/tonne type); year of manufacture.
CVR VEHICLES INVENTORY STATING: FGK 4105, Kromenong chassis, 8x8 axles, 16,000 litre water; 2,000 litre foam, 4,000 kg, powder, Monitor-output : 4,000 – 7,000 L/min, Monitor-output power : 30 – 60 kw/sec, 1997, KR50, 1100.60.B8d, Kromenong chassis, 16,000 litre water; 1,000 litre foam, 500 kg, powder, Monitor-output : 3,000 – 6,000 L/min, Monitor-output power : 15 – 30 kg/sec, 1999, FLF 80/25 D due, MAN 8x8 axle, 12,500 litre water ; 1,000 litre foam, 500 kg, powder, Monitor-output : 2,000 – 4,000 L/min (snowjet), 2007, KR5.1100.60.B8d, Kromenong chassis, 16,000 litre water ; 1,000 litre foam, 500 kg, powder, Monitor-output : 15 – 30 kg/sec, 2000. LF 36/30 x 2/45v 6x6, MAN chassis, 12,500 litre water ; 1,250 litre foam, Monitor-output : 3,000 – 6,000 L/min, 1977, TM 19 FA crane, MAN 8x8 axle, 4x4 axles, 4,000 litre water ; 250 litre foam, 500 kg, powder, Monitor-output : 2,500 L/min, bumper turret-output: 1,000 L/min,
Monitor-output power : 15 – 30 kg/sec, 2000
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No Fire Training Simulator 7.4 If any, how often is it professionally fitted, for example with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. No differences
8. PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? 1 November – March 8.2 Average annual days of snow: ± 5 8.3 Average snow depth: ± 3 cm 8.4 Maximum snow in 24 hours: ± 15 cm 8.5 Annual number of days of de-icing activities: ±14
9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available per shift? 20
9.2 How many sub-contracted winter services personnel are available per shift? 10
10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJ 2170, 4 units) tower blower sweeper , Scholring PZ1, 1 unit - tower blower sweeper , Pyrospex 89B, 3 units - conoject jet sweeper, Schmidt CJ2170, 2 units - compact jet sweeper, Schmidt CJ519, 2 units - compact jet sweeper, Scholring PZ1, 1 unit - thermo blower, Bertin TS5, 2 units - sprayer, Nido Schmidt ASP on Acros, 2 units - sprayer, Nido Schmidt RSP on Unimog, 1 unit - sprayer, Nido Schmidt RSP on Atego, 1 unit - sprayer, Nido Schmidt RSP on Avor, 2 units - sprayer, Nido Ardenna on Renault, 1 unit - sprayer, Nido Baby on Multicar, 1 unit - spreader, Nido Stratos on Atego, 1 unit - spreader, Acometis on Man, 1 unit - friction tester SFH, ASFT on Saab 9.5, 1 unit - friction tester SFH, ASFT on Saab 9000, 1 unit
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility. RWY 07L/25R or RWY 02/20 with associated main Twy’s and aircraft de-icing area. RWY 07R/25L, main aprons, cargo apron, other twy’s and aprons.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. Standard clearing plans and procedures are to be followed.
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 60 min
12. FRICTION TESTING
12.1 What model(s) of friction tester do you use? SFH Saab 95
12.2 What are the typical intervals between friction tests? Depends on situation and/ or linked with information on SNOWTAM
12.3 Have you any comments on the reliability of friction indexes? Worldwide standardisation of RWY friction values is necessary.
13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season, Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. CRYOTECH E36 : 98.000 l + Clearway F1 : 900.000 litres (last year) But not good but with extreme low temperatures.
13.2 Comment on storage capabilities of the chemicals which you use. Good, storage capacity 220.000 l
13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, Solids used in combination with liquids: mixing ratios dependable on conditions. 13.4 Have you experienced any corrosion problems with de-icers? Only on galvanised equipment, not on aircrafts.
13.5 Have you employed any special means to economise on chemical use? No 13.6 Do you have any other comments on experience with chemicals? No 13.7 Do you use other chemicals or sand on operational areas? No.
14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. Vaslaia Icecast Viewer; 13 warning sensors. 14.2 Have you plans to purchase further ice warning systems and if so which model(s)? Yes, Model not yet specified. 14.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. It is helpful as an indicator.
15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti/ de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units. No It is done by handling companies.
15.2 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
15.3 Is glycol recovered? If so, please state methods.
16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) We try to improve our procedures every year. (workshops and SMS)
16.2 Are there any of your winter operations which require improvement? yes, on aircraft stands and aprons.
16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. NO 16.4 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. No 16.5 Do you have any winter services equipment which you would like to sell? No

BUDDAPEST

PART I: GENERAL AIRSIDE SAFETY
1. AIRPORT INFORMATION
1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/ airfield operations management. Contact information: BUDAPEST Airport Pte.Ltd. Airside Operations Department, H-1185 Budapest, Budapest-Ferihgy 1675, P.O. BOX 53. Tel.: +36 1 296 5535, Telefax. : +36 1 296 8981, Email: airsida.bud@bud.hu
1.2 Airport ICAO code and category: LHBP 4E
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 longest); Off Runway, RWY 13R/31L, length 3031m, TORA 3031m, width 45m, RWY 13L/31R, length 3707m, TORA 3707m, width 45m. RWY system 427,902 m general width 23m except A1 is 19m. The paved shoulder is 3.5 m. Aprons : 521,120 m²
2.2 Landing aids for each RWY (e.g. CAT II): 13/
3.1: CAT II operations on 13L and CAT Ill/a on 31R, 13R/31L: CAT I operations on 13R and 31L also with ICAO compliant markings and AGL systems

3. SAFETY MANAGEMENT SYSTEMS

3.1: The ICAO Aviation Safety Audit of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a deliberate and planned way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. The main parts of the SMS system are implemented from the beginning of 2006. The full SMS system will be implemented on 10th of January 2010.

3.2: Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes. Following the results of HSGE audit, the birdd and wildlife activity is increased.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

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

a) Training. Yes. The FOD as a safety risk is a part of the airside drivers training programme and FOD awareness campaigns periodically

b) Maintenance (use of sweeping, magnetic bars, number of units, etc.). Cleansewpaintsworkseveryweek,regularsweeping,

FODcontainersforallparkingstands
d) Co-ordination of multiple agencies using FOD containers for all parking stands

5. RUNWAY INCURSION PREVENTION

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

A-SMGCS system level 1 is implemented.

5.2: Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Yes. The VEO system will be implemented in the beginning of 2010. As part of the A-SMGCS system 5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Airfield safety publications, high visible signs and markings, NO ENTRY markings and, H24 operations of AGL.

5.3: Any Specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Manoeuvring area inspection and maintenance procedures are in force. Awareness campaigns, training for mechanics and maintenance workers

5.6: Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the “non-punitive” principles such as ‘no-penalty’ reporting? A non punitive reporting system was implemented in 2007. by the ANSP for ATCOS. The analysis and mitigation actions are done by the Local Runway Safety Team.

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, Tree and forest management, anti-vehicle and vegetation control around the perimeter fence of the airport.

6.2: Are your bird control staff working on the airfield controls YES. They do. During the daytime the Bird and Wildlife team is working.

b) at least every hour? During the night period the Airfield Operations Officers are responsible for monitoring and protecting the airfield

6.3: What specialist equipment do you employ for bird control (and which bird control activities, calligraphic pyrotechnics, shotguns, dogs, lasers, falcons).

Please state relevant supplier/vendor, manufacturer, Pyrotechnics, Falcons, Recorded distress and bird alarm cries, gas cannons, shotguns.

6.4: How often do you carry out a bird strike risk assessment, and is this process audited? Twice a year by internal audit and quarterly as a part of the Safety board meetings

6.5: What procedures are in place to identify bird species following a bird strike? A bird team expert identifies the bird.

6.6: Do you collate bird strikes and report numbers to your regulatory authority? Yes. How often do you report? 4 times per year

6.7: Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes. The detailed “LHBP Bird and wildlife log” is implemented for reporting all activities.

6.8: Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Rabbit, gopher, fox, not too often do we, and control is addressed.

7. CRASH FIRE RESCUE

7.1: Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (light and type); year of manufacture. High category vehicle – 5; Md category vehicle – 1; Small category vehicle 2; Water supplier vehicle (20000 ltr) – 1

7.2: Future developments – are there plans to purchase or dispose of any equipment? Yes. To purchase 2 category vehicle (under review).

7.3: If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Inhouse training simulator is, and one old aircraft for training.

7.4: If any, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. No.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1: What is the designated period of winter readiness? According to the Winter Services Manual the designated period is between 15th November and 15th March

8.2: Average annual days of snow: 25-30 days

8.3: Average snow depth: 10 cm

8.4: Maximum snow in 24 hours: 25 cm

8.5: Annual number of days of de-icing activities: 65-75 days

9. WINTER ORGANISATION

9.1: How many airport-employed winter services personnel are available per shift? 15-20

9.2: How many sub-contracted winter services personnel are available per shift? 15-20

9.3: Average snow depth: 10 cm

9.4: After moderate snow, how quickly do you process before reopen the runways or taxiways. Necessary. The final step is the friction measuring process before reopen the runways or taxiways.

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

10. EXPERIENCE WITH CHEMICALS

10.1: 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, Cleanway-1, and sand on the landslide and other non-airfield areas

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

10.3: Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away” etc. No. Expecting yes.

10.4: Have you experienced any corrosion problems with de-icers? No. Corrosion problems were detected 10.5 Have you employed any special means to economise on chemical use? No

11. EXPERIENCE WITH CORROSION

11.1: State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Urea, Cleanway-1, and sand on the landslide and other non-airfield areas

11.2: Have you any comments on the operational areas? Sand is used on landside roads and car parking areas only.

12.1: State model and number of ice warning sensors used. DUTY, ALMOS System, Sensors: Air temperature: 12.2: What are the typical intervals between cold product tests? The chemicals which you use. No

12.3: Have you any comments on the friction testing? Yes. Comment on effectiveness of friction testing on the runway. See: Spring 785.

12.4: Is theＡＩＲＣＲＡＦＴＤＥＩＣＩＮＧ satisfied? Yes. A sufficient holdovers was achieved. Urea, Clearway-1, and sand on the landslide and other non-airfield areas

13. EXPERIENCE WITH CHEMICALS

13.1: State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Urea, Cleanway-1, and sand on the landslide and other non-airfield areas

13.2: Do you collate bird strikes and report numbers to your regulatory authority? Yes.

13.3: How many sub-contracted winter services personnel are available per shift? 15-20

13.4: After moderate snow, how quickly do you process before reopen the runways or taxiways. Necessary. The final step is the friction measuring process before reopen the runways or taxiways.

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

14. ICEG DE-ICING

14.1: State model and number of ice warning systems, VASALA SYSTEM, MET OBSERVER DUTY, ALMOS SYSTEM, Sensors: Air temperature: two/runway from 2m from the ground, RWY temperature: two/runway flush with surface.

15. AIRCRAFT DE-ICING

15.1: Does the airport directly provide aircraft anti- de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. The aircraft de-icing takes care of handling agents at the airport.

15.2: Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-ice on parking area mainly. In case of remote de-icing is needed due to short hold over time, de-icing is done at a Holding Bay 85 in case 13L, and on the stands are closed to runway, 31R

15.3: Is the glycol recovered? If so, please state procedures. No glycol recovery process

16. FUTURE DEVELOPMENTS

16.1: Are you about to update your airport’s methods? (snow clearing vehicle formations, for example) Due to reduced width of runways we have to focus on the snow-blower activities parallel with the sweeping process.

16.2: Are there areas of your winter operations which require improvement? No
16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. Yes. To purchase new high speed sweepers and a blower unit - which is under review.

4.1 Describe your airport’s program recently made following the reappraisal of refueling and catering procedures, Wrong procedures documented as Incidents/Accidents, Spillages, Bird Strike and presence of animals in maneuvering document as Incidents/Accidents, Spillages, Bird Strike and presence of animals in maneuvering. The airport Safety Committee has been established. and goals are in accordance with the ICAO Manual Management System since 2007. The SMS structure has been established. Safety committee has been set up. Safety processes have been identified and documented as Incidents/Accidents, Spillages, Bird Strike and presence of animals in maneuvering. Areas, Damage to aircraft or to airport facilities, Jet-blast, Incorrect service operations, including refueling and catering procedures, Wrong procedures of aircraft movement to/from stands, and any other events with potential impact on safety. What are your airport’s basic safety rules?

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary. Please outline the SMS for your airport, and the date of its introduction. Burgas Airport has established and implemented a Safety Management System since 2007. The SMS structure and goals are in accordance with the ICAO Manual on Certification of Aerodromes. Safety Manager nominated. Aerodrome manual is available. An Airport Safety Committee has been established. Safety processes have been identified and documented as Incidents/Accidents, Spillages, Bird Strike and presence of animals in maneuvering. Areas, Damage to aircraft or to airport facilities, Jet-blast, Incorrect service operations, including refueling and catering procedures, Wrong procedures of aircraft movement to/from stands, and any other events with potential impact on safety. What are your airport’s basic safety rules?

3.2 What sort of changes has your airport made following the reappraisal of risks and hazards identified by internal/external audits of the SMS? The SMS is a continual evolving process and internal audits ensure that improvements are made where necessary.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s program to control FOD in terms of: a) Training. Removal and prevention of FOD is a theme that is communicated to all persons trained or training for work in the movement area. b) Inspection by airline, airport, and airline handling agency personnel. Inspection by the Airport. All parties operating in the movement area are responsible for the prevention and removal of FOD. Stand Pre-use FOD inspection is part of handling agency obligation. Airport Apron Supervision inspects all apron areas every day. c) Maintenance. Magnetic bars, Rumble strips, FOD containers etc. Dedicated FOD bins on each stand, FOD inspections by Airport Operations and Safety staff and removed by airfield maintenance. Routine maintenance on a daily basis and on special request using Sweepers. d) Coordination of multiple agencies using airport (airlines, handling agents etc). YES, Airlines and Handling agencies. Within Safety Management System. 4.2 General: Are there any special systems or software solutions you employ for FOD control? Please specify product name and add any comments. 5. RUNWAY INCURSION PREVENTION 5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual control from ATC Tower. All vehicles are equipped with radio communication devices to contact with ATC Tower. 5.2 Are any design/engineering moves being undertaken/required to eliminate perceived hazards? YES. All markings, signs and lighting systems are designed according to ICAO Annex 14. Incursion hot spots have been identified and published. Hazards will be eliminated with all necessary changes. 5.3 What safety devices are currently employed? No specific safety devices are currently employed. 5.4 Comment on the use of any innovative warning or guards – use of paint, signs, lighting and other lower-cost technologies. Reflective pavement paint, illuminated signs. Airport constantly upgrades infrastructure. 5.5 What specific airport procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airports? For airport operators a special driving license is issued by the Airport Safety Department after training and instruction. Any subcontracted airside services are escorted by trained airport employee with continuous radio contact to ATC. Radio communication ICAO phraseology for the staff who are working at the movement area is obligatory. 5.6 Are there special procedures for ‘near-miss’ reporting such as ‘no-penalty’ reporting? Reporting system is part of the SMS. Fraport Twin Star Airport Management AD Burgas Airport has “no-penalty” reporting regulations for reporting system. 6. BIRD CONTROL 6.1 Please detail your habitat management policy and where it reduces the attraction of the airfield to birds, RWy are equipped with electronic Bird Repellent System: Phoenix Waier, Bird x megalaster, Bird, Bird megalaster, Bird megalaster, Bird x megalaster, Bird x megalaster, Bird x megalaster, Bird x megalaster, Bird x megalaster, Bird x megalaster, Bird x megalaster, Bird x megalaster. We have no problems with other wildlife. 6.2 Are your airport staff trained in bird control procedures? Yes. Are there any specific safety devices currently employed. 6.3 What safety devices are currently employed? No specific safety devices are currently employed. 6.4 How often do you carry out an annual bird strike risk assessment, and is this process audited? Risk assessment is carried out monthly by our Safety Department. 6.5 Do you have a published bird control strategy? Yes, it is contained in the SMS. 6.6 Do you have a published bird control strategy? Yes, it is contained in the SMS. 6.7 Do you log all bird control activities? Yes.

5.6 Are there special procedures for ‘near-miss’ reporting such as ‘no-penalty’ reporting? Reporting system is part of the SMS. Fraport Twin Star Airport Management AD Burgas Airport has “no-penalty” reporting regulations for reporting system. 6. BIRD CONTROL 6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds, RWy are equipped with electronic Bird Repellent System: Phoenix Waier- 64. It is deterrent. It works how it reduces the attraction of the airfield and initiate action when necessary. 6.2 Are your airport staff trained in bird control procedures? Yes. Are there any specific safety devices currently employed. 6.3 What safety devices are currently employed? No specific safety devices are currently employed. 6.4 How often do you carry out an annual bird strike risk assessment, and is this process audited? Risk assessment is carried out monthly by our Safety Department. 6.5 Do you have a published bird control strategy? Yes, it is contained in the SMS. 6.6 Do you have a published bird control strategy? Yes, it is contained in the SMS. 6.7 Do you log all bird control activities? Yes.
8.3 Average snow depth: 5 cm
8.4 Maximum snow in 24 hours 10-30 cm
8.5 Annual number of days of de-icing activities: 20-30

9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available per shift? 1 technician, 8 drivers on shift, 9 drivers stand-by
9.2 How many external winter services personnel are available per shift? Sub-contracted winter services personnel on request only.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units. Unimog dual engine snow-plow 2 units, Rotor snow-plower 2 units - ZIL 131, ZIL 151, Plough ZIL 131-1 unit, Plough Kraz-1 unit, Ferrtilizer-spreaders RCP 25-1 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, Taxiways - A, C, H, Apton, then all other areas.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. General method during snow cleaning and state the vehicle. Depending on current weather situation, wind direction and velocity -2 snow sweepers will clear the RWY along the whole width.
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 2 hours.

12. FRICTION TESTING
12.1 What model(s) of friction tester do you use? SARSYS TRAILER FRICTION TESTER
12.2 What is/are the typical interval(s) between friction tests? Any change in the condition of RWY/TWY surface is followed by friction testing. After each snow or ice removal action, friction testing must be carried out. Friction testing is carried out if significant change is expected.
12.3 Have you any comments on the reliability of friction indices? No. The SARSYS trailer friction tester is brand new, and under warranty. Will be used for the first time.

13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. SAFEWAY NA HOT will be used for the first time this year. Holdover times are to be checked this year.
13.2 Comment on storage capabilities of the chemicals which you use. Storage is no problem. We expect to use approximately 30 tons.
13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc. Until now only solid deicers, No experience with mixing ratios with liquid.
13.4 Have you experienced any corrosion problems with de-icers? We haven’t, had any corrosion problems.
13.5 Have you employed any special means to economize on chemical use? Not yet. We purchased two new vehicles with precise proportioning.
13.6 Do you have any comments on experience with chemicals? No.
13.7 Do you use other chemicals or sand on operational areas? No.

14. ICE WARNING SYSTEMS
14.1 State what the primary method of monitoring facilities and the surface areas. RWY Designator – 08/26, Total RWY length 3590m x 45m, RWY 26/08 – 3590m, TODA for RWY 08/26 – 3590m, ASDA for RWY 08/26 – 3590m, LDA for RWY 08/26 – 3590m. Total apron and ramp area – 110000 m2.
14.2 Landing aids for each RWY: RWY 08 – CAT – II 870m UH; RWY 26 – CAT I 899m UH

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: ‘The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.’ Please outline the SMS for your airport, and the date of its introduction. State Enterprise ‘Chisinau International Airport’, Aerodrome Manual: Edition 3: Administration and Flight Safety Management System during Aerodrome Operation: Aerodrome Operator Management; Organizational Structure of S.E. ‘Chisinau International Airport’; Flight Safety Management System; Terms and Definitions; Flight Safety Policy; SMS Structure and Organization; Liability; Accountability; SMS Strategy; SMS Strategy of S.E. ‘Chisinau International Airport’; Flight Safety Management Procedures; Definition of Occurrences Related to Flight Safety; Aviation Occurrences; Accidents (Severe Accidents); Aircraft Ground Damage; Emergency Situations; Specific Occurrences; Guidelines on Application of System Regarding Compulsory Provision of Data connected with Flight Safety Occurrences; Goal; Applicability; Prompt Report; Prompt Report Contents; Communication Means; Report within the Flight Safety Management System (SMS); System of Voluntary Provision of Data connected with Flight Safety Occurrences; Goal; Liability; Data Provision Method; Report Recording; Flight Safety Assessment and Status Monitoring System; Measures Ensuring Flight Safety and Accident Prevention; Aerodrome Division; Flight Electrical and Lighting Supply Division; Transport Division; Ornithological Flight Insurance; Operational Division; Flight Safety Division; Middle Managers’ and Senior Experts’ Selection and Training; Airport Operation and Maintenance Document Management and Data Registration System; Personnel Training and Qualification; Coordination Procedures Activity of Outside Suppliers’ and Contractors’; Procedures Goal; Agreement Evaluation; Current Agreement Evaluation; Flight Safety Insurance during Aerodrome Works Performance
3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? - Yes.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of: - Programme of actions approved by CAA. - Training – training of personnel every 6 months.
4.2 General: Are there any special systems or software solutions you employ for FOD control? – No.
4.3 In terms of:  - Programme of actions approved by CAA. - Training – training of personnel every 6 months.
4.4 General: Are there any special systems or software solutions you employ for FOD control? – No.
4.5 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies – Additional signs.

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 - Less than hourly.
6.3 What specialist equipment do you employ for bird control? – Shotguns. - Recorded distress calls, Bird Gard® SUPER PRO PA4
6.4 How often do you carry out a bird strike risk assessment, and is this process audited? - The bird strike assessment is on permanent basis, audits are provided by CCA.
6.5 What procedures are in place to identify bird species following a bird strike? - Permanent cooperation with the Academy of Science.

6.6 Do you collate bird strikes and report numbers to your regulatory authority? - Yes. How often do you report? - Every time when the bird strike happens.

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

6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? - Dogs, rabbits and foxes, RWy incursion.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture; - Mercedes benz 3350, axles 6x6, 9000 litre of water and 1200 litre of foam solution, year of manufacture - 2008, - 2 units.

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

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? – Don’t have any FTS.

7.4 If yes, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport.

- Everything is in strict conformity with ICAO SARPs.

PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? - November to April.

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

8.3 Average snow depth: - 4-6 cm.

8.4 Maximum snow in 24 hours: - 20 cm.

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

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

9.2 How many sub-contracted winter services personnel are available per shift? - No one.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number - Compact Jet Sweeper, Schmidt, CIS 914 Super II MB, 3 units; - Schmidt Supra – 4001, 1 unit; - Snow ploughs DE – 224, 4 units; - Thermal machine TM – 58, 1 unit; - Spreaders for solid de-icers – 3 units; - Bulldozer, 2 units; - Scrapers RPMG-4B, 2 units.

PART 2: WINTER SERVICES QUESTIONNAIRE
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.

- Clearance priorities: 1. RWy, TWy's B1, B2, E, A1, C1, D (500m), Apron, ILS Zone. 2. RWy D, A2, parking positions. 3. TWY C2, cargo apron, roads.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. - From centre line (around the RWY, TWY, Aprons) to sides, depending on direction and intensity of wind.

11.3 If you have to moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? - After moderate snow – 3.50 hours.

- After de-icing procedures - 5.50 hours.

12. FRICTION TESTING

12.2 What are the typical intervals between friction tests? - Depending on meteorological conditions, but no less than every three hours.

12.3 How do you monitor against the reliability of friction indexes? - No.

COPENHAGEN
PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT INFORMATION
1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/ airport operations management. Contact information: Copenhagen Airports A/S, Lufthavnsbolaven, 6, PO.Box 74, DK - 2770 Kastrup, Denmark.

Cable address: AFTN: EXCHDY DK, Commercial: EXCH: EXCHDY DK, Telex: 31181, Tel. (+45) 3231 3231, Dan Meinecke Head of Airside Support, Department: Tel: (+45)3231 3333, Fax: (+45)3231 3126, Email: d.meinecke@cph.dk.

CPH uses Geographical Information System (GIS) for plotting where each FOD was found and what kind of FOD was found. The GIS is also used for trend analysis and identification of "hotspots".

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? The usage of A-SMGCS and through visual observation.

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

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

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other cost technologies. Among others, the A-SMGCS.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? No vehicle operators or other people working airside at Copenhagen Airport are allowed to drive or walk on their own, unless they have attended a CPH Airside Training course, and passed a test.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the "non-punitive" principles such as "no-penalty" reporting? In 2001, the Danish Civil Aviation Authority (CAA) established a mandatory reporting system built upon the philosophy of being non-punitive and confidential. It is applicable to everybody within Danish aviation, that all occurrences concerned shall be reported to CAA.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. CPH retain the main grass areas with tall grass (above 50 cm) in periods of gulls and Lapwings. In the rest of the year, the grass length

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. Copenhagen Airport has established and implemented an ICAO compliant Safety Management System.
is between 21-30 cm. CPH is covering permanent water with nets, and works towards a reduction of any temporary fresh water pools. Additionally CPH wants to reduce the wooded areas known to attract Wood Pigeons, Magpies and Crows.

6.1 Do your staff attend recognised bird control training courses? Yes.
6.2 Are your bird control staff working on the airfield (contact with staff) or ground (contact with airport)? Recommended at airports with more than 40,000 daily flight movements per day.
6.4 How often do you carry out a bird strike risk assessment, and is this process audited? 12 times a year, or more, and is this process audited. The bird hazard prevention is audited once every year.
6.5 What procedures are in place to identify bird species following a bird strike? Bird remains are identified by the airport biologist. If only small feathers are present, they will be sent to the University of Amsterdam for microscopic identification. If only blood or tissue is present, a DNA test is performed at the University of Copenhagen.
6.6 Do you keep a record of bird report numbers to your regulatory authority? How often do you report it? Yes, 4 times a year.
6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes both (eg, in case of lawsuits)
6.8 Does your airport have problems with wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Rabbits, they are being terminated
7. CRASH FIRE RESCUE
7.2 Future developments – are there plans to purchase or dispose of any equipment? No comment
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes, we have a 767 Fire Training Simulator. All Danish airport fire fighters are educated in CPH Fire & Rescue 7.4 If any, list the (nationallly) filed differences with ICAO SARPs, specifically on the guaranteed airport fire fighters are educated in CPH/ Fire & Rescue methods. Drainage system is connected with national system for Road authorities in Denmark. Data is viewed via the internet. Vejvær Modul 5,22
16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) Different methods, different parameters in the column of sweepers/snowblowers will still be tested to obtain more effective results
16.2 Are there areas of your winter operations which require improvement? Snow/ice clearing of apron/stands. Different methods, different parameters in the column of sweepers/snowblowers will still be tested to obtain more effective results
16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details.
16.4 Are you currently looking at new vehicle designs in the snowclearing sector? Yes, please state the reasons, whether for efficiency or cost savings.
16.5 What is the designated period of winter readiness? Nov-Mar
16.6 Average annual days of snow: 14 days
16.7 Average snow depth: 2-5 cm
16.8 Maximum snow in 24 hours: 30 cm.
16.9 Annual number of days of de-icing activities: 23 days
9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available per shift? 40
9.2 How many sub-contracted winter services personnel are available per shift? NONE
10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant items typical of your winter preparations purpose, manufacturer and number of units (For example: compact jet sweeper, Schmitt, CJS 720, 4 units ) 2 units Holder, 4 units John Deer, 2 units SAAB 9-5 Friction, 2 units Damman spreader, 5 units SB72 G / 866 F, 1 units Komatsu WB97S-2, 6 units Lundberg, Sweeper: 1units Daniline, 5 units Øveraasen RS200, 8 units Øveraasen SB470, 6 units Øveraasen RS400. Snow blowers: 1units Schmidt slynge T55, 1units Øveraasen TV 110- 150- 82SS, 2 units Doshislo H271B, Highspeed, 1 units Viking UTV anti-icer units: 2 Damman spreader (40 Meter), 3 units NIID Stratos 50-36-PNL CS, 1 units Epoke Kombi SW 4500
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility. 1. "Runway-in-use" runway, taxiways and secondary aprons, roads and parking areas with affiliated taxiways, de-icing platforms, apron and access roads from fire stations. 2. Second ILS runway with affiliated taxiways 3. Remaining
11.2 State the vehicles, formations and general method of snowclearance and apron clearance. On runways and adjacent taxiways we normally use 12 sweepers, 2 blower and 2 multi de-icer. Runways are cleared in full length. A column of snow clearing equipment typically consists of a foreman in a leading car, 12 sweepers, 2 blower and 2 multi de-icer. To minimise operational disruptions, all operations on the runway system are coordinated by the snow clearance supervisor and TWR. The clearance operation is controlled by a foreman who maintain the radio contact with TWR. A cycle of snow clearing on a runway with adjacent taxiways, de-icing measures and friction testing may take from 20-30 minutes, depending on snow quantities, type of precipitation, runway-in-use, wind direction and speed, etc. With only a small amount of snow the whole runway-width is cleared in one run. Normally, the column finishes half the runway-width all the down to its end, and then returns, finishing the other half. Then the runway surface is checked by inspection foreman in a SAAB Friction tester, and then the column moves on to the adjacent primary taxiways. If the friction coefficient is below 0.4 on the surface, formulate is sprayed on the runways and taxiways. Then the next taxiways and adjacent taxiways are cleared and subsequently checked. APRON CLEARANCE: Snow clearance on aprons are coordinated between ATWR and the snow clearance supervisor, who is responsible for snowclearance on behalf of the airport, arranging the snow clearance operations in close contact with the handling companies and other operators. Snow clearance is led by a foreman, who coordinates the actions with ATWR and the snow clearance supervisor. The snow clearing team consists of 5-8 sweepers and 4-8 big ploughs and tractorbrushes/ploughs. Snow is removed from the apron by contractors and transported to the snow dump.
11.3 After moderate snow, how quickly do you expect clearance of main operational facilities? In extreme conditions, the snow clearing supervisor can decide to spray Aviform on operational areas
11.4 Have you experienced any corrosive problems with de-icers? We have not experienced corrosion problems above normal, but corrosion control program is carried out.
11.5 Have you employed any special means to economise on chemical use? We keep de-icers down to a minimum, because of a forecast modul, Vejvær modul 5,22 gives us a good forecast
11.6 Do you have any other comments on experience with chemicals? We are testing the use of Aviform L50 and 50% water for use in non-aircraft zones
11.7 Do you use other chemicals or sand on operational areas? In extreme conditions, the snow clearing supervisor can decide to spray Aviform on operational areas
12.1 What model(s) of friction tester do you use? 23 days
12.2 What are the typical intervals between friction tests? In snow and approaching ice conditions, tests are continually performed.
12.3 Have you any comments on the reliability of friction indicators? Fowler, which apparently work well.
13. EXPERIENCE WITH CHEMICALS
13.1 Which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. The chemicals used, provide high efficiency and quick result.
13.2 Comment on storage facilities of the chemicals which you use. Liquid de-icer is stored in 2 x 55,000 litre tanks.
13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc. Aviform S-Soild is mixed 50-50 % with Aviform to avoid "blow-away" and provide high efficiency. Experience has shown, it is important to mix Aviform L50 and Aviform S in ratio 1:1. 
13.4 Have you experienced any corrosive problems with de-icers? We have not experienced corrosion problems above normal, but corrosion control program is carried out.
13.5 Have you employed any special means to economise on chemical use? We keep de-icers down to a minimum, because of a forecast modul, Vejvær modul 5,22 gives us a good forecast
13.6 Do you have any other comments on experience with chemicals? We are testing the use of Aviform L50 and 50% water for use in non-aircraft zones
13.7 Do you use other chemicals or sand on operational areas? If possible, we are testing black-ice and incoming snow. The result is: no delayed operations during winter.
13.8 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. No aircraft de-icing is provided by handling agents.
13.9 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We have dedicated de-icing positions
13.10 Is glycol recovered? If so, please state methods. Drainage system is connected with de-icing platforms, Used glycol is collected in tanks and transported to local authorities for use on their airports. No re-use at the airport.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASD-E, the Model X Airport Surface Detection Equipment) Aircraft movement control during low visibility operations (CAT II) is accomplished by an active taxiway lighting guidance system with intermediate holding position markings and lights, stop bars and induction queues. 5.4 Consideration should be given to any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Markings, signage and lighting installed law. ICAO annex 14. RW guard lights are installed. 5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? ATC controllers perform yearly training sessions about airport movement areas for authorities like police, MET service personnel etc. Everyone gets training about behaviour on the apron before he is allowed to enter, for vehicle drivers training records exist. 5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Everyone can report incidents to the duty traffic manager or local government. 6. BIRD AND WILDLIFE CONTROL 6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds, biotope management according to DVAV for prevention of bird hazards to aircraft. 6.2 Do your staff attend recognised bird control training courses? Yes, internal courses as well as external training seminars. 6.3 Are your bird control staff working on the airfield a) continuously? No b) at least every hour? If necessary c) less than hourly? At minimum 12 controls during opening hours 6.4 How often do you carry out a bird strike risk assessment, and is this process audited? Once a year, audited by the DVAVL organization 6.5 What procedures are in place to identify bird species following a bird strike? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. Bird control is using pyrotechnics and shotguns and recorded distress call (this one by SCARECROW). 6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Yes. Monthly, immediately if there is damage to aircraft. 6.7 Do you provide bird strikes and report numbers to the duty traffic manager or local government. 6.8 Does your airport have problems with other wildlife (e.g. snakes)? Yes, how are these issues being addressed? Wild rabbits. Control these issues being addressed? Wild rabbits. Control.
de-icers, for example mixing ratios with liquids, "blow-away factor" etc. No solid de-icers in use.
13.4 Have you experienced any corrosion problems with de-icers? No.
13.5 Have you employed any special means to economise on chemical use? Staff gets training about economic use, additionally the amount of chemicals is calculated by computers in the vehicles.
13.6 Have you had any comments on experience with chemicals? No.
13.7 Do you use other chemicals or sand on operational areas? No.

14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. None installed.
14.2 Have you plans to purchase further ice warning systems and if so which model(s)? Yes, intended, model not yet sure.
14.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. None.

15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti/de-icing operations? Yes, please state vehicle or other facility manufactures, and number of units. 3 x Vestergaard Elephant Beta Aircraft de-icing trucks.
15.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Complete airport for Deicing, for practical reason we use Positions. 0-2 or 9-12.
15.3 Is glycol recovered? If so, please state methods. No.

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

17. DUBROVNIK

1. GENERAL AIRSIDE SAFETY

1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airfield operations management. Contact information: DUBROVNIK AIRPORT Ltd. Franjo Lateti – Deputy GM; fuettic@airport-dubrovnik.hr, tel: +385 (0)20 773 242; Božo Perak - Operations Manager; bperak@airport-dubrovnik.hr, tel: +385 (0)20 773 327; fax: +385 (0)20 773 322. Luká Lušić - Safety Manager; lulusic@airport-dubrovnik.hr, tel: +385 (0)20 773 242; fax: +385 (0)20 773 241

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas, (for example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other):
2.2 Landing aids for each RWY (e.g. CAT II): RWY 12 – 3300m, TORA 3300m, TODA 3300m, ASDA 3300m, LDA 3150m, PAPI 3. RWY30: 3300mx45m, TOR A 3300m, TODA 3300m, ASDA 3300m, LDA 3300m, PAPI 3,2

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary." Please outline the SMS for your airport at the date of its introduction. Aerodrome Manual (based on ICAO Doc 9774) is created and implemented at Dubrovnik Airport in May 2007. One of the most important parts of that document is the Safety Management System (Chapter 5). Mr Luká Lušić is a Safety Manager, 3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of:
4.2 Inspection by airline, airport, and airplane handling agency personnel. Regularly, two times a day (before airport opening and immediately after sundown) and before landing or take-off in case of absence of movements for more than one hour.
4.3 Maintenance, (use of sweeping, magnetic bars, rumble strips, FOD containers etc). Sweeping, FOD containers.
4.4 Coordination of multiple agencies using airport (airlines, handling agents 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.) Aerodrome Maintenance system “Galliot”.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? It is responsibility of A/TC. They are using visual methods in combination with radio communication.
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 ASD-E, 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. 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? All personnel successfully completed Basic Airside Safety Course.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes, it is reported by using Aerodrome Safety Management system software, named “Galliot-Safety System”.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. Because of increased Herring gulls (Larus cachinnans) activity on and in the vicinity of aerodrome, there are (no-calculated) one-two incidents/week. Short term measures and procedures defined in Aerodrome Manual, chapter 4.12 in order to reduce the attraction of the airfield to birds. Note: Island Mljet, island Bobara and island Supetar which are located in the vicinity of approach area near offshore surface of RWY 12 are protected as an ornithological reserve.

6.2 Do your staff attend recognised bird control training courses?
6.3 Are your bird control staff working on the airfield (a) continuously? (b) at least every hour? (c) less than hourly? They are working continuously as a part of fire fighting brigade.
6.4 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. 1 rocket pistol (type PISTOLET LANCIERE CALIBRE 18,6mm, MULTIPROPULSEURS), 3 gas cannon (type GUARDIAN 2), pyrotechnics, shotguns
6.5 How often do you carry out a bird strike risk assessment, and is this process audited? We are not carrying out annual birdstrike risk assessment, we are using data stored in Galliot- Safety System based on daily monitoring.
6.6 What procedures are in place to identify bird species following a bird strike? Visual identification and reporting.
6.7 Do you collate bird strikes and report numbers to your regulatory authority? Yes, to the CCAA.
6.8 How often does your airport experience problems related to wildlife (sheep,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. ZIEGLER – MAN (FLF 60/91-1), 6X6, 9100 l/water, 1100 l/foam, year 2002. ROSENBAUER - OSH/HOSH (FLF 10000), 6x6, 9000 l/water, 1000 l/foam, 250 kg/powder, year 1982. ROSENBAUER – TITAN (SIMBA), 8x8, 11600 l/water, 1200 l/foam, 2000 kg/powder, year 1985. MAZDA/ZIEGLER – PICKUP 4X4, 200 l/water, 10 l/foam, year 2009
7.2 Future developments - are there plans to purchase or dispose of any equipment? Yes.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No.
7.4 If any, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport.

8. WINTER SERVICES QUESTIONNAIRE

8.1 What is the designated period of winter readiness? 01th November - 01th April
8.2 Average annual days of snow: 1 - 2
8.3 Average snow depth: 1 - 2 cm
8.4 Maximum snow in 24 hours: 1 - 2 cm
8.5 Annual number of days of de-icing activities: 0 - 1 day

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? No dedicated winter service personnel. Winter service personnel are plato of ground support equipment operations.
9.2 How do you subcontract winter services personnel? No.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating position, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CIS J720, 4 units) De-icing - STYER 1290, 1 unit
11.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture.

11.2 Please state here order of priority of de-icing products on order? If so, please provide details.

12. FUTURE DEVELOPMENTS

12.1 Please list snow clearing, de-icing and other relevant winter equipment stating position, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CIS J720, 4 units) De-icing - STYER 1290, 1 unit

13.1. Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture.
12. FRICTION TESTS
12.1 What procedure are used to determine the reliability of friction indexes? No.
12.2 What are the typical intervals between friction tests? Three months.
12.3 Have you any comments on the reliability of friction indexes? No.

13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. UREA, 1500 I

15. AIRCRAFT DE-ICING
15.1. Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. STYER 1290, 1 unit
15.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? On parking area.
15.3. Is glycol recovered? If so, please state methods. No.

16. FUTURE DEVELOPMENTS
16.1. Are you about to change any of your airport’s methods? (snow clearing, vehicle formations, for example) Yes.
16.2. Are there areas of your winter operations which require improvement? 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.
16.5. Do you have any winter services equipment which you would like to sell? No.

17. 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. SIMON GLOSTER SARIO: Detroit Diesel, 6x6 - TANK CAPACITIES: Water tank - 10000 l, Foam tank - 1200 l, FIRE PUMP: Type ENG, 500 l/min, Pressure 5 bar; Two stage centrifugal, Output High 5650 l/min, Low 300 l/min; MONITOR: Output (100%) - 4500 l/min, (50%) - 2250 l/min, Operating pressure - 14 bar, Range - (100%) 70m, (50%) 50m, FOAM SIDELINES: Flow rate 450 l/min, Pressure 7 bar, Range 20 – 25m approx, UNDERTRUCK NOZZLES: Flow rate 400 l/min at 14 bar, BUMPER MONITOR: Output 1150 l/min, Operating pressure 14 bar, Range 35m, DRY POWDER: Capacity 1x100kg, CARMICHAEL COBRA 2 (x 2 appliances), Detroit Diesel Twin Turbo BHP710 6x6: Pump - godiva GMA 5300 centrifugal, Output - 5650 l/min at 15 bar, Water tank - 10000 l, Foam tank - 1200 l, Dry powder - 235kg, B.C.F - 138kg, FOAM SIDELINES: Flow rate - 450 l/min, Pressure - 7 bar, Range - 20 – 25m, MONITOR: Output (100%) - 4500 l/min, (50%) - 2250 l/min both at 14 bar, BUMPER MONITOR: Output - 1150 l/min, Operating pressure - 14 bar, Range - 35m, SIMON GLOSTER SARIO: JWV1, Detroit Diesel, turbocharged 12 vT1 – n75, 6x6: Water tank - 10000 l, Foam tank - 1177 l, B.C.F - 50kg x2, Dry powder - 9kg hand held, Pump - Godiva MR20, single stage centrifugal, Monitor, Output 1000GPM at 15 bar, CARMICHAEL COBRA 2 (SN/NOZZLE): Caterpillar C – 18 ADEM EURO 111, 6x6: Equipped With Extending 30M Boom/Lance/Thermal Image Camera/ Branch supplying non aspirating foam solution and Dry Powder, Water Tank - 1060l, Foam tank - 1260l, Dry Powder - 225kg, Pump - Chelsea 277/278 Series
7.2. Future developments – are there plans to purchase or dispose of any equipment? Proposal for refurbishment of existing or new appliance purchase 2010.
7.3. If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No but we allow the local authority fire service to use it when using/ training.
10. WINTER EQUIPMENT INVENTORY

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

Runway Sweegers: Magnits Deutz with 16ft Plough and Schorling PI 17A, Magnits Deutz with 36ft Plough and Schorling PI 17A, Magnits Deutz with 16ft Plough and Danline 2000; Magnits Deutz with 16ft Plough and Schorling PI 17B. Taxiway Sweeper: JCB with 16ft Plough and Sicard; JCB with 16ft Plough and Sicard. Apron Areas: 2 x John Deere plus Sicards, Spare: 1 x Sicard. De-icing Units: 2 x Chaffer De-Icer unit on JCB Tractor, 1 x Flowair 1000. Snow Blowrer Units: Rolba 400 units x 2, S M 5150. Small Brushes: Tractor Mounted - initial use for Runway Ends: 1 x Gurney Reeves + Ford Tractor, 1 x Danline Brush + Ford Tractor. Western Cago Apron: 1 x Sicard, 1 x 6ft Snowdozer Demountable Plough, 1 x Trailed De-Icer Unit (DHL), 2 x John Deere (DHL) with16ft Plough/ Brush Unit, 1 x Snowdozer 6ft Demountable Plough

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. a) Clearence priorities will always commence with the runway and would then proceed on to the taxiways and aprons. b) Runway 09/27 (with access to runway for fire appliances). Initially runways will be cleared to 35m width and then to the full 46m as soon as possible with snow banks no higher than 25cm (10 inches). Particular attention is given to the runway ends to prevent the build-up of snow banks, c) Following on from the runway clearance, priorities will move to taxiways and bellmouths. These priorities will depend on the time of day. During daytime operations access to the central (passenger) apron will be the priority route. Night-time operations would prioritise access to the east and west (freight) aprons. d) Aprons - taxiway and stand centre lines cleared first. When moving snow it may be best to close one stand and push all the snow into this area, it can then be removed. e) Remainder of parallel taxiway system, initially to allow access via Mike taxiway. f) Rest of taxiway system (including access to maintenance area).

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. Four vehicles fitted with 16' ploughs and towing the sweeper/blowers will lead the clearance operation and will move, as far as is practicable, in echelon. Clearance operations start with one sweeper/blower combination making a run along the downwind side of the runway, with plough and brush angled towards the runway centre-line, and then continue on to clear the taxiway. The three fastest combinations (prime movers sweeper/blowers) move in echelon from the upwind edge of the runway working downwind across the runway, working 09/27 until clearance operations are complete. Whilst runway clearance is in progress the tractor / Danline brush and the 2 tractaros fitted with 10' ploughs (towing Sicards if available) are employed on the Central, Eastin and November aprons. Other vehicles move to taxiway clearance after completing their task on the runway.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the ice and snow layers? 6 Months

12. FRICTION TESTING

12.1 What model(s) of friction tester do you use? Findlay Irvine Mk2 GripTester D Type

12.2 What are the sampling criteria between friction tests? 6 Months

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

13. EXPERIENCE WITH CHEMICALS

13.1 State which pavement de-icers you use, along with the quantities used last season. Safegrip (supplied by Brotherton) for all airside areas. Effective for about 2.5 hours dependent of amount of ice/snow melt. Approx usage of 200,000 litres. Airside walk ways ice breaker (supplied by Thurmatag). All land side areas normal rock salt.

13.2 Comment on storage capabilities of the chemicals which you use. Safegrip stored in 2 x 40,000 capacity tanks, located airside. 13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. None used

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

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

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

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

14. ICE WARNING SYSTEMS

14.1 State model and number of ice warning systems. None

14.2 Have you plans to purchase further ice warning systems and if so which model(s)? Not at present

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

15. AIRCRAFT DE-ICING

15.1 Does the airport directly provide aircraft anti/ de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. Carried out by Airlines (through handling agents).

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

15.3 Is glycol recovered? If so, please state methods. Glycol surface run off intercepted to winter retention pond, biological oxygen demand is monitored and flow regulated at the permitted discharge consent rate.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) Methodology under constant review.

16.2 Are there areas of your winter operations which require improvement? All areas under constant review.

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

16.4 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units.

16.5 Do you have any winter services equipment which you would like to sell? No
aircraft vehicle operators, and other people who work at the airport? Airfield training and campaign awareness to all airside users. Recent re-configuration of airside driver training and 3 tier permit scheme.

5.6 Have there been any recent procedure changes for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes via a runway incursion committee and promotion of a ‘no-blame’ safety culture. Reporting carried out using OSHENS web based system.

6. BIRD AND WILDLIFE CONTROL

6.2 Are your bird control staff working on the airfield continuously? Yes during daylight hours

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

6.4 How often do you carry out a bird strike risk assessment of your airport, and is this process audited? Annually and yes.

6.5 What procedures are in place to identify bird species following a bird strike? Identified by BCU operators or sent to CSL for identification.

6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Each strike reported to CAA electronically and all collated internally by the company. Information reported monthly to the company board.

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

6.8 Does your airport have problems with other wildlife (sheep/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. 3 x Cobra major fire appliances.

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

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

7.4 If any, list the (nationaly filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest airports for training purposes? No.

8. MOBILITY AND MOVEMENT

8.1 Please list the identities of primary operational facilities and the surface areas. For example: total RWY length (or lengths), TakeOff Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other; RWY: 0TL/25R 4000m x 60m TORA 4000m, 0TL/25L 4000m x 45m TORA 4000m, 18W, 4000m x 45m TORA 3970m. Total RWY area: 720.000 m². Total apron surface area: 2.128.000 m²

8.2 General: Are there any special systems or software used to control FOD in terms of:

8.3 Average snow depth: 5mm

8.4 Average annual days of snow: 2

8.1 What is the designated period of aircraft regularly using the airport. Nil

8.2 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airport operations management. Contact information: Frankfurt International Airport, Fraport AG, Airside Operations: Tel.: +49 (69) 690 - 71769, Fax: +49 (69) 690 - 7801

8.3 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Konsin, 7000 litres.

8.4 You have plans to purchase further ice warning systems and if so which model(s)? No

8.5 What are the typical intervals between friction tests? Only for maintenance purposes.

9. EXPERIENCE WITH CHEMICALS

9.1 Please state here order of priority of snow clearance positions or do you de-ice on the parking area? Carried out on all apron areas.

9.2 What is glycol recovered? If so, please state methods. No.

9.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 1 – 2 hours

10. FRICTION TESTING

10.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airport operations management. Contact information: Frankfurt International Airport, Fraport AG, Airside Operations: Tel.: +49 (69) 690 - 71769, Fax: +49 (69) 690 - 7801

10.2 Please provide details as needed. FRA Apron Control conducts regular meetings to control FOD in terms of:

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

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

10.5 Have you any comments on the effectiveness of chemicals at low temperatures and achieved holdover times etc. Konsin, 7000 litres.

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance positions or do you de-ice on the parking area? Carried out on all apron areas.

11.2 What is glycol recovered? If so, please state methods. No.

12. FUTURE DEVELOPMENTS

12.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) No

12.2 What are the typical intervals between friction tests? Only for maintenance purposes.

12.3 Do you use other chemicals or sand on operational areas? Minimal use of Urea on apron and passenger walkway areas.

13. ICE WARNING SYSTEMS

13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Konsin, 7000 litres.

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

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

14. RUNWAY INCURSION PREVENTION

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

14.2 General: Are there any special systems or software used to control FOD in terms of:

15. AIRCRAFT DE-ICING

15.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please provide vehicle details. Runway De-Icer within 3 years.

15.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Held over times etc. Konsin, 7000 litres.

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

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) No

16.2 What are the typical intervals between friction tests? Only for maintenance purposes.

16.3 Do you have plans to purchase new equipment or if so, please provide vehicle details. Runway De-Icer within 3 years.

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

17. CRASH FIRE RESCUE

17.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture. 3 x Cobra major fire appliances.

17.2 Future developments – are there plans to purchase or dispose of any equipment? Not at present.

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

17.4 If any, list the (nationaly filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest airports for training purposes? No.
control in the apron area. FRA Apron Control and ATC Tower conducts active monitoring through radio control and observation of the manoeuvring area.

5.2 Are any design or engineering changes being undertaken required to eliminate perceived hazards? Changes in the traffic scheme such as markings, signs and lighting are made when real or perceived hazards exist or to improve vehicle and aircraft traffic flow.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASD-E-X, the Model X Airport Surface Detection Equipment) FRA Apron Control and ATC Tower utilises a combined SMR and multilateration radar system for tracking aircraft movements, FRA is planning to integrate all vehicles that are designated to drive in the manoeuvring area into the A-SMGCS utilising transponders.

5.4 Comment on the use of any innovative warnings or guards — use of paint, signs, lighting and other lower-cost technologies. FRA constantly upgrades infrastructure such as lighting, stop bars and markings designed in part to prevent runway incursions and increase safety, FRA is in the process of installing RWY vacated signs at the RWY turn-offs that illuminate when aircraft have vacated the RWY.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people to work at the airport? FRA Airside Operations regularly reviews standard operating procedures and conducts runway safety workshops with ATC and airlines to find solutions designed to reduce the risk of runway incursions.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-punalty’ reporting? FRA Airside Operations has a good working relationship with ATC and airlines concerning reporting procedures and finding solutions. FRA in general cultivates a “No Blame” culture unless naturally the incursion or incident demands disciplinary action.

6. BIRD AND WILDLIFE CONTROL

6.1 Do your staff attend recognised bird control training courses? We have company staff that are trained and responsible for dealing with bird and animal control, work out operational procedures, and keep operational staff informed.

6.2 Are your bird control staff working on the airfield? Our staff conduct continuous monitoring of the airfield and initiate action when necessary.

6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant suppliers and manufacturers? FRA utilises pyroacoustic equipment and controlled hunting.

6.4 How often do you carry out a bird strike risk assessment, and is this process audited? At the pyroacoustic equipment and controlled hunting.

6.5 What procedures are in place to identify bird species following a bird strike? Any type of incident is documented, and a debrief report is submitted to our Bird Control Officer. Additionally dead birds and animals found in the movement area are turned over to our Forestry and Veterinarian Department for inspection.

6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? We are required by environmental and civil aviation regulations to regularly report our bird control statistics.

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

6.8 Does your airport has problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? FRA has modified the perimeter fencing to minimise wildlife entering the movement area and is inspected regularly. This has eliminated past difficulties with wildlife.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating; vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture. 5x Simba 6x6, 5x Simba 8x8 plus another multi-task vehicle for fire fighting, salvage, power generation, mobile emergency operations coordination etc.

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? Our Fire Brigade has a Fire Training Simulator and does offer training to other airports.

7.4 If you list, the (nationally) defined differences including ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. No.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? November 15 to March 31 the following year.

8.2 Average annual days of snow: 2

8.3 Average snow depth: 2cm

8.4 Maximum snow in 24 hours: 2cm

8.5 Annual number of days of de-icing activities: Surface de-icing 57 days and aircraft de-icing 16 days.

9. WINTER ORGANISATION

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

9.2 How many sub-contracted winter services personnel are available per shift? Circa 60

10. WINTER EQUIPMENT INVENTORY


11. PROCEDURES AND METHODS

11.1 Please list snow clearing, de-icing and other relevant snow clearing of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility. Following information states facility and priority respectively: 1) Active runways and main taxiways in the manoeuvring area, 2) ATC landing aid sende areas, 3) Taxiway centre lines, 4) Aircraft servicing areas, 5) Passenger bridge manoeuvring areas, 6) Areas used for parking ground servicing vehicles, equipment and transfer cargo and post, 7) Main apron roads, 8) Public roads, pedestrian paths, and parking areas 11.2 State the vehicle manufacturer and general method of runway, taxiway and apron clearance.

1) RWY clearing convoy consisting of 14 snow sweeper-rough vehicles, 2 snow blowers, 2 de-icers and 2 guidance vehicles lining (diagonally) to clear the runway in one run. 2) Smaller convoys and flexible vehicle combinations for clearing and de-icing taxiways and apron areas. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? We have set average clearing times for closing and clearing the runways and generally get the job finished in the allotted time frame unless we experience severe weather conditions.

12. FRICCTION TESTING

12.1 What model(s) of friction tester do you use? SAAB 95 Turbo Surface Friction Tester (SFT)

12.2 What are the typical intervals between friction tests? When changes to the RWY surface condition occur.

12.3 Have you any comments on the reliability of friction index? Yes.

13. EXPERIENCE WITH CHEMICALS

13.1 What de-icers do you use, and do you use any other chemicals or sand on operational areas? We use sand on operational areas

13.2 Do you use solid de-icings, for example mixing ratios with liquids, “blow-away factor” etc. We only use solid de-icing chemicals in extreme weather conditions because of the so called “blow-away factor” and environmental restrictions.

13.3 What is your experience with solid de-icings, for example mixing ratios with liquids, “blow-away factor” etc. We only use solid de-icing chemicals in extreme weather conditions because of the so called “blow-away factor” and environmental restrictions.

13.4 Have you experienced any corrosion problems with de-icings? We generally experience the usual problems that every airport has with GSE etc. To minimise corrosion we paint and wax our winter service vehicles. The products we use have corrosion inhibitor additives.

13.5 Have you employed any special means to economise on chemical use? We are restricted to 25g/m² by our Environmental Authority, We utilise for example an Ice Early Warning System, friction measuring results and weather forecasts from the German Weather Service stationed here at the airport to avoid de-icing when it is not necessary.

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

13.7 Do you use other chemicals or sand on operational areas? We use sand on operational areas that are not properly sealed for the use of chemical de-icing materials and on areas that are groundwater sensitive. Our runways, taxiways and aircraft positions are always treated with liquid Potassium Formate.

14. ICE WARNING SYSTEMS

14.1 State model and number of ice warning systems.

We have one Scan 16 Early Ice Warning System covering the manoeuvring area and parts of the Apron.

14.2 Have you plans to purchase further ice warning systems and why? We are in the process of closing the tendering
1. AIRPORT INFORMATION

1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety-related field operations management. Contact information: Flughafen Friedrichshafen GmbH, Director Airport Operations, Michael Wosching: Tel. +49(0)7541 284 111, Fax: +49(0)7541 284 8111. Mail to: wosching@fly-away.de, Internet: http://www.fly-away.de

1.2 Airport ICAO code and category: ICAO Code: EDny, ICAO-Category: 4 F , RFF

1.3 Category: CAT 7; up to CAT 8 on request

1.4 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved wherever necessary.” Please outline the SMS for your airport (including the date of its introduction, SMS installed since November 24, 2005; SMS is an integral part of the company’s operations’ manual). 3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No changes.

2. MOVING WILDLIFE CONTROL

2.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. New trees only unattractive to birds (no berries etc.), no attractive plantings, long grass during breeding sessions, Pyrotechnics and shotgun (used as backup). 7.4 If any, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed readiness? 01. November until 30. April

3. CRASH FIRE RESCUE

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved wherever necessary.” Please outline the SMS for your airport (including the date of its introduction, SMS installed since November 24, 2005; SMS is an integral part of the company’s operations’ manual). 3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No changes.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

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

a) Training. Staff concerned with removal of FOD objects as well as inspecting the movement areas are trained yearly, also trainings offered by insurance companies.

b) Inspection by airline, airport, and airplane handling agency personnel. Inspections are done by different airlines operating at Friedrichshafen, for example Deutsche Lufthansa, Air Berlin, Ryanair

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). None

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) FRA is continuously working on reducing clearing and de-icing times by improving and setting standard driving routes used in the manoeuvring area.

16.2 Are there areas of your winter operations which require improvement? There is always room for improvement.

16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. We are building a new runway and plan to purchase vehicles to service the extra capacity.

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

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

AIRSIDE SAFETY SURVEY 2010
16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. Snow ploughs and blast sweepers replaced in 2006; other equipment should be okay for expected development.
16.4 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. No.
16.5 Do you have any winter services equipment which you would like to sell? 3 P12 Schölling - Air Blast sweepers (trailers)

12. FRICITION TESTING
12.1 What model(s) of friction tester do you use? 3 x Saab.
12.2 What are the typical intervals between friction tests? As required, depending on traffic and weather conditions. Usually 5 -10 minutes prior expected landings/departures.
12.3 Have you a department on the reliability of friction indexes? None. According to I/C-crews it seems to be okay. Calibration of friction testing equipment is done prior winter season by service staff, during heavy use daily calibration by airport staff.

13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. 91.000 kg “Safeway” from Clariant. no recoverage. 13.2 Comment on storage capabilities of the chemicals which you use. 30.000lt for aircraft de-icing fluid; 80.000lt for maintenance area.
13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. No solid de-icers in use.
13.4 Have you experienced any corrosion problems with de-icers? Heavy corrosion effects on metal.
13.5 Have you employed any special means to economise on chemical use? No special systems or software are used.
13.6 Do you have any other comments on experience with chemicals? No.
13.7 Do you use other chemicals or sand on operational areas? No.

14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. None installed.
14.2 Have you plans to purchase further ice warning systems and if so which model(s)? No actual plannings therefore.
14.3 Comment on your experiences of the benefits/disbennets of ice warning systems. None.

15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti- de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units. 2 x Vestergaard Elephant µ Aircraft de-icing trucks.
15.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-icing take place at parking positions prior taxing.
15.3 Is glycol recovered? If so, please state methods. No recovery.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) No changes intended for now. Good experience has been made by spraying snow-cleared surface prior night closure. No icing between surface and snowcover detected. 16.2 Are there any internal airport operations which require improvement? No.
16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. Snow ploughs and blast sweepers replaced in 2006; other equipment should be okay for expected development.
16.4. Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. No.

16.5. Do you have any winter services equipment which you would like to sell? 3 P12 Schölling - Air Blast sweepers (trailers)
incidents been set up jointly with other parties active in these processes? Further, do they safeguard the “non-punitive” principles such as ‘no-penalty’ reporting? All incidents on the maneuvering area are reported according to the dictates of the Swiss regulatory authority (Federal Office of Civil Aviation) based on ESSAR. Incidents reports and subsequent analysis are shared between the ANSP and the Airport Authority.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. At Geneva International Airport the following ecological measures predominate: Grass cut to a height between 15 and 20 cm; Elimination of trees and bushes along runways; Use of liquid or solid manure or residues from waste treatment plants is prohibited; Tilling of the soil and cultivation of cereal crops is not permitted; Presence of stagnant or exposed water avoided (draining); Nesting control; Building and infrastructure adaptation.

6.1 Do your staff attend recognised bird control training courses? Yes, the staff attends specific courses but also provides special wildlife management training courses through the “Airtrace” training center (www.airtrace.ch): International master’s programme for Wildlife Hazard Prevention Specialists; International bachelor’s programme for Wildlife Hazard Prevention Agents; Introduction to wildlife protection and prevention; Informational seminars on wildlife hazard prevention

6.2 Are your bird control staff working on the airfield a) Continuously? b) At least every hour? c) Less than hourly?

The bird strike prevention unit works from dawn till dusk every day of the year. Bird watching and daily reports of species present in the airpot enclosure take up most of the daily activity. All collected data is recorded electronically. The staff conducts tours and controls of the airfield at least every hour.

6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. Every day, the wildlife management unit can use as necessary the following devices: 5 electronic generators Efbitech 300W emitting distress calls. 32 units will be added in 2010; Use of exploding cartridges (26.5 mm); Use of whistling cartridges; Long range silent, then exploding, rockets (Lacroix CAPA); Acoustic broadcasting of natural and synthetic distress calls (from fixed installations in the field and from mobile unit in the vehicle); If an absolute necessity, capture and elimination by the SFPNP (department for the protection of nature and landscapes); Lasers beams. The bird strike prevention vehicle is equipped to catch the most common mammals (including dogs) and contain all equipment in case of an HSN1 intervention.

6.4 How often do you carry out a bird strike risk assessment, and is this process audited? A general report including all the activities of the bird strike prevention unit is published every year. In addition, statistics are published which include precise records of bird strikes and wildlife observations. The bird strike prevention unit is audited several times a year according to the environmental, quality and safety system, certified ISO 9001, ISO 14001 and OHSAS 18001. Moreover, the Safety Office from Geneva International Airport evaluates the bird strike’s statistics and wildlife management unit through three specific indicators integrated into the SMS (Safety Managements System).

6.5 What procedures are in place to identify bird species following a bird strike? All bird strikes are immediately identified except when the strike happens at take off and no skin appears on the main runway.

The remains of birds are collected and analysed by the airport’s official ornithologist. Bird-related and aeronautical data are recorded on specific forms.

6.6 Do you collide bird strikes and report numbers to your regulatory authority? How often do you do report? Bird strike statistics are systematically recorded every day and immediately transmitted to the Safety Office of Geneva International Airport.

6.7 Do your staff log all their bird control activities? (in case of lawsuits) All the activities, bird strikes, bird watching activities and works undertaken in the airport enclosure are centralised and recorded electronically in a daily report. All data is available at any time. Once a week, the environmental engineer in charge of Wildlife Management Unit examines the daily reports and inscribes the specifics activities of the agents (time, phone, radio calls, intervention, solution) in a special log report.

6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Exceptionally (once or twice a year) an animal succeeds in forcing the fence and creating a hazard for the aeronautical traffic. For this type of intervention, special procedures are in place with the Border Police and the Environmental Engineer in charge of Wildlife Management Unit for the protection of nature and landscapes.

7. CRASH FIRE RESCUE


11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility. Snow clearance priorities : Priority 1 Runway, Priority 2 Taxiways, Priority 3 Apron South and Apron North “General aviation”, Priority 4 Parking area and hangars

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. Runway: Vehicles are aligned diagonally; Snow is pushed to both edges of the runway by trucks equipped with snow-blades and sweeper-blowers. The operation of snow sweeping including friction measurement takes 15 minutes. The duty officer coordinates the operation with the ANSP, Taxiways: Vehicles are aligned diagonally. Trucks equipped with snow blade and sweeper-blower push the snow to the edge of the taxiway. Apron: Vehicles are aligned diagonally. Trucks equipped with snow blade and sweeper-blower push the snow from the edges to the center of the Apron, loaders load the snow on trucks which evacuate it to the designated location.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? After moderate snow, the “black top” of the RWY is usually achieved in 15 minutes.

12. FRICTION TESTING

12.1 What models of friction tester do you use ? 2 x friction tester vehicles “SAAB”

12.2 What are the typical intervals between friction
tests? The typical interval(s) of friction tests are of one hour. However, they depend on snow falls.

12.3 Have you any comments on the reliability of friction indexes? No comment is made on the reliability of the friction indexes.

13. EXPERIENCE WITH CHEMICALS

13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness at various temperatures and achieved holdover times etc. De-icers quantities used during winter season 2008-2009: For RWY and TWY: Safeway KA, 121,000 l, Safeway SF, 35,000 Kg. For Aircraft: Glycol type 1, 307,699 l, Glycol type 2, 342,965 l, Glycol type 4, 441,091 l.

13.2 Comment on storage capabilities of the chemicals which you use: 50,000 liters of Safeway KA in a tank, 20 tons of Safeway SF in bags of 500 kg.

13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids. "slow-down factor" etc. AIG has reliable experience with solid de-icers or mixing ratios with liquids.

13.4 Have you experienced any corrosion problems with de-icers? AIG has experienced some corrosion problems on de-icers.

13.5 Have you employed any special means to combat the corrosion of de-icers, for example mixing ratios with liquids. "slow-down factor" etc. AIG has reliable experience with de-icers.

13.6 Do you have any comments on the effectiveness of chemicals at low temperatures and achieved holdover times etc. De-icers quantities used in bags of 500 Kg. For Aircraft: Glycol, type 1, 307,699 l, Glycol, type 2, 342,965 l, Glycol type 4, 441,091 l.

14. ICE WARNING SYSTEMS

14.1 State number model of ice warning systems. There is no ice warning systems in Geneva.

15. AIRCRAFT DE-ICING

15.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units. The Handling Agents carry out the aircraft anti-de-icing operations using special de-icing trucks.

15.2 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.

15.3 Is glycol recovered? If so, please state method. Glycol is recovered by a truck which absorbs it on the apron. After use, glycol is put into a circuit where it is treated (no recycling).

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example): Currently no major changes are planned in the airport’s winter operations and procedures.

16.2 Are there areas of your winter operations which require improvement? There are no areas of winter operations which require specific improvements.

16.5 Do you have any winter services equipment which you would like to sell? No winter equipment is currently on order or for sale.

GLASGOW

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT INFORMATION

1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airfield operations management. Contact information: Glasgow Airport Limited, St. Andrew’s Drive, Glasgow, G31 4PA, Tel: 0141 638 4000.

1.2 Airport ICAO code and category: EGGF & Category 9

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the dimensions of your operational facilities in the movement area available. (for example: total RWY length (or lengths), Take Off Run Available [TORA],
How the responsibilities are cascaded down through the airport. GLAL attaches the greatest importance to the health and safety of its employees and others who may be affected by its operations and will do all that is reasonably practicable to protect them. BAA’s policy is to comply with the health and safety laws as a minimum standard; wherever possible it will seek to do more. In the absence of specific regulations for airports it will follow a set of practice and standards to protect everyone who may be affected by its operations. The Managing Responsibly System (MRS) provides a framework for the implementation of health and safety requirements. Full details are contained in the current HSSE Policy Statement document. This policy statement will be brought to the attention of all employees. It will be reviewed regularly and all changes brought to the notice of employees. BAA also recognises that safety is an important element in project definition and design and requires it to be taken into account at all stages of development from initial concept to service introduction and beyond. 1B.2 Organisation: The GLAL Managing Director (MD) is responsible for the health and safety of the public and staff at his location, for the local definition and application in detail of the Safety Policy, for issuing any local safety policy, or safety instructions, that is felt to be appropriate, and for ensuring that employees are aware of them. The MD is accountable for the safety performance of subordinates and of their acts and omissions in relation to their safety duties. The GLAL MD may formally delegate to individual Managers and Supervisors such safety functions as he deems to be necessary during normal hours and in his/her absence. These Managers responsibilities are listed in detail in Part 2. They must ensure that the arrangements they make, to provide a safe working environment, are monitored to ensure that they continue to be effective. The GLAL MD will ensure that there is adequate professional health and safety coverage at the location bearing in mind the size and complexity of the airport and the functions to be performed by Safety Advisors. Safety personnel must be of suitable grade, qualification and experience. A Compliance Manager is located within GLAL and is responsible to the Managing Director, for the coordination and monitoring of BAA’s health and safety performance at GLAL. The Safety Manager, who reports to the Compliance Manager, is responsible for providing health and safety advice to GLAL management, through normal management channels. The Safety Manager also maintains close links with Safety Managers located at BAA’s Group Health, Safety, Security & Environment (HSSE), and liaise as necessary with the Health and Safety Executive (HSE), Local Authorities, and other appropriate groups. BAA’s airport companies will give their safety representatives the facilities they need in order to carry out their functions, and will set up safety committees as necessary. Every employee of any company, while at work has a duty to: Take reasonable care for his health and safety, and the health and safety of other persons, who may be affected by his acts or omissions; Cooperate with BAA, the airport, and other airport companies so as to enable it to meet its responsibilities for health and safety. 1B.3 Arrangements: GLAL, in accordance with BAA policy will ensure that: Safety training is provided for managers, supervisors, safety officers, safety representatives and other employees to enable them to carry out their roles. Safety Information is provided as necessary and made available to both management and employees; Hazards which represent a risk to the health and safety of staff or others on its premises are identified and, as far as practical eliminated or controlled; All accidents and dangerous occurrences shall therefore be investigated, to ensure that steps are taken to prevent their recurrence. Annual health and safety objectives may be set as appropriate; Where appropriate, devise and promulgate emergency procedures to all staff; Statistical information on accidents involving staff and others on its premises is maintained; All articles, plant and equipment used, or made available, by BAA are examined and all reasonable steps taken to minimise risks to health. Manufacturers and suppliers or articles and substances shall provide information on the hazardous nature of their products and the risks that may be associated with their handling and use, as required by section 6 of the Health & Safety at Work etc Act, 1974; An audit on health and safety matters is carried out annually to monitor health and safety standards; A Health and Safety Committee is provided so that staff and managers can discuss health and safety matters; Risk assessments of jobs and hazards are carried out, the results assessed and procedures and protective equipment introduced to minimise the hazard; HSSE performance is reported monthly at the Managing Responsibly Group (MRG) which is chaired by the Managing Director. Each department shall report on the individual department’s performance, and the results assessed and procedures and protective equipment introduced to minimise the hazard; 1B.4 Safety Information: The Safety Advisors will compile and distribute a series of Codes of Safe Practice. HSSE will provide information on hazards, counter measures and the legal obligations concerning various operations and activities; Instructions about safety measures applying to particular operations or in particular areas, will either be displayed in the work place, or be issued by individuals having the responsibility for instructing the employees concerned; All substances used should comply with the Control Of Substances Hazardous to Health Regulations 2002 (COSHH), be clearly labelled stating whether they are hazardous, the names of hazardous constituents, the nature of the hazards, the precautions necessary and information on the action required in the event of an accident or spillage. A contact address for further information should also be included; Persons responsible for the purchase of substances and substances should ensure that the information required above is available and passed on to those working with the substances; Where hazardous or flammable substances are used or stored, then an assessment should be made under the Dangerous Substances & Explosive Atmosphere Regulations 2002 (DSEAR); Information on safety matters is available from the GLAL Safety Manager, or BAA’s HSSE; Arrangements for consultation on safety matters are given in Part 5. 1B.5 Projects Planning and Design Contractors Responsibilities: BAA requires contractors employed on its premises to conduct their operations in a manner which ensure the health and safety of their employees, BAA employees, and others on BAA, or airport company premises, and that they comply with specific legislation (see also BAA Code of Practice on safety responsibilities shared with Contractors); Contract documents should, where appropriate, refer to the provisions in BAA’s Safety Policy and the guidance given in the Codes of Safe Practice; During the design phase measures shall be taken to ensure that safety is included as an element in the brief for the designers and contractors. Plans and specifications for new buildings, plant and equipment shall be considered by the relevant safety advisor at the earliest stage in order to prevent nugatory expenditure on design work, construction and equipment which may otherwise have to be scrapped during the development or on acceptance; When purchasing plant and equipment, due consideration shall be taken of possible dangers and, as far as practicable, only machines which are inherently safe for the operators and others should be purchased. All such
4.1 Describe your airport’s programme to control FOD in terms of:
(a) Training. Part of ground handling
(b) Inspection by airline, airport, and airplane handling agents etc. see (a) to (c)
(c) Maintenance (use of sweeping, magnetic bars, etc.)

4.2 Your airport’s methods? (snow clearing operations? If so, please state vehicle or equipment used)

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Surface Movement Radar
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No
5.3 What safety devices are currently employed? (a) SMS following the reappraisal of risks and hazards
5.4 Comment on the use of any innovative technologies. RIMCAST
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Manoeuvring Area Training
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the “non-punitive” principles such as “no penalty” reporting? Yes, with NATS

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds.
6.2 Are your bird control staff working on the airfield at any time of the day?
6.3 What specific equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. Recorded distress calls, pyrotechnics, shotguns, air rifle
6.4 How often do you carry out a bird strike risk assessment, and is this process audited? Yearly audit, reviewed half yearly by CSL
6.5 What procedures are in place to identify bird species following a bird strike? Send photographs to CSL for confirmation
6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Yes, monthly
6.7 Do your staff log all their bird control activities? (in case of lawsuits) Yes
7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture. 1 x Cobra MK1 – 11,500 litres, 17500 foam, 4500 litres per min discharge, 100kg BCF, 2kg per second BCF discharge, 50kg dry powder, 2kg per second DP discharge. 4 x Cobra MK1 – 11,500 water, 13800 litres, 4500 litres per min discharge, 100kg BCF, 2kg per second BCF discharge, 50kg dry powder, 2kg per second DP discharge. 4 x Javelin (SDR) – 10,000 water, 1180 litres foam, 4500 litres per min discharge, 100kg BCF, 2kg per second BCF discharge, 50kg dry powder, 2kg per second DP discharge. Mitsubishi Shogun. 2 x LR Discovery.
7.2 Future developments – are there plans to purchase new vehicles for your airport? No
7.3 If your airport possesses a Fire Training Simulator, is it operational and being used? Yes
7.4 Do you have any winter services equipment which require improvement? No
7.5 Annual number of days of de-icing activities: 80
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? 1st November to 31st March
8.2 Average annual days of snow: 5
8.3 Average snow depth: 5cm
8.4 Maximum snow in 24 hours: 1m
8.5 Annual number of days of de-icing activities: 80
9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available per shift? 5
9.2 How many sub-contracted winter services personnel are available per shift? 8
10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example: compact jet sweeper, Schmidt, CJS 720, 4 units) SB 90 Sweeper 6 units; Snow blower 2 units; De-icer 2 units; Tractor ploughs 2 units; Tractor brush 2 units
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) starting identity of each facility. Runway, taxiway, apron
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. Staggered formation
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 4 hours
12. FRICTION TESTING
12.1 What model(s) of friction tester do you use? Grip tester
12.2 What are the typical intervals between friction tests? 1 month
12.3 Have you any comments on the reliability of friction indexes? accurate
13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Konsin (19,600 litres), Clearway 3 (24,500 litres) & Clearway 6 (775 kg)
13.2 Comment on storage capabilities of the chemicals which you use. Bunded tanks
13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away” factor etc. Good
13.4 Have you experienced any corrosion problems with de-icers? None
13.5 Have you employed any specific means to economise on chemical use? No
13.6 Do you have any other comments on experience with chemicals? No
13.7 Do you use other chemicals or sand on operational areas? No
14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. Icelert Mk6
14.2 Have you plans to purchase further ice warning systems and if so which model(s)? No
14.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. Useful if used in conjunction with forecasts
15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti/de-icing operations? if so, please state vehicle or other facility manufactures, and number of units. No
16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) No
16.2 Are there any areas of your winter operations which require improvement? Manpower available, new equipment
16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. No
16.4 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. No
16.5 Do you have any winter services equipment which you would like to sell? No
1. AIRPORT INFORMATION
1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airport operations management. Contact information: Göteborg Landvetter Airport, 438 80 Landvetter – Sweden, www.lfse. Yvonne Bjornstrom, Airport Manager Operations, Phone: 0046 31 94 10 00, Fax +46 31 94 14 43, yvonne.bjornstrom@lfse.12 Airport ICAO code and category: ESGG - IFR/RVR Max RWY ref code 4E
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other: TORA 3299 M, WIDTH 45M/147,6FT, SHOULDER 2x7,5M, TOTAL APRON/RAMP AREA 275 100 square metre 2.2 Landing aids for each RWY (e.g. CAT II; CAT II - RWY03/21)
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome (with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. A Safety Management System is clearly wor in the Airport Operations Manual – chapter rnr 6. 3.2 Has your airport made any changes to its SMS following the reappraois of risks and hazards identified by internal/external SMS audits? Yes, due implementation of IAPPR, and via the forum - Flight Safety Group - Flygskerettsgruppen (4 meetings/ year) with representation/members from airline pilots, ATS, mechanics, airport vehicle operators, airport authority etc. Identification and action on “hot spots” on airport manoeuvring area and, should the occasion arise, the apron area.
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of: a) Training. Airside safety introduction training and airside driver licence training b) Inspection by airline, airport, and airline handling agency personnel. Due current audits c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). Yes - regularly d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). Yes, forum Ramp Safety Group at the airport, 4 meetings/year
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 enacted (required) to eliminate perceived hazards? Yes 5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Integrated training at LVO/LVP situations, with occupational groups with missions at the management centre (including to identify “hot spots”. Implementing of EAPPPI – European Action Plan for Prevention of Runway Incursions.
6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitual management policy and how it reduces the risk of wildlife incidents to birds. 6.1 Do your staff attend recognised bird control training courses? Yes 6.2 Are your bird control staff working on the airfield a) continuously? Yes - a part of Airfield supervisor assignments b) at least every hour? According to need c) less than hourly? According to need 6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnic shotguns, dogs, lasers, falcons). Please state relevant supplier,manufacturer, Recorded distress calls (mobile and fixed), laser (test), shotguns, warning-shots via gas cannon 6.4 How often do you carry out a bird strike risk assessment, and is this process audited? According to need. High activity, especially during early springtime, during bird migration 6.5 What procedures are in place to identify bird species following a bird strike? Bird books, consulting ornithologists and biologists from City university. 6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Directly and a summing-up every month 6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes - regular documentation 6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Hares, from time to time
7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chasssis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture Scania - Swedcat x 1; Volvo F12 - 6x6 Water 9200 litre/Forest 540 litre /A-triple F (93/95) x 2; Dodge Tri Star - Water 1000 litre x 1, Tracked vehicle - Hagglunds / equipments carrier x 1 7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes - soon start a process to replace the old the Volvo F12 to new vehicles 7.3 If your airport possesses a Flight Training Simulator, is this available to other airports for training purposes? Not for the moment
8. BIRD AND WILDLIFE EXERCISES
8.1 What is the designated period of winter readiness? 15 October to 15 April 8.2 Average annual days of snow: The days of snow has been reduced the last years, and it is below 50 8.3 Average snow depth: 5 cm 8.4 Maximum snow in 24 hours: 40 cm 8.5 Annual number of days of de-icing activities: Approximately 50 days
9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available per shift? 10 9.2 How many sub-contracted winter services personnel are available per shift? 3
10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: jet comb sweeper, Schmidt, CJS 720, 4 units; Snow clearance: TJS (Bow Jet Sweepers) - Schmidt /TJS 560 D x 5; PSB 4500 H – Vammans x 2; PSB 5500 H – Vammans x 2, Snow Blower: - Rahitkon 381 x 1; Schmidt - Supra 5001 x 1; Overasen – 430 x 1. De-icing: Schmidt ASP – liquid x 2; Schmidt ASP – solid x 2; Shone SH 3500 (sand) x 1; 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) and the priority of each facility. Runway, roads for fire rescue, ILS area, taxiways, apron
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. 5 to 9 vehicles (gives one or two sweep(s) to clear the runway) 11.3 After moderate snow, how quickly do you expect to achieve “black top” on the runway? 5 vehicles - 20 minutes / 9 vehicles - 10 minutes
12. FRICITION TESTING
12.1 What model(s) of friction tester do you use? SFS Surface Friction High Pressure. (2) 12.2 What are the typical intervals between friction tests? Depends on the weather situation, but according to the methodology - after every sweep. 12.3 Have you any comments on the reliability of friction indexes? They are in general credible
13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Formiate, Aviform L50, Good, but need more quantity of liquid. 13.2 Comment on storage capabilities of the chemicals which you use. No problems 13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. Mixed = faster and more effective 13.4 Have you experienced any corrosion problems with de-icers? 13.5 Have you employed any special means to economise on chemical use? Not in use 13.7 Do you use other chemicals or sand on operational areas? No other chemicals, but sometimes we use sand
14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. Vaisala Ice Warning and Prediction System 14.2 Have you plans to purchase further ice warning systems and if so which models? Not for the moment
14.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. Not always reliable
15. AIRCRAFT DE-ICING
15.2. Are you required to have dedicated de-icing positions or do you ice the parking area? Gate/parking area de-icing 15.3 Is glycol recovered? If so, please state methods. Note: Airport use two vacuum-cleaner vehicles for soak up liquid
16. FUTURE DEVELOPMENTS
16.5 Do you have any winter services equipment which you would like to sell? Not for the moment
45 m (left and right 7.5 m shoulders), with shoulders 3000 x 60 m, TOR A 17C: 3000m, TORA 17C: 3060m, TOR A 35C: 3000m, TORA 35C: 3000m, Grasrunway 17L/35R and 17R/35L. TWY. A width 23m; B width 23m; C width 23m; X width 10m; Y width 15m. Grass Runway: S1, S2, S3, S4. Aircraft Parking: 13 Positions for A/C Kat,c, other 4 Pos. Kat. D and 4 Pos. Kat. C, 2 Positions A/C Kat. E, 20 General Aviation Positions, 12 Positions Kat. F, 19x Kat. H for Helicopter.

2.2 Landing aids for any RWy (e.g. CAT I, II, III)


2.2 Landing aids for any RWy (e.g. CAT I, II, III)

35 C at Ill/III LLS: 17 C Ninst.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish that a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. The SMS was installed on 20.11.2005.

3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No. We have one external Audit from the BMVIT (Austria) about the SMS.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of: The control of FOD is done by the Deputy Operations Officer. He arranges the cleaning of the runway and taxiways with airblaster sweepers. The apron is cleaned by means of a cleansing mat.

5. RUNWAY INCURSION PREVENTION

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No. We are receiving a new runway system regularly using the airport. No difference.

6. BIRD AND WILDLIFE CONTROL

6.1 Do your staff attend recognised training courses? No.

6.2 Are your bird control staff working on the airfield a) continuously? Yes. We send them also to the authority.

6.3 What safety devices are currently employed? (Shotguns, dogs, lasers, falcons). Please state relevant methods. No.

6.4 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? No. We are receiving a new runway system regularly using the airport. No difference.

6.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Training of airline users.

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

8. WINTER ORGANISATION

8.1 Please state here order of priority of aircraft de-icing operations: 90 days

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? 3 people

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow cleaning, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmitt, CJS 270, 4 units) 5 units: airblaster sweepers, Bucher Schöring P17; 2 units: airblaster sweepers, Österreicher RS 400; 1 unit: snow blower, Steyr TK 93 + Kahlbacher; 1 unit: snow blower, Bucher Geyer; 1 unit: snow blower, Grizzly Dt 52 + Kahlbacher; 3 units: tractor with snow ploughs, Steyr; 1 unit: spreader for chemical de-icing, Schindl; 1 unit: spreader for chemical de-icing, Köpper Weisser.

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. runway (17/35), 2. taxiway A,B,D, 3. Apron, 4. taxiway X,Y

11.2 State the vehicles, formations and general method of movement, taxiway and apron clearance. 5 airblaster sweepers for runs necessary for runway sweepers

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

12. FRICTION TESTING

12.1 What type of friction tester do you use? Skidometer BV 11

12.2 What are the typical intervals between friction tests? every day in the winter and repeats by bad weather conditions

13. EXPERIENCE WITH CHEMICALS

13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on the effectiveness of chemicals at low temperatures and achieved holdover times etc.
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, apron area, taxiway area, apron at the total area (RWY 05/23 and RWY15/33); T’w’ s: 320:600 m2; Aprons: 491.300 m2; RWY-Shoulders: 92.000 m2
2.2 Landing aids for each RWY (e.g. CAT II): RWY 05: ILS CAT I, PAR; RWY 23: ILS CAT IIIB, PAR; RWY 15: ILS CAT I, PAR; RWY 33: LZ/DME, PAR
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. Mandatory basics for a Safety Management System according to ICAO, Annex 14 and the respective document are established, local Authorities have signed to a successful implementation. Safety Manager nominated, Aerodrome Manual is available. Safety relevant processes have been identified and documented. Additional Runway Guard Lights have been installed at critical intersections. Additional Runway designator markings on floor at critical intersections. The following sub-committees are established – regular meetings every month, Adverse weather conditions committee – regular meetings every 2 weeks during the winter period. Runway Safety Team - 4 times a year. Airport Safety Committee 4 times a year. Runway inspections carried out in opposite direction. All staff involved is using the phraseology agreed on by ADV - airports for ground vehicles operating on runway systems
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
1. Training. Part of regular training for all people designated to work on ramps before they start to work - frequent updates during the year
2. Inspection by airside, airport, and airplane handling agency personnel. Regular inspections are carried out as part of the mandatory ICAO airfield inspections at least four times a day. Inspections are carried out by the airport. Aircraft stands are inspected before and after each usage by airport and ground handling staff
3. Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). Routine maintenance on a daily basis and on special request using Sweepers and or Magnetic bars
4. Co-ordination of multiple agencies using airport (airlines, handling agents etc), Coordination and information via ADC (Airlines Operators Committee), Airport Users Committee, the Airport Safety Committee (ASC) and bilateral
5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Guidance by means of RT (Aeronautical Control, ATM) - Traffic Supervisors/Follow-Me vehicles
5.2 Are any design or engineering changes being undertaken to eliminate perceived hazards? Installation of Runway Guard Lights, regular quality checks on signage and markings Additional Runway Guard Lights have been installed at all critical intersections
5.3 What actions of the previous year have been employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) New ASDE-X, A-SMGCS Level I and incl. Sensornet, Equities (Multilateration) fully operational as of winter 2009
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Anything in addition to a single solution, e.g. A-SMGCS, is helpful but it should be kept in mind that cockpit crews must not be overburdened and should have possible avoid clusters of signs, lights and markings during taxi. Hamburg Airport and the Deutsche Flugsicherung GmbH (DFS), ATM – provider for Germany, have signed a contract on establishing an A-SMGCS at Hamburg. The system should be installed and working in winter 2009.
5.5 What specific procedures are there for training and awareness among pilots, controlers, mechanics, airport vehicle operators, and other people who work at the airport? Regular awareness training for all employees acting as Traffic supervisors – basic training for all people working on ramp areas
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the “non-punitive” principles such as “no-penalty” reporting? All activities are carried out jointly with Deutsche Flugsicherung and pilots (Runway safety team Hamburg). A so-called “Hot Spot” map has been published
6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. Keep the grass on the ramp area to a height of bushes or hedges; destroy nests of craws and other so called blackbirds, coverage of water storage basins, counting/statistical records every fortnight
6.2 Do your staff attend recognised bird control training courses? Yes, every two years
6.2 Are your bird control staff working on the airfield a) continuously? Yes b) at least every hour? c) less than hourly?
6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, cards, dogs, lasers, falcons). Please state relevant supplier/ manufacturer. Pyrotechnics, shotguns
6.4 How often do you carry out a bird strike risk assessment, and is this process audited? At least twice a year (spring and autumn); counting/statistical records every fortnight
6.5 What procedures are in place to identify bird species following a bird strike? Visual identification if possible in all other cases, a special laboratory is involved
6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Every single bird strike is recorded, collated and reported to the respective authorities on a monthly basis. Since the pandemic risk is evident every water bird (ducks, goose etc.) found dead is sent to a special laboratory
6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes
6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Hunters are employed to take care of wildlife such as rabbits, fox and deer. Hunters are responsible for dead the same procedure as to birds is applied
7. CRASH FIRE RESCUE
7.1 Please detail your CTR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (litres/tonnes); year of manufacture
HBB, M.A.N FE 27.410 year of manufacture: 2005
7.2 Future developments – are there plans to purchase or dispose of any equipment? Not for 2010
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? For training purposes the Fire Training Simulator is shifted from Frankfurt Airport to Hamburg Airport once a year for 5 days
PART 2: WINTER SERVICES SURVEY
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? 01. November – 31. March
8.2 Average annual days of snow: 20 days
8.3 Average snow depth: 3-4 cm
8.4 Maximum snow in 24 hours: 12 cm
8.5 Annual number of days of de-icing activities: 25 – 30 days
9. WINTER ORGANISATION
9.1. How many airport-employed winter services personnel are available per shift? Duty roster is based on 16 persons per shift
9.2 How many sub-contracted winter services personnel are available per shift? Up to 30 persons per shift
10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units. (For example: compact jet sweeper, 2 x SHARAn 220, 4 units) 14 snow ploughs; 11 air blast sweepers; 1 rotary snow ploughs; 3 front loaders; 3 snowploughs with centre sweepers; 2 turbine snow loaders; 3 spreaders for solid substances; 2 spreaders for mixed substances (solid/liquid); 1 liquid de-icer
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility. Firstly: runways; Secondly: main taxiways according to runway in use; Thirdly: apron, then all other areas
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. Depending on current weather situation, wind direction and velocity up to 10 snowploughs and sweepers will clear the RWY in one direction forming a diagonal line. Firstly the mainly used TWY’s are connected to the RWY in use will be cleared in the same way. At the same time Taxi-lanes on the Aprons and A/C-stands are swept in sequence.
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway/25 – 30 minutes for each RWY
12. FRICTION TESTING
12.1 What model(s) of friction tester do you use? 2 x SHARAN Friction Testers (ASFT)
12.2 What are the typical intervals between friction tests? According to ICAO/AIP-Germany “remarkable changes of more than 10% compared with the previous SNOWTAM published. Every time upon request by pilot and/or ATC
12.3 Have you any comments on the reliability of friction index? No comments
13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Liquid: AVIFORM L50 250m3, (AMS 1435a), solid: AVIFORM (1431b) 180t; sand 700m3, Good results at temperatures up to 10° - 15° C. 3, 3 days after treatments.
13.2 Comment on storage capabilities of the chemicals which you use. Sand-silo: 160 m3, AVIFORM L50 solid: 50.000 I, AVIFORM solid: 30 “big bags” total amount: 30 tonnes.
13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away
factor" etc. Good results were achieved by mixing SAFEWAY solid and liquid as well as sand and AVIFORM L50 liquid depending on temperature and fall-out.

13.4 Have you experienced any corrosion problems with de-icing? No, but aircraft manufacturers spoke about a suspect that the chemicals used might have a negative impact on carbon brakes.

13.5 Have you employed any special means to economise on chemical use? Good results achieved using "multi de-icing vehicles". Spreading is not related to speed, no wasting.

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

13.7 Do you use other chemicals such as sand or on operational areas? No

14. ICE WARNING SYSTEMS

14.1 State model and number of ice warning systems. None

15. AIRCRAFT DE-ICING

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

15.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De-icing is only permitted on the aprons

15.3 Is glycol recovered? If so, please provide year of recovery.

16. FUTURE DEVELOPMENTS – n/a

3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary." Please outline the SMS for your airport, and the date of its introduction. Date of introduction: 23rd April 2005

3.2 Has there been any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No data

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

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

a) Training: every second year trained by Duty Officer

b) Inspection by airline, airport, and airplane handling agency personnel: Inspection of:

APRONS: Marshallers, Duty Officer, handling agency personnel - TWys, RWy - Marshallers, Duty Officer c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). We are using FOD containers. Responsibility of co-ordination: Duty Officer

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments.) We do not have any software solutions. We also control FOD by using OLH-4500 "Madro"/runway sweeper

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? - The only method we use is visual contact

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? There is a fence round the area of airport; visual observation; System of bird control; Thermographic cameras

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) - We do not have any safety devices.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other low-cost technologies. - We do not use any innovative 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? - there are trainings about behavior and awareness in operation area.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Future, do they safeguard the ‘non-punitive’ principles such as ‘no penalty’ reporting? - Yes they have been incidents, which were reported to a duty officer. Following duty officer is a person who is responsible for explaining these cases.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your airport's programme in relation to the largest aircraft regularly using the airport. Aerodrome category for fire fighting – VIII

6.2 Are your bird control staff working on the airfield. - yes they have been incidents, which were reported to a duty officer.

6.3 What is the designated period of winter readiness begins from 15th October until 15th April

6.4 How often do you carry out a bird strike risk assessment? We carry out a bird strike risk assessment every second hour.

6.5 What procedures do you use to identify bird species following a bird strike? There are now procedures

6.6 Do you collate bird strikes and report numbers to your regulatory authority? Yes do you report? Yes we collate bird strike reports. A Duty Officer files a report only six or seven times per year.

6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) No we do not log bird control activities.

6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? No we do not have problems with other wildlife.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating; vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture. 1 Truck Barrucada GCBP4 5,5/50/150 / year of manufactures: 1990; 1 Truck Barrucada GCBP4 10/50/250 / year of manufactures: 1990; 2 Truck Barrucada GCBP4 12/50/250 / year of manufactures: 1994; 1 Truck Rosenbauer Panther GCBP6 6/70/250 / year of manufactures: 2009; 1 Truck Rosenbauer Panther GCBP6 12/70/250 / year of manufactures: 2009. 7.2 Future developments – are there plans to purchase or dispose of any equipment? We will buy 2 Barrucada trucks by Rosenbauer Company in 2011

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We do not have a Training Simulator. TS is not available in Poland for training purposes.

7.4 If any, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. Aerodrome category for fire fighting – VIII

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? Our Airport period of winter readiness

8.2 Average annual days of snow: 60/70 days

8.3 Average snow depth: 6.45 cm

8.4 Maximum snow in 24 hours: 14cm

8.5 Annual number of days of de-icing activities: 66 days

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? We have got 16 winter services personnel per shift

9.2 How many sub-contracted winter services personnel are available per shift? None

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units - runway snow plough 8m – 3 units; - Road snow plough 3m – 2 units; - Runway sweeper: a) OH 4500 "Madro" 3,5m – 5 units; b) OH 3850 Hydrog 3,5m – 2 units; c) OVERASSEN RS 400 5.5m – 3 units; d) Rotor snow sweeper Giga - 7 units; e) Runway team operation deals with this problem continuously

10.2 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) - We do not have any safety devices.

10.3 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? - there are trainings about behavior and awareness in operation area.

10.4 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Future, do they safeguard the ‘non-punitive’ principles such as ‘no penalty’ reporting? - Yes they have been incidents, which were reported to a duty officer. Following duty officer is a person who is responsible for explaining these cases.

11. PROCEDURES AND METHODS

11.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airport airfield operations management. Contact information: International Airport Katowice-Pyrzowice, PL 42-625 Oarovice, d.Wolno ci 90. Officer on Duty /48-mob. +48 608 301 021.

12. MOVEMENT AND MANOEUVRING AREA DATA

12.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other: RWY 09/27 (688.000m2), Total RWY length - 2800m, TORA 2800, width - 60 m; TWy “K” (4,048 m2), width – 20m; TWy “B” (4,928 m2), width – 28m; TWy “D” (2,288 m2), width – 13m; TWy “E1,2” (4,380 m2), E1,2 width – 20m, E3 – 23m; TWy “F” (6,160 m2), width – 35m; TWy “S” (11,500 m2), width – 50m; TWy G1, G2, G3, G4, width – 15m; Total APRON area: 72, 53636m – 33 parking positions

12.2 Landings aids for each RWy (e.g. CAT II): CAT - lighting aids: threshold 09 - Simplified approach lighting system “cross” with axis length 420 m and bar 300 m from THR. LH. threshold 27 - Precision approach category 1 lighting system (Calvert system).

LH - radio aids: threshold 27 - ILS instrumental landing system and glide path - meteorological Valsai system
12. FRICTION TESTING

12.1 What model(s) of friction tester do you use? We usually use three types of friction tester: SANS Friction Tester, BOWMAN AFM 2 Airfield Friction Tester, GRIPTESTER 210

12.2 What are the typical intervals between friction tests? Intervals are dependent on weather conditions but we always test friction 1 hour and 0.5 hour before each landing and 0.5 hour before starting. We test friction on the runway also by Fight Crew request

12.3 Have you any comments on the reliability of friction indexes? All our comments are included as we discussed earlier.

13. EXPERIENCE WITH CHEMICALS

13.1 State which pavement de-icers you use, along with the quantities used last season. We use every year next de-icing chemicals: - liquid – CLEARWAY 1, made by BP - total used 87550L - solid – CLEARWAY 6s – total used 1575L

13.2. State the vehicles, formations and general method of runway, taxiway and apron clearance. At the end we enclosed charts and method runway clearance

13.3 After moderate snow, how quickly do you achieve holdover times etc. We use every year next de-icing chemicals or sand on operational areas.

13.4 Have you experienced any corrosion problems with de-icers? We do not have any corrosion problems with de-icers (CLEARWAY). Only Urea (carbamide) is the most aggressive and corrosion. Due to corrosion this chemical we used it only for operational areas. In range temperatures from 0 to -5 centigrade we use CLEARWAY 1 and then we spread CLEARWAY 6s.

13.5 Have you experienced any corrosion problems with de-icers? We do not have any corrosion problems with de-icers (CLEARWAY). Only Urea (carbamide) is the most aggressive and corrosion. Due to corrosion this chemical we used it only for

13.6 Do you have any other comments on experience with chemicals? During strong freezing rain and drizzle the most efficient chemicals are liquid urea (carbamide) but only to temperature -4 centigrade. Due to aggressive and corrosive chemicals we do not apply for the runway and taxiways.

13.7 Do you use other chemicals or sand on operational areas? No, we do not use other chemicals or sand on operational areas.

14. ICE WARNING SYSTEMS

14.1 State model and number of ice warning systems. We do not have any ice warning systems

14.2 Have you plans to purchase further ice warning systems and if so which model(s)? We would like to test further an ice warning system called “ICE ALERT” product by FINLAY IRVINE

14.3 Comment on your experiences of the benefits/ disadvantages of your ice warning systems. All the time we watch over runway and taxiway conditions. We do not use ice warning systems. We work in cooperation with Meteorology Services.

15. AIRCRAFT DE-ICING

15.3 Do you publish specific procedures for aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. Yes, our airport directly provides aircraft anti/de-icing operations. We use liquid chemicals for aircraft de-icing operations. We use liquid chemicals for aircraft de-icing operations – SEFEMING MP II 1951, type II. For anti/de-icing aircraft we use special vehicle Kitokori E12000 – 2 units

15.4 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We have got special standings to anti/de-icing the aircrafts. The de- icing is performed out on Apron 1 stand no. 18 next to TWY “F” and also on Apron3

15.5 Is glycol recovered? If so, please state methods. No, we do not recover glycol. All used glycol is recycled.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearance vehicle formations, for example) We do not plan to change it.

16.2 Are there areas of your winter operations which require improvement? Yes, we would like to improve work cooperation between winter equipment and a managing officer. We would like to improve clearance, APRON1 and main taxiway.

KEFLAVIK

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT SURVEY

1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/ airfield operations management. Contact information: Keflavik International Airport (KEF), IS-235 Keflavik International Airport, Iceland. Tel.: +354 425 6000, Fax +354-425-6010, e-mail: bikt@keflavikairport, is. Further information also available on a bi-lingual website: www.kefairport.com and at AIP Iceland, http://www.caai.is/media/pfd tid _2014.pdf

1.2 Airport ICAO code and category: BIKF, aerodrome reference code 4E and RFF category 9.

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas: RWY 02/20 length 3054m, RWY 11/29 length 3065 m, both 60 m wide. RESA 90 X 120 m for all RWYS. All approaches obstacle free. Terminal Apron 120.695 m². East Apron 443.270 m². Taxiways 475.198 m².

2.2 Loading aids for each RWY: RWY 11 & 20 Cat I, RWY 02 & 29 Cat I.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. Kef has established a SMS that complies with national regulations, ICAO Safety Management Manual, Doc. 9859 and EUROCONTROL guidelines. Opscom Aerodrome Operations web-based system for aerodrome operations and documentation has improved safety and worked well as a strong link in the outline chain for the SMS. The SMS Manual for KEF was introduced in 2007 as the tool to maintain and further enhance the safety level at KEF.

3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, risk analysis and methodology in risk mitigation has caused minor changes in operational procedures to better allow acceptable level of safety to develop at KEF.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD. a) Training. All airside personnel receive mandatory safety training where FOD awareness is included. KEF Airfield Services operators are trained in FOD inspections as well as FOD removal procedures. b) Inspection by airplane, airport, and airplane handling agency personnel. Inspections are performed by KEF Airfield Services inspectors by regulation at least three times a day. In addition the most critical areas are inspected at the beginning of each shift and three times a day also.

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). Dedicated suction sweepers with magnetic bars are used for routine FOD cleaning but snow sweepers are also available for major clean-up. FOD containers are positioned in strategic places.

d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). By regulation all airport users are part of the FOD prevention effort. All agencies are encouraged to implement a FOD conscious culture within their work force. Systematic “FOD walks” are used to motivate people.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments.) The Opscom Aerodrome Operations system is utilised for managing FOD control.

5. RUNWAY INCursion PREVENTION

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

5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Additional service roads around the airfield will reduce vehicular traffic on runways and taxiways.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) None of the above, but future plans include A-SMGCS.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Special emphasis on non-metallic signs, using quality computer print-outs placed on water resistant wooden hardboard as well as plastic.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Special training is a mandatory requirement for all individuals permitted to handle any movements on the ground. In order to gain an access permit to the airport, all employees at the airport must pass a test following a localized safety and security training, including ICAO and EUROCONTROL stipulations and recommendations. The Keflavik Airport Aviation Safety Committee, with members representing the aviation community utilizing the aerodrome, meets quarterly. The committee was established in accordance with the recommendations of the European Action Plan for Prevention of Runway Incursions published in 2003 by EUROCONTROL. The role of the committee is to advise the local security and airside management on potential aviation safety issues at KEF and recommend mitigation measures.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Yes, we do not publish the procedures. Due to the regulations of the Opscom Aerodrome Operations system. Further, do they safeguard the ‘non- punitive’ principles such as ‘no-penalty’ reporting? Yes.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction to birds. Diverse measures are made to change and keep
the habitat as to make it unattractive to birds as possible. This includes landscaping, sowing of grass seed, planting of lupine, draining of water, covering water basins and closing of nearby garbage dump sites.

6.1 Do you staff attend recognised bird control training courses? An annual training is performed at the beginning of the bird migrating season in April. The course is locally developed and tailored to local circumstances.

6.2 Are your bird control staff working on the airfield?
   a) continuously? Yes, April through September.
   b) on a seasonal basis? No.

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

6.4 How often do you carry out a bird strike risk assessment, and is this process audited? A new risk assessment model is a part of a new BASH regulation. The assessment is carried out as often as dictated by circumstances, often many times a day. The process is audited twice a year.

6.5 What procedures are in place to identify bird species following a bird strike? In the case of any doubt, bird remains are sent to the Icelandic Institute of Natural History for proper identification.

6.6 How do you collect bird statistics? Yes. We will report numbers to your regulatory authority? How often do you report? At the end of the season a thorough report of all BASH related activities is issued. This includes precise statistics of bird strikes, bird count by areas, killed birds by areas/species and other relevant data.

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

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

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture. 4 ea. Oshkosh TA-3000, 6x6, 1990 litres AFFT, 11,356 litres water, 2270 kilos Halon 1211. All vehicles are manufactured 1992.

7.2 Future developments – are there plans to purchase or dispose of any equipment? The purchase of three CFR vehicles is planned within the next four years.

7.3 If your airport possesses a Fire Training Simulator, is it available to other airports for training purposes? N/A

7.4 If any, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. None.

PFMT 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

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

8.2 Average annual days of snow: 80 days

8.3 Annual average depth: 30 cm (accumulated snow through one winter)

8.4 Maximum snow in 24 hours: 30 cm

8.5 Annual number of days of de-icing activities: 365 days

9. DE-ICING AND CONDITION ASSESSMENT

9.1 How many airport-employed winter services personnel are available per shift? Total 42 employees, 25 are on 8 hours shifts (five men on each shift) and 17 on a regular day shift with standby responsibilities for weekends.

9.2 How many sub-contracted winter services personnel are available per shift? No personnel are sub-contracted.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant equipment (staging purpose, manufacturer and number of units) (For example: compact jet sweeper, Schmitt, CJS 720, 4 units). Compact jet sweeper, Schmitt, CJS 914, Unit; Snow sweeper, towed sweeper, towed sweeper, snow sweeper, towed, Schölling, P-17.12 two units; Truck; towing Oshkosh Piers with Schmitt MF 9.3 snowblades, 8 units; Snow blower ,Oshikob, HB 215B-MP-3, 2 units; Snow blower Oshikob, H 222B, 1 unit; Snow blower Roba 3000, 1 unit; Front end loader, Hough, H-100-C, 3 units; Front end loader John Deere, 744/B44, 2 units; Front end loader Komatsu, 540, 1 unit; Front end loader Case, 820/CW242, 2 units; Frontend loader IHC, H-65-C, 1 unit; Snowploughs, Finn, Ramhög 6.1 meters, 4 units; Snowploughs Gernrad, H.S.V. IV, 5 units; Runway de-icer Batts, 2000 gal, 2 units; Sand/Solid de-icer spreader,Nido Stratos, 4 units, Nido Traxor 1 unit; Tractor, New Holland T6600, 1 unit; Tractor, ICB Steiner 4MX, 1 unit; Multi function snowblade, Gradmeko, VP-360, 2 units; Snowblade, Schmidt, M-33, 2 units; Truck, DAF, FASCF 75.

11. PROCEDURES AND METHODS

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

12. FRICTION TESTING

12.1 What model(s) of friction tester do you use? The MK6 MU Meter and the KU Law T6810 friction tester

12.2 What are the typical intervals between friction tests? In average we perform 3000 friction tests during a winter. Intervals are very different, from tests run taken continually to once a day.

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

13. EXPERIENCES WITH CHEMICALS

13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on the effectiveness of chemicals at low temperatures and with the quantities used last season. Comment on your experiences with chemicals? Fluid chemicals are effective anti-icers but poor de-icers. Solids are much better de-icers but very expensive. Therefore we are constantly experimenting in the use of these chemicals and their mixtures.

13.2 Do you use other chemicals or sand on operational areas? Yes. we still use sand, pre-wetted with de-icing fluid on taxiways and aprons.

14. ICE WARNING SYSTEMS

14.1 State model and number of ice warning systems. SGAN, system 16 EF from Surface Systems Inc. USA. 9 surface sensors and 2 atmospheric sensors.

14.2 Do you have plans to purchase further ice warning systems and if so which model(s)? No, not in the next future.

14.3 Comment on your experiences of the benefits/ disbenefits of ice warning systems. Such a system is a very vital part of our operations. It helps us to manage the use of de-icers and monitor the frequent weather changes in Iceland.

15. AIRCRAFT DE-ICING

15.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. The airport does not provide aircraft anti/de-icing.

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

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

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example). We are constantly trying to improve our methods in snow/clearance control.

16.2 Are there areas of your winter operations which require improvement? Because of new constructions around the aprons we will have to start finding out how to get rid of the snow from these areas.

16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. 80% of our equipment is overage. Following a world-wide tender the airport authority is purchasing seven “snow combinations” (a Scania P400 ploughing truck towing a Schmidt TIS 560 sweeper) within the next three years.

16.4 Do you currently have equipment or other products on order? Yes (see above).

16.5 Do you have any new equipment which you would like to sell? No.
1. AIRPORT INFORMATION
1.1. Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airport operations management. Contact information: Leipzig/Halle Airport, Airport Operations Control Centre, P.O. Box 1, 40029 Leipzig. Tel.: +49 341 224 1130, Fax.: +49 341 224 1175, E-Mail: verkehrszentrale@leipzig-halle-airport.de
1.2. Airport ICAO code and category: Airport ICAO Code: EDRD; Airport category: 4F

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 OBL2/RB: length 3600m, width 45m, TORA: 3600m, TODA: 3900m, RWY OBR2/BL: length 3600m, width 60m, TORA: 3800m, TODA: 3900m. Shoulder widths: 7.50m, Total Apron area: 194.000 m2, Apron 2: 134.000 m2, Apron 4/5: 533.000 m2
2.2. Landing aids for each RWY (e.g. CAT II): CAT IIb

3. SAFETY MANAGEMENT SYSTEMS
3.1. The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. Date of SMS-introduction: 24 November 2005. Formulation of a corporate Safety Policy; Installation of a Safety Manager; Establishment of Safety Committees; Establishment of a Safety Occurrence Reporting System; Promote a positive Safety Culture; Investigation of Incidents and Accidents; Internal Safety Audits in accordance to the SARPs of the ICAO and internal documents of airport operations; Hazard and Risk management: identification and reduction of risks and hazards (e.g. Construction works), SMS is an integral part of the aerodrome manual. 3.2. Has your airport made any changes to its SMS recently? Yes, we report our bird strike incidents to the regulation authority. The statistic is made by the DAVvL. 3.3. The ICAO Manual on Certification of Aerodromes annually and when a lot of bird strikes occur. 6.1. Do your staff attend recognised bird control training courses? Yes, they have been. 6.2. Are your bird control staff working on the airfield a) continuously? Yes, we check the airport fence regularly. 6.3. What specific specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. Blank pistols (Weihrauch, Calibre 9mm) and shotguns. 6.4. How often do you carry out a bird strike risk assessment, and is this process audited? The bird strike risk assessment and the audit are realized by the Wildlife Manager of the Airport and the SMS annually and when a lot of bird strikes occur. 6.5. What procedures are in place to identify bird species following a bird strike? Incidents with birds are documented and reported to the SMS and to other relevant quarters. We always serving runway(s) in use. (3) Birds. 6.6. Do you report bird strikes and report numbers to your regulatory body? Yes, we report our bird strike incidents to the regulation authority. The statistic is made by the DAVvL. 6.7. Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Bird Control activities are documented in detail.

5. RUNWAY INCURSION PREVENTION
5.1. What is your primary method of monitoring vehicle and aircraft movements on the ground? Visual observations and radio instructions by ATC. The implementation of an ASMR is intended for 2020. 5.2. Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Runway Guard lights, segmented taxiway centre lighting. On Cat III/conditions by contact loops at stop bars for monitor entering/vacation RWY. Alert in case of unallowable crossing red stop bar. 5.3. What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASD-E, the Model X Airport Surface Detection Equipment) No specific.
5.4. Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. No specific. 5.5. What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Specific trainings for people who work at the apron or at the manoeuvring areas. Access (on an individual basis) after training course by authorized personnel. Additionally, all people who work at the manoeuvring areas have to attend the runway incursion prevention/awareness course. 5.6. Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes, they have been. RWY/safety incidents are investigated and reported by the safety management system (non-punitive and no-penalty). Additional analyses are done with the AFC. 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. Are your bird control staff working on the airfield a) continuously? b) at least every hour? c) less than hourly?
6.3. The bird control staff is working on the airfield continuously. They initiate action when necessary. 6.4. What specific specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. Blank pistols (Weihrauch, Calibre 9mm) and shotguns. 6.5. How often do you carry out a bird strike risk assessment, and is this process audited? The bird strike risk assessment and the audit are realized by the Wildlife Manager of the Airport and the SMS annually and when a lot of bird strikes occur. 6.6. What procedures are in place to identify bird species following a bird strike? Incidents with birds are documented and reported to the SMS and to other relevant quarters. We always serving runway(s) in use. (3) Birds. 6.7. Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Bird Control activities are documented in detail.

7. CRASH FIRE RESCUE
7.1. Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (light/medium/heavy); year of manufacture. Rosenbauer Panther KT (8x8), 4 axles, 12.500 litres, 1999, 2 units; Rosenbauer Panther GFK (8x8), 4 axles, 10.000 litres, 1993/1994, 3 units; Schmitz Gimaex “Pegasus”, 4 axles, 12.500 litres, 2006, 1 unit; Schmitz Gimaex “Pacific” 6x6 05, 3 axles, 6.000 litres, 1993, 1 unit; MAN TGA 35.440 8x2-Bl, 4 axles, 5.000 litres, 2008, 1 unit; MAN TGL 8.210, 2 axles, 1.000 litres, 2007, 1 unit; MAN TGL 8.210, 2 axles, 500 litres, 2007, 1 unit; MAN 19-372, 3 axles, 5.000 litres, 1995, 1 unit; Mercedes-Benz Vito, 2 axles, 250 litres, 1999, 1 unit; plus several CFR vehicles and equipment for fire fighting and rescue (e.g. for emergency operations coordination).
7.2. Future developments – are there plans to purchase or dispose of any equipment? Currently no purchases are planned. 7.3. If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes, we plan to use the Fire Training Simulator is scheduled for spring 2010. 7.4. If any, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. No differences.

8. RECENT WINTER CONDITIONS
8.1. What is the designated period of winter readiness? 01. November until 31. March (if necessary, until 18. April) 8.2. Average annual days of snow: 60 days. 8.3. Average snow depth: N/A 8.4. Maximum snow in 24 hours: 10 – 15 cm. 8.5. Annual number of days of de-icing activities: 122 days. 9. WINTER ORGANISATION
9.1. How many airport-employed winter services personnel are available per shift? 20 airport-employees per shift. 9.2. How many sub-contracted winter services personnel are available per shift? 50-100 personnel. 10. WINTER EQUIPMENT INVENTORY
10.1. Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, C/S 720, 4 units) Compact jet sweeper, Schmidt, TJS 630, TJS 420, 17 units; Liquid de-icer dispenser, 42/13, Dammann, 3 units; Snow Cutter, Super 4000, Schmidt, 3 units; tractors with snow ploughs and brushes (rear), Schmidt/Drücker, 11 units; tractors with spray attachment and brushes (front), Drücker/Schmidt; Surface Friction Tester, ASFT/ VW Sharan (2 units) and Saab (1 unit); winter operation control vehicles, 6 units; seasonal snow removal equipment. 11. PROCEDURES AND METHODES
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) Runway(s) with spray attachment and brushes (front), Schmidt/Drücker, 11 units; for clearing of the Runway Clearing convoy consists of 12 TJS 630, 2 de-icers and 2 guidance vehicles (4x4) lined up diagonally. The Taxiway clearing convoy consists of 6 TJS 630, 1 de-
16.5 Do you have any winter services equipment including manufacturer and number of units. No.

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

16.3 Do you have any winter services equipment which you would like to sell? No.
15.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. No
15.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Our airport offers dedicated position for de-icing but also offers de-icing on parking area.
15.3 Is glycol recovered? If so, please state methods. Yes, for our north airport area.
15.6. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) No
16.2 Are there areas of your winter operations which require improvement? We think that all can be improved
16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. No
16.4 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. Boshung, Jet Broom, 2 (Delivery end 2009)
16.5 Do you have any winter services equipment which you would like to sell? No
PARTIES ACTIVE IN THESE PROCESSES? FURTHER, DO
YOU REGULARLY SHARE YOUR EXPERIENCE WITH OTHER AIRLINE COMPANIES?

14. EXPERIENCE WITH CHEMICALS
13.1 STATE WHICH PAVEMENT DE-ICERS YOU USE, ALONG WITH THE QUANTITIES USED LAST SEASON. COMMENT ON STORE CAPABILITIES OF THE DE-ICER, AND WHETHER YOU WOULD BE INTERESTED IN PURCHASING A NEW DE-ICER.

13. EXPERIENCE WITH CHEMICALS

13.2 Comment on storage capabilities of the chemicals which you use. No comment.

13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. That depends on the conditions forecast for the nights of during the weekend to warn the electricians that they assume themselves placed in road of warning if an intervention had to be foreseen. The vehicles of snow clearance go directly in line with the taxiway central and climb back up heading for the threshold 03. The vehicle body must work on either side of the axis of the taxiway central, in line, in order to avoid to every passage the systematic continuation of the layer of snow. Release the track rackets while pushing the snow towards the exterior one not to do accumulation of snow to the track extremities. After the operation of snow clearance, the track state is checked by the SSLIA under the authority of the Civil Aviation. In case of need, with the co-operation between the SNA and exploiting it. C) Traffic areas: It is necessary to release the parking lot to assure the airplane departure in parking or allowing moving. Total release of the parking lot without blocking the aircraft. On the parking areas, the snow is compressed towards the exterior one: extremities, sides, way of the deposit of fuels. A storage zone is created to each of the extremities. It suits equally to release the access ways between the sheds, as well as the access ramps to the terminal basement. D) Road service and terminal pedestrian: The release is carried out according to the availability of equipment and after release of the priority zones, with if possible, the assistance of the other services (former: salting to the terminal approaches).


9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are working for you at present? Creation of a committee snow that is composed: 1) a passenger RESISTANU, 2) chief engineer of the service, 3) chief member of the service, 4) personnel of the Service of Aerial Navigation. 9.2 How many sub-contracted winter services personnel are available per shift? No employees under treating for this mission.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CIJS 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 snowreader VICON. Vehicle 2: 1 tractor ZETOR of 56 CH and equipped of has blade E of snow and of has rotary broom. The ZETOR will be equipped of has tank of 2000 litres of product. Vehicle 3: 1 truck UNIMOG of 80 CH and equipped of has lateral turbine ROLBA. Vehicle 4: 1 truck IVECO 0 4x4 of 180 CH and equipped of has blade a snow, 1 sleep it’s épandage of 2000 L of product déverglacant. 1 sleeps it’s 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 15141ts capacity and 1 de-ice tank 75/25 of 6051ts capacity. A spare de-icer type SAVIER SG4 ref 8301 with 1 de-ice tank of 700 Lts capacity.

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility. The operations of snow clearance and of déverglace are divided in two sub- priority sectors: Tracks: Way of circulation taxiway central, Zone minimum of parking had, Zone release service SSLIA - zone helpirror French police force, Zone deposit fuel, Zone shed n° 3. Non priority sectors: Public garbage collection, Gangways central, Way of circulation taxiway 03, Entirety of the parking lot had, Entirety of the parking lot aéroclub. 11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. a) Snow clearance: 1 truck ZETOR, 2 snow plows, 1 sleep of 30 CH, 6100 CH, 1000 CH. For the snow clearance and after contact with the concerned
problems with de-icers? No
13.5 Have you employed any special means of cash on demand? No
13.6 Do you have any other comments on experience of de-icing operations? No
13.7 Do you use other chemicals or sand on operational areas? No

14. ICE WARNING SYSTEMS

15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti-de-icing operations? Yes
If so, please state vehicle or other facility manufactures, and number of units. 1 deformer
15.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area?
The airplanes are deiced on the parking area.
15.3 Is glycol recovered? If so, please state methods. There is no recuperation of product for the moment at Limoges
15.4 Have you any winter services equipment which you would like to sell? NIL

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) Airport is in the middle of the study in the law framework on water.
16.2 Are there any requests of you airport’s formations, for example) Airport is in the middle of the study in the law framework on water.
16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. This again is not determined
16.4 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. NIL
16.5 Do you have any winter services equipment which you would like to sell? NIL

LINATE

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT INFORMATION
1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airport operations management. Contact information: Milan Linate Airport: Safety Manager; dott. Giovanni Falasini, ph.:00390274852854, Fax: 00390274852051, e-mail: falasini.giovanni@sea-aerodromilano.it.
1.2 Airport ICAO code and category: ICAO Code: LLM (Linate), Cat. D (1/1300 wingspan 48 m)

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): Runway 18–36, 256,000 sqm; Taxiway+holding bay 134,000 sqm; North Apron 322,000 sqm; West Apron 65,000 sqm; TORA: 2,442 m
2.2 Landing aids for each RWY (e.g. CAT II); RWY 36 CAT IIIb

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that every airport operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport. The Safety Management System of Linate is a system able of guaranteeing the performance of airport operations under established safety conditions and, at the same time, assessing the effectiveness of the system itself in order to intervene for the correction of possible deviations.
3.2 Has your airport made any changes to its procedures of aircraft movement to/from stands; Avoided collision; Crossing conflicts A/C - A/C; Crossing incursion/excursion; taxiway incursion/excursion; Incidents/excursions resulting in equipment damage to aircraft or airport facilities; Deterioration of air side signage; Jet-blast; Incorrect service operations, including refuelling and catering procedures; Wrong loading (positioning or dissimilarity of forms); Runway incursion/excursion; taxiway incursion/excursion; Avoided collision; Crossing conflicts A/C - A/C; Crossing conflicts vehicle - A/C; FOD; AVL efficiency; Wrong procedures of aircraft movement to/from stands; Any other events with potential impacts on safety.
3.3 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training. An awareness campaign for the staff working at the airport has been carried out using posters focusing on safety issues. Information are also available on the “Airport Circulation and Safety Manual” which is at all airport operators’ disposal.
   b) Inspection by airline, airport, and airline handling agency personnel. Once a week, in the presence of one representative of the airlines operating at Linate Airport, A-SMGCS qualified agent inspects one stand and the FOD for that stand is collected.
   c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). Maintenance is performed using airport sweeping equipments and FOD bins, which open hourly, collect FOD and when full, FOD bins have been placed on the apron.
   d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). The personnel is airport staff. In the monthly Safety Committees, all representatives of agencies using airport are informed about problems and priorities concerning FOD

5. RUNWAY INCURSION PREVENTION
5.1. What is the primary method of monitoring vehicle and aircraft movements on the ground? Surface movement radar SMR
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? A better setting of microwaves anti-intrusion system
5.3. What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) Microwaves anti-intrusion system
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Lighting red bars together with microwaves anti-intrusion systems are used. There are sign markings like Runway Head and No Entry in additional of anti-intrusion system (microwave) for each Taxiway serving Runway

6. BIRD AND WILDLIFE CONTROL
6.1 Do your staff attend recognised bird control training courses? A specific 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 airport professional figures; they are duly trained by means of specific courses at the moment of their recruitment and through recurrent training. 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.
6.2 Are your bird control staff working on the airfield a) continuously? Yes
b) at least every hour? Yes
c) less than hourly? No
6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. (Spacemaster) fixed sounding system T. 2.25 kHz to 12.98 kHz sounds, 2000 W power; shotguns, distress call. 6.4 How often do you carry out a bird strike risk assessment, and is this process audited? Monthly since 2002 wildlife study is performed. 6.5 What procedures do you have in place to identify bird species following a bird strike? Following a birdstrike a special report is filled with identification of bird species. 6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Every time a birdstrike is registered and monthly communicated to regulatory authority.

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7. Do your staff log all their bird control activities? (To manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes
8. Do your airport have problems with other wildlife (squirrel, for example) and, if so, how are these issues being addressed? Wild rabbits, hares, foxes and nutrias.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/itre and type); year of manufacture. Vedi tabella 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 Simulator, is this available to other airports for training purposes? Not available
7.4 If you have, list the (nationally funded) differences with ICAO SARPs, specifically on the guaranteed RFF category for training purposes? Not available

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

9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available per shift? 80
9.2 How many sub-contracted winter services personnel are available per shift? 6

10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweepers, Schmidt, CJS 720, 4 units) Snowblowers: Fresia F90 ST – 2 units. Compact Jet Sweeper: Schmidt AS750 – 2 units. Liquid Spreader: Schmidt RSP 14000 VAL3S (self propelled) – 1 unit, Gletta KS – 1 unit; Contractors third party: Front end loaders – 11 units, Truck – 22 units. Snow Blades: 2.5m wide – 17 units, 3.2 m wide – 11 units, 4.5 m wide – 11 units, . Farm tractor (contractor) – 24 units. Rotating turbo milling cutters – 5 units; Rolba wh iching SB 80c – 3 units, Fresa F2000 – 2 units; Bombirilli salt scatterers – 2 units; Pri nitho 1 T crasher – 1 unit; Apron de-icing sprayer – 2 units: Saab Shidolometer 1 unit.

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, ice, snow, accumulated and removed, afterwards pavement is treated with glycol liquid.
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 20 minutes about.

12. FRICTION TESTING
12.1 What is the relevant snow industry test that you use? Runway friction tester vehicle SAAB SFT9000, 2 units
12.2 What are the typical intervals between friction tests? Every 15 days under normal conditions, on request from Airport Authorities during winter season and under particular meteorological conditions.
12.3 Have you any comments on the reliability of friction indexes? No comment. Once a year, SEA performs a calibration check with ASIFT technical support

13. EXPERIENCE WITH CHEMICALS
13.1 State which de-icing 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. Safety SD has been used in case of pavement with ice and subsequently treated with liquid
13.2 Comment on storage capabilities of the chemicals which you use. Safety KA, 100,000 litres; Safety SD, 10,000 KG
13.4 Have you experienced any corrosion problems with de-icers? No problems occurred with chemical use

15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units.
15.3 Is glycol recovered? If so, please state methods.
15.4 Does the airport directly provide aircraft de-icing operations? If so, please state methods.

16. FUTURE DEVELOPMENTS
No changing in the short term

1. AIRPORT INFORMATION
1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airport operations management. Contact information: The name of airport; Airport Jozeta Pucnika Ljubljana. Airport authority and operator: Aerodrom Ljubljana d.d.; Zg. Brnik 130a, POB 10, 4210 Brnik-aerodrom, Slovenija. Phone: + 386 4 2061 107, E-mail: tajnistvo.uprave@lj-airport.si. Robert Gradisar -Operations Manager, +386 4 2061 109, E-mail: robert.gradisar@lj-airport.si. Dusan Sofric -Airport Safety & Security Manager, +386 4 2061 104, E-mail: dusan.sofric@lj-airport.si.
1.2 Airport ICAO code and category: LJLJ

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

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. Status of SMS is under review. However many SMS scopes (system of mandatory and voluntary incident / accident reporting; incidents /accident safety analysing; corrective action plans; system of pavement grooming etc.). 3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? SMS has been officially implemented yet.

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. Aside FOD inspections are regular done and recorded. On the request the additional inspection will be done. c) Maintenance (use of sweeping, magnetic bars, numble strips, FOD containers etc.). FOD pavement surface cleaning there is vacuum sweeper and special FOD boss carpets in use. Parking positions are maintained with FOD containers (yellow containers with black visible sign FOD). d) Co-ordination of multiple agencies using airport (airlines, handling agents etc.) FOD training for staff employed at the air-side. The existing FOD prevention management programme is in use. There is coordination between multiple agencies for FOD prevention.

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

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Primary method based on procedures and appropriate communications between drivers and TWR.
5.2 Are any design or design changes being undertaken/required to eliminate perceived hazards?

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. Inside the airport perimeter there is more or less flat grass area. A smaller part of area is covered with trees. Around 6 Nm (SW) from the airport there is two artificial lakes and river. The main habitat management inside the airport perimeter is grass cutting management.
6.2 Do your staff attend recognised bird control training courses? No
6.3 Are your bird control staff working on the airfield a) continuously? b) at least every hour? c) less than hourly?
6.4 How often do you carry out a bird strike risk assessment, and is this process audited? The frequency of bird strikes risk assessment depends of the period bird strike incidents statistics.
6.5 What procedures are in place to identify bird
species following a bird strike? Photos of the impact on bird strike species are comparing with a description of birds in appropriate books and / or internet. bird strike species are comparing with a description

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/centre and tip); year of manufacture.
7.2 Future developments – are there plans to purchase or dispose of any equipment? In next year (2009) there is no planning for purchase any new equipment for CFR. If your airport possesses a Fire Training Simulator, it is also available to other airports for training purposes? No
7.4 If any, list the (nationaled) differences with ICAO SARPS, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. Regular the airport is operating on CAT 6. It could be upgraded on CAT 9 on request.

8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? From the 1st of Nov until 30th of Apr.
8.2 Average annual days of snow: 32 days
8.3 Average snow depth: 20 cm
8.4 Maximum snow in 24 hours: 50 cm
8.5 Annual number of days of de-icing activities: Roughly more or less 120 days

9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available per shift? 4 to 6 employee for a/c de-anti / icing. For snow cleaning (runway, taxiways, aprons, stands and service roads), the winter services organization consists from the two shift groups with 12 members each. In case of heavy snow there is an auxiliary resources for call-up.
9.2 How many sub-contracted winter services personnel are available per shift? There are special units for snow cleaning with special trucks and snow loaders for main apron, available on request H24.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow cleaning, de-icing and other relevant winter equipment stating purpose, manufacturer, capacity (kg/litre and type); year of manufacture.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. 1. During the standing readiness. The number of vehicles and its formation during standing position is a part of snow management programme that is issued each year. 2. In the time of snow removal action on manoeuvring areas: The snow removal coordinator is responsible for all operations on the main apron.
He performs RWY frictions measurements that is reported to ATC and MET office. Removing of the snow from the manoeuvring areas is performed by 6 units. Each of them are consists of truck, snow plough and airstream unit. The snow from the RWy and TWy edge is removed by snow-blower. All operations on the manoeuvring areas are coordinated by snow coordinator on ground which is all the time in radio contact with ATC (TWR).
3. In the time of snow removal from main apron: Snow removal from the apron is performed with 2 units, consists with plough and airstream sweeper and special snow blower. However there are units from RWY as soon as available. All operations on the main apron area are coordinated by snow removal coordinator and GMC (TWR). 4. Roads & open parkings – land side Public roads and open parking are under treatment of the conventional road ploughs and snow blowers. 11.3 Are you planning to have more snow ploughs? We are planning to have at least 2 snow ploughs per shift. 11.4 How do you expect to achieve ‘black top’ on the runway? 15 minutes

12. FRICTION TESTING
12.1 What model(s) of friction tester do you use? Saab friction tester, SARsys friction tester
12.2 What are the typical intervals between friction tests? The RWY friction checks are done according the need (Weather conditions). The friction check on RWY is performed after each snow removal action and / or RWY de-icing treatment
12.3 Have you any comments on the reliability of friction indexes? No

13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Urea (solid) approximatively 40 tons / effective till -5oC - hold over time depend of experience with chemicals? Urea (solid) / advantage: more effective for different winter conditions / disadvantage: environment, the time of effect start, ineffective at lower temperature, blow factor. Safety (liquid) / advantage: more effective for different winter conditions / disadvantage: storage
13.7 Do you use other chemicals or sand on operational areas? No

14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. There is freezing point detector at RWY touch down zone (ILS approach)
14.2 Have you plans to purchase further ice warning systems and if so which model(s)? Yes it is option for that in the time of RWY re-construction.
14.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. It offers reliable and up to date information of RWY surface condition trends on at most critical part of RWY

15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti/ de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. 2x De-anti/ Icer, Vestergard, Elephant Beta, 1x De-anti/ Icer, CAT 9. 15.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? At most de-anti icing is performed at dedicated de-anti icing pad. In some circumstances the de-anti icing are performed at a/c stand.
15.3 Is glycol recovered? If so, please state methods.

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

LONDON STANSTED
PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT INFORMATION
1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airfield operations management. Contact information: BAA Stansted Airport Ltd (STAL), Airside Operations, Enterprise House, Stansted Airport, Stansted, Essex, CM22 1TW, tel: +44 (0) 279 6623564, email: trevor_waldock@ baa.com (Head of Airside Operations)
1.2 Airport ICAO code and category: Aerodrome Reference Code = 4E. Category for RFF purposes = 4. Category for RTP purposes = 7 with categories B & G on request

2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surrounding infrastructure, eg. RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Runway Specification: Width = 46m, Shoulder width = 7.6m, Area = 140,200m² (not incl shoulder), Area = 146,532m² (incl shoulders), Runway 04 - PCN = B6/C/W/T, TORA =
3.048m, TODA = 3338m, LDA = 2748m. Runway 22 - as Runway 04 as Runway 04, TODA = 3316m, LDA = 3048m. Taxiway Specification: Foxtrot, width 23m, surface Asphalt, strength BOR/D/W/T. Golf, width 27m, surface Asphalt, strength BOR/D/W/HRDWT. Hotel, width 23m, surface Concrete, strength 7&RC/W/T. Juliet, width 23m, surface Concrete, strength 7&RC/W/T (data extracted from UK AIP AD 2 ESSG).

2.2 Licensing by the RAAS (e.g., CAT II): Runway 04 / 22. Full ILS system to CAT III comprising: Glidepath & Localiser airmen, DME (distance measuring equipment), IRV (Instrumented runway visual range equipment). Full CAT III ground lighting incl: SALS (supplementary approach lighting system), Full 5-bar Calvert Approach Lighting (Rwy 22) / 5 bar abbreviated 780m system for Rwy 04. Full Runway lighting to meet CAT III requirements, Controllable taxiway lighting to meet CAT III requirements, Ground Movement Radar together with the RIMCAS (Runway Incursion Monitoring & Collision Avoidance System).

3. SAFETY MANAGEMENT SYSTEMS

3.1. The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and identify the date of its introduction. In accordance with the requirements laid out by ICAO, Stansted Airport Limited operate a Safety Management System for the aerodrome.

3.2. Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? This includes specific training around FOD hazards and awareness among pilots, controllers, mechanics, vehicle operators, and other people who work at the airport? NATS (National Air Traffic Services) in conjunction with STAL have held a number of formal forums and drop-in briefings around runway incursion awareness. The target audience has been around pilots, handling agents, controllers and the like. This process is set to continue as new learning comes from the statistical data and any local incident reviews.

3.3. There is also a quarterly Local Runway Safety Team chaired by STAL and NATS representatives. Beyond these forums, the driver training packages now contain content around incursion awareness for staff who operate on the manoeuvring areas. Note that Runway driving permits are only issued if the need is legitimate. Staff nominated to attend driving courses in this area go through a careful selection and sign-off process. STAL currently utilise a variety of safety devices that have been added in all operations vehicles (6 units); 2 x 12 bore Beretta double barrelled shotguns; 1 x 0.410” calibre “Hush Power” silenced single barrelled shotgun; 1 x 0.22” calibre Single shot air rifle with scope; 4 x 1.5” calibre ‘Apsley’ Flare pistols with 12 bore adaptors. STAL currently utilise the following resources for the control of bird strikes:

3.4. Does your airport have a habitat management policy? How are you working with the management contractor to ensure that the management processes are in place for the management of FOD at this time over and above the current management processes.

5. RUNWAY INCURSION PREVENTION

5.1. What is the primary method of monitoring vehicle and aircraft movements on the ground? Positive control through the Air Traffic Services provider (NATS) via radiotelephony procedures including the use of the Surface Movement Area Safety System (RIMCAS) (Runway Incursion Monitoring and Collision Avoidance System).

5.2. Are any design or engineering changes being undertaken/required to eliminate perceived hazards? There are no additional equipment changes planned or identified at this time, however we continue to review the specific innovative warnings or guards, another standard signs and markings we do not have any

5.3. What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) The Surface Movement Detection System in use at STAL is a Nova 9004 system which has been upgraded with a Parkair RIMCAS surveillance system. 5.4. How are you identifying those in immediate proximity to the incursion risks through formal review processes and following any actual event investigations. Part of the European Action Plan for the prevention of runway incursions included the utilisation of enhancements to NATS procedures and the installation of RIMCAS which we have initiated at Stansted as best practice. 5.5. What specific procedures are there for training and awareness among pilots, controllers, mechanics, and other lower-cost technologies. Other than the standard signs and markings we do not have any

5.6. Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? STAL have engaged a number of key airport companies in the area of runway incursion preventative measures and reporting. We have developed an incident review process whereby we share the high level details of all airport incidents with the airport community. The key objective of this process is that we all work towards introducing key learning points to reduce the probability of re-occurrences. We have forcibly yearned for a no-blame culture amongst the airport community and see that a shared and open learning ethos improves reporting quality.

6. BIRD AND WILDLIFE CONTROL

6.1. Do your staff attend recognised bird control courses? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. STAL currently utilise the following resources for the control of bird strikes:

6.2. Are you using any special equipment for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. STAL currently utilise the following resources for the control of bird strikes:

6.3. What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. STAL currently utilise the following resources for the control of bird strikes:

6.4. How often do you carry out a bird strike risk assessment, and is this process audited? STAL are audited annually by FERA (Food, Environment Research Agency). Part of this process includes a review of the ongoing bird risk analysis and any specific actions relating to the risk factors identified. Further to this, the STAL Bird Coordinator will review the risk as required and will make adjustments to the daily operational control practices to mediate the changing situation.

6.5. What procedures are in place to identify bird species following a bird strike? All operational staff have the responsibility to identify birds in the vicinity of the aerodrome and are trained in this core task. Any remains recovered which cannot be verified are sent to CSL for laboratory identification as required as part of the standard BAA approach.

6.6. Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? A detailed report is submitted to the CAA on a monthly basis and outlines observed bird count information together with any associated strike data etc.

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

6.8. Does your airport have problems with other wildlife (sheepdeer, for example) and, if so, how are these issues being addressed? Although we have had periodic sightings of other wildlife i.e Rabbits, Hare, Fox the risk factors have not yet required a specific management policy or formal action plan to be initiated. Close surveillance methods and the use of the existing controls has been deemed as adequate based on the current risks.

7. CRASH FIRE RESCUE

7.1. Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture. Discovery Landrover, 4x4, 2 axles, 2001/2002; Discovery Landrover, 4x4, 2 axles, 2008/2009; Scania Damostruc, 4x4, 2 axles, 2009/2010; Discovery Landrover, 4x4, 2 axles, 2000/2001; Kronenburg Mac 08, 4x4,
1. AIRPORT INFORMATION
1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airport operations management. Contact information: M. Ender Ulcun +352 4788 2001 Fax +352 4798 2850, E-mail: ulcun@enders.airport.etat.lu
1.2 Airport ICAO code and category: ELLX - E

2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas, if applicable: total RWY length (or length), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): R06/24: TORA: 4000 m, Width: 60 m, Shoulders: N/A, Total apron/ramp area 24,000m2
2.2 Landing aids for each RWY (e.g., CAT II): RWY 24 CAT IIIa; RWY 06 CAT I

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: "The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary." Please outline the SMS for your airport, and the date of its introduction. Created by mid-May 2007 the SMS is compliant with ICAO and European Regulation Standards
3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external audits? The SMS is regularly updated in close cooperation with our QMS (Quality Management) with regard to newly identified hazards and risks.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme for the prevention of FOD
to control FOD in terms of:

a) Training. On the Job Training.

b) Inspection by airline, airport, and airplane handling agency personnel. The fire brigade and the road department are checking runways and taxiways three times a day.

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc.). A report is filed for every object found, a copy of the report is send to the Direction de l’Aviation Civile (NSA). All objects are kept for 14 days.

d) Coordination of multiple agencies using airport (airlines, handling agents etc). Any person finding an object on the manoeuvring area has to deliver it to the fire brigade. ATC-Pilots are kept informed.

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

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? All vehicles on the manoeuvring area are radio-equipped and have to be in contact with the TWR. A ground-based surface movement control system is planned.

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

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 – but planned (cf. 5.1) First workshop starts 28 September 2009 do define the SMGCS.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Procedures are being developed. Air traffic controllers follow the ESARR scheme.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the “non-punitive” principles such as “no-penalty” reporting? - Just culture is implemented (but not in the judicial system)

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. All owners or tenants of a building inside the airport have been instructed to take any means necessary to prevent birds staying at the airport: eliminate all nests, except those exempted by law; avoid construction of new nests; feeding of birds is forbidden; trees and shrubs have to be eliminated if the can give shelter or food to birds; grass is only cut to a height of 25 cm; Water collectors are already or will be covered; the roads department are checking the airport twice a day to eliminate birds; Close collaboration with airport users undergoing regular updates; The “Administration de la navigation aérienne” got the responsibility from the Ministry of Transport for bird and wildlife control for the airport. In order to get the right experts, we joined the German expert group DAVVL. The DAVVL is making a study of the airport in order to reduce the impact on aviation.

6.1 Do your staff attend recognised bird control training courses? No, but a bird control committee has been appointed by the minister of transport. Recently it became operational.

6.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Procedures are planned.

6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. DAVVL will advise us to choose the equipment needed.

6.4 How often do you carry out a bird strike risk assessment? (such as “no-penalty” reporting) - Yes

6.5 What procedures are in place to identify bird species following a bird strike? Bird species found at the airport are registered.

6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Within 72 hours after detection or report by pilot

6.7 Do your staff log all their bird control activities? (to use in defence in case of lawsuits) This is done since the creation of the wildlife committee 13 July 2009.

6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Special fencing of the aerodrome and quick remedial response to reports

7. CRASH FIRE RESCUE

7.1 Please detail your CPR vehicle inventory: vehicle type; chassis (e.g. MAN); axes (4X4, 6X6); capacities (kg/litre and type); year of manufacture. Foam tender/rapid intervention vehicle / THOMA chassis / 4X4 / 5000 liters of water, 500 liters of foam. PANTHER dated 1998 / MAN chassis / 8X8 / 12000 liters of water, 1600 liters of foam. Foam tender / MAN chassis / 4X4 / 3000 liters of water, 400 liters of foam, ZIEGLER 28 dated 2008 / MAN chassis / 8X8 / 12500 liters of water, 1250 liters of foam

7.2 Future developments – are there plans to purchase or dispose of any equipment? Plans to construct new fire brigade building

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

8. FIRE SERVICES

8.1 What is the designated period of winter readiness? November 01 until March 31

8.2 Average annual days of snow: 35

8.3 Average snow depth: 5 cm

8.4 Maximum snow in 24 hours: 20 cm

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

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? 14

9.2 How many sub-contracted winter services personnel are available per shift? None

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment: stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CSS 720, 4 units) 5 trucks equipped with snow-plough, snow-brush and blower unit; 2 jet sweepers; 2 trucks equipped with snow-ploughs only; 2 trucks equipped with a spreader for solid de-icers; 1 truck for spraying liquid de-icers; 1 truck equipped with a 5m snow-plough for aprons

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 06/24; TWY A, B1-84; Other TWY’s except H and I; Apron P1; Apron P5; Apron P2; Others

11.2 State the work load of staff in winter operations and general method of runway, taxiway and apron clearance. They generally run in formation to provide the same surface quality as far as possible.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 45 minutes with a record of 38 minutes. This includes the measurement of the breaking action.

12. FRICTION TESTING

12.1 What model(s) of friction tester do you use? Saab Friction Tester / Skidometer

12.2 What are the typical intervals between friction tests? At least every 30 minutes depending on MET and RWY conditions.

12.3 Have you any comments on the reliability of friction indexes? The SFT is reliable.

13. EXPERIENCE WITH CHEMICALS

13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Saffey; 10 tons; Cleanway; 240,000 liters; Safeway is solid and used to perorate ice layers to enable liquids to penetrate; very effective; Cleanway: is acting immediately, the lower the temperature the more effective, holdover times of 3 days has been observed during freezing fog. These are reduced considerably with melting snow or freezing rain.

13.2 Comment on storage capabilities of the chemicals which you use. - 120,000 liter Cleanway, 40 to 60 pallets at 500 kg

13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. - Good results

13.4 Have you experienced any corrosion problems with de-icers? Cleanway is very corrosive to steel. The trucks have to be cleaned thoroughly.

13.5 Have you employed any special means to economise on chemical use? No, safety first.

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

14. ICE WARNING SYSTEMS – n/a

15. AIRCRAFT DE-ICING

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

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

15.3 Is glycol recovered? If so, please state methods.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) Looking for faster vehicles

16.2 Are there areas of your winter operations which require improvement? Yes, a new Parking has been created.

16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. Still under investigation.

16.4 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units.

16.5 Do you have any winter services equipment which you would like to sell? No
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments.) No special software in use for FOD control. Use of FOD BOSS sweeper (http://www.aerosweep.com/fodboss.php) is in use for FOD control.

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Aircraft and vehicle movements are controlled and coordinated by local ATS (TWR).
5.2 Are any design or engineering changes being undertaken to eliminate perceived hazards? Repositioning of TXY signs have been made to eliminate any misunderstanding, RWY ahead painting on the TWR is being studied for future implementation.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) Aircraft movement control is accomplished by a taxiway lighting/ marking guidance system followed by apron lighting and marking guidance system with intermediate holding position markings and stop bars. No new systems are being implemented. The use of FOD BOSS sweeper is expected to reduce the risk of FOD incidents.
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 15. RWy 05 has been repainted.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, aircraft operators, and other people who work at the airport? Training sessions and meetings are done in accordance with SMS. All new staff have been trained in these processes. Further, do they safeguard the 'non-punitive' principles such as 'no-penalty' reporting? Yes, reporting procedures were set up jointly with other parties active in this process. The SMS is responsible for this issue.

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 study was performed in 2001 by Madeira University and some of the recommendations were implemented. This is also an issue discussed by the runway committee and we are now trying to implement some new techniques in order to reduce the attraction of the airfield to birds.
6.2 Do your staff attend recognised bird control training courses? Yes, all staff are trained and are familiar with the latest techniques.
6.3 Are your bird control staff working on the airfield continuously? Yes, all bird control staff are employed by the airport. They are familiar with the intervention area and airfield procedures. They have 8-hour shifts during the day.
6.4 Do you collate bird strikes and report numbers to your regulatory authority? Yes, immediately after each bird strike.
6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes. Every bird control activity is recorded and sent to the responsible bird strike manager (safety manager). 6.8 Does your airport have problems with other wildlife (sheep, deer) and, if so, how are these issues being addressed? No.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture. Vehicle Oshkosh P 19 (4x4) /1989 – Water 3.850 Lts, Foam 492 Lts, Powder 227 Kgs, Hallon 68 Kgs, Vehicle Oshkosh T 12 (6x6) /1982 – Water 12.000 Lts, Foam 1.590 Lts.
7.2 Future developments – are there plans to purchase or dispose of any equipment? None.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Madeira airport doesn’t have training Camp so Porto Santo Airport (LPPS) Camp is used by LPMA staff.

8. WINTER SERVICES
8.1 What model(s) of friction tester do you use? None. We rely on the use of RWY ahead painting.
8.2 Future developments – are there plans to purchase additional equipment? None. We rely on the use of RWY ahead painting.
8.3 If any, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. No differences.
8.4 Are there areas of your winter operations which require improvement? No.
8.5 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Yes, reporting procedures were set up jointly with other parties active in this process. Safety manager did several meetings in order to divulge all the procedures.

9. MOBILISING AIRSIDE DATA
9.1 Do you collate bird strikes and report numbers to your regulatory authority? Yes, immediately after each bird strike.
9.2 Do you log all your 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).
9.3 Does your airport have problems with other wildlife (sheep, deer) and, if so, how are these issues being addressed? No.
9.4 Is there any other information or data you would like to sell? No.
9.5 Are you aware of any winter services equipment that you would like to sell? No.
9.6 Are there any areas of your winter operations which require improvement? No.
9.7 Are you aware of any winter services equipment that you would like to sell? No.
9.8 Do you log all your 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).
9.9 Does your airport have problems with other wildlife (sheep, deer) and, if so, how are these issues being addressed? No.
9.10 Is there any other information or data you would like to sell? No.
4.2 General: Are there any special systems or software agencies of any changes or new procedures. movement areas. c) Sweeping programme is in be created by FODs. b) At least 4 daily inspections to control FOD in terms of:

4.1 Describe your airport’s programme P54 makings. Plans for improvements are scheduled All holding points are provided with ‘Runway Ahead’ runway is regulated through low lying traffic lights. all infrastructure is compliant with ICAO Annex 14. Detection Equipment) none of the above – otherwise it requires higher safety awareness, changes in attitude and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport. All personnel driving on the airside are periodically trained prior to the renewal of their Airfield Driving Permits and also a safety awareness programme is in place for those working around aircraft. 1D.6 Have the recognition processes for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Breaches are reported by the Aerodrome Operator and Air Traffic Control. Persons involved in driving breaches appear in front of a specific board. The main objective of the Board is not to punish individuals but to further educate and address any shortcomings from the individual.

6. BIRD AND WILDLIFE CONTROL

6. Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. The cutting of the grass at a certain height plays an important role in reducing the attraction of birds. Other active measures include: Regular patrols during peak bird activity; Elimination of bird attractants (trees, water ponding and involvement in local area planning); Data collection and analysis 6.1 do you where other controls of bird control training courses? Yes – organised by the company (in-house) 6.2 Are your bird control staff working on the airfield a) continuously? Yes 6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shockguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. Acoustic Measure (Scarecrow UK); Firing of Blanks; Culling 6.4 How often do you carry out a bird strike risk assessment, and is this process audited? Bird activity and birdstrike reports especially during migratory season are closely monitored. 6.5 What procedures are in place to identify bird species following a bird strike? The local ornithological society provides us with input and guidance. 6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Reports are forwarded to the DCA on every occurrence. 6.7 Do your staff log all their bird control activities? (to include incursion sensors and traffic barriers. 5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport. All personnel driving on the airside are periodically trained prior to the renewal of their Airfield Driving Permits and also a safety awareness programme is in place for those working around aircraft. 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a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary. Please outline the SMS for your airport and the database of the SMS. The Safety Management System is a system able of guaranteeing the performance of airport operations under established safety conditions and, at the same time, assessing the effectiveness of the system itself in order to ensure the correction of possible deviations. The Safety Management System (SMS) pilots on the Airport Managing Company, but it refers to all the activities concerning airport safety and, accordingly, all the subjects related to these activities are obliged to comply with the airport safety requirements and to apply the relating procedures. SMS is a system able of assessing the safety obtained following the application of the regulation requirements and improving the level of the latter where critical areas and failures are found. SMS refers to the “airport system” as a whole, as it is not possible to exclude in principle any airport subsystem, because of their mutual conditioning. SMS is neither an unchanging system nor a strict one, but it is rather the result of a continuous “WORK IN PROGRESS” within the airport system. It must be flexible, easy-fitting to the airport developments and to any change in law, technology and procedures. SMS main constitutional elements are: Definition of the Airport Managing Company Safety policies; Planning and organization of the system; Starting of the Reporting System; Periodical and systematic auditing planning; Risk assessment process; System re-examination and improvement. SEA’s SMS started up on 24 November 2005. SEA has appointed its Safety Manager, with the resolution of its Board on 31.10.2006 and, on 23 February 2007, it approved the document concerning the SMS. The meetings of the Safety Committee take place monthly. The Safety Committee is an advisory committee whose members, who have decision-making autonomy and capacity to take public liability, are appointed within the management structure of the public and private organizations present in the airport. Information regarding airport safety are collected using a specific report (Ground Safety Report) where the following events are documented (reported): Incidents/accidents; Spillages; Bird strike and presence of animals in maneuvering areas; Dangerous goods (dams/piles/radiations/etc.); Lack of effectiveness of - Anti-icing- De-icing system/procedures; Damages to aircraft or to airport facilities; Deterioration of air side signage; Jet blast; Incorrect service operations, including refueling and catering procedures; Wrong loading (positioning or dissimilarity of forms); Runway incursion/excursion; Taxiway incursion/excursion; Avoided collision; Missed right of way AVC - AVC; Missed right of way vehicle - AVC; FOD; AVL efficacy; Wrong procedures of aircraft movement to/from stands; Any other events with potential impacts on safety. 3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:

a) Training. An awareness campaign for the staff working at the airport has been carried out using posters focusing on safety issues. Informative leaflets are distributed on the “Airport Circulation and Safety Manual” which is at all airport operators’ disposal.

b) Inspection by airline, airport, and airline handling agency personnel. Monthly check-up with ENAC, airlines and airport handling company personnel.

b) Airport sweepers are used. Moreover, FOD bins have been placed on the apron.

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). The personnel is airport staff. In the monthly Safety Committees, all representatives from airport are informed about problems and priorities concerning FOD

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

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

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

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

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Lighting red bars together with microwaves anti-intrusion systems are used. There are sign markings like Runway Head and Runway Number.

5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, aircraft, vehicle operators, and other people who work at the airport? 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 parties other active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? There is a Runway Safety team in charge of evaluating events/hazards. Monthly, during the Safety Committee, the reports on runway safety events are discussed with the airport operators involved. These procedures are managed by ATS.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. Frequent grass cutting, native vegetation management, use of sustainable pesticides, professional figures; they are duly trained by means of specific courses at the moment of their replacement and through recurrent training. 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.

6.2 Are your bird control staff working on the airfield a) continuously? Yes b) at least daily? Yes c) less than hourly? Yes

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

6.4 If any, list the systematically filed differences with ICAO for training purposes? not available

6.5 What procedures are in place to identify bird species following a bird strike? Following a bird strike a special report is filled with identification of bird species. 6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Every time a birdstrike case is reported and monthly and communicated to regulatory authority.

6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes 6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Wild rabbits, hares, foxes and nutrias.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture. Vesta class 2

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 airport available to other airports for training purposes? No available

7.4 If any, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. ICAO category; nth, National Class: First. PAP. FIRE & WINTER SERVICE QUESTIONNAIRE

8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? 1st November-31st March

8.2 Average annual days of snow: 4-5 days

8.3 Average snow depth: 7-10 cm

8.4 Maximum snow in 24 hours: 30 cm

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

9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available per shift? 120

9.2 How many sub-contracted winter services personnel are available per shift? 130

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

Snowblower, Fresia F90 ST, 7; Schmitd TS3, 3; Snow compactor Piroth 200F, 1; Sweeper; Fresia F200 (self propelled), 7; Rolba (trailer), 6; Sweeper Boschung Jet Broom, 1; Compact jet sweeper, Schmidt AS 730, 3; mini tractor with jet sweeper, 2; Liquid spreader, Schmitd RSP 14000 VAL 35 (self propelled), 1; Weisser SA30 (trailer), 1; Giletta (self propelled), 2; Truck with plough blade; Eurotech 440E, 11; Contractor third party; Front end loader, 31; Truck, 7; Snow blades, 4,5m., 35, 6.0 m. 12; Farm tractor (contractor), 8.

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 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? Less than 30 minutes.

12. FRICTION TESTING
12.1 What model(s) of friction tester do you use? Runway friction tester vehicle SAAB SFT9000, 1 unit (1999)
12.2 What are the typical intervals between friction tests? Every ten days under normal conditions, on request from Airport Authorities during winter season and under particular meteorological conditions.
12.3 Have you any comments on the reliability of friction indexes? No comment. Once a year, SEA performs a calibration check with ASF Técnico support.

13. EXPERIENCE WITH CHEMICALS
13.1 Which state or private de-icers do you use, along with the quantities used last season. Safety KA has been used to prevent deposit of snow on pavement. Safety KB has been in use in case of pavement with ice and subsequently treated with liquid. 13.2 Comment on storage capacities of the chemicals which you use. Safety KA, 220.000 litres; Safety KB, 34.000 kg.
13.3 Have you experienced any corrosion problems with de-icers? No problems occurred with chemical use.

15. AIRCRAFT-DE-ICING
15.1 Does the airport directly provide aircraft anti- de-icing operations? If so, please state vehicle or other facility manufactures, and number of units.
15.2 Are you required to have dedicated de-icing vehicle formations, and number of units. 2; Priority three; Remaining Taxiway “C”, Taxiway “AB”, stands area “E” of Apron Terminal 2, 1 unit; Remaining Taxiways “K”, Taxiway “A”, Taxiway “AB”, stands area “E” of Apron Terminal 2; Priority three; Remaining Taxiway “C”, Taxiway “D”, Taxiway “CF”, Taxiway “F” and Taxiway “BD”

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) No changing in the short term.
16.2 Do you plan to purchase new equipment or vehicles? If so, please provide details. Airside Operations is continuously looking at new vehicles and equipment.

MARSEILLE

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT INFORMATION
1.1 Please detail your airport name and full contact information (phone, fax and e-mail) for safety/airport operations management contact. Information contact: Marseille Provence Airport / LFML Fabien Gamier, Safety Officer, Tel : +33 (0)4 42 14 22 36, Fax : +33 (0)4 42 14 27 24, e-mail : fabien.gamier@mms.aero
1.2 Airport ICAO code and category: Code : 4E, Fire fighting Category : B
2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and their surfaces. Marseille example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other: RWY 13L: TORA 3500m, TODA 3500m, FPM 3500m, RWY 31R: TORA 3500, TODA 3500m, ASDA 3500m, LDA 2840m, RWY 13R: TORA 2370m, TODA 2370m, ASDA 2370m, LDA 2370m, RWY 31L, TORA 2370m, TODA 2670m, ASDA 2370m, LDA 2265m. Apron surface : 500 000 m² (approximately)
2.2 Landing aids for each RWY (e.g. CAT II): RWY 13L: CAT II-III – 420m = LIL/LUR. RWY 31R: CAT I, PAPI 4o 6.98%. RWY 13R: CAT I, PAPI 30 5.24%. RWY 31L: PAPI 40 6.98%
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. The SMS structure is described in the chapter 6 aerodrome management. 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 policies, chapter 3 : Insurance of the safety system, chapter 4 : safety promotion. Date implementation : April 2008.
3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? French DGAC has only made one SMS audit, it was a preparatory audit (January 2008). Second audit in December 2009 for renewal.
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of: Airfield, runways and taxiways inspection are performed by firemen 3 times a day (soon in the morning, towards midday and in the end of the afternoon) since January 2009. They produce a report including what they have seen (FOD, deterioration of runways or taxiways ...) and its localization. If it is mandatory to drive a vehicle in the airfield of the airport. This license need a training, each 3 years.
5. RuNWAy INCuRSION PREvENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Each landing aids performs a runway safety incident prevention. The purpose is to check if drivers / pilots have 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, fire service, local police and other services 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 you staff attend recognised bird control training courses? The staff have a special training approved by the Technical Service of General Aviation (STAC).
6.2 Are your bird control staff working on the airfield? 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? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer, type, and number of units. The airport is equipped with movable scare bird with sound effects (made by Sterella) lasers, shotguns, explosive cartridge pistols and CAP. 7 scare bird had been installed in airfield between the two runways.
6.4 How often do you carry out a bird strike risk assessment, and is this process audited? The process is audited by DGAC each 18 months.
6.5 What procedures are in place to identify bird species following a bird strike? Featherless are collected, photographed and destroyed as medical waste. Pictures are transmitted to STAC.
6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Bird strikes are collated and we make reports yearly transmitted to DGAC. Furthermore, an agent of the BRIA (checking of runways and taxiways – General Aviation) gives all results of bird strike or runway reports every month.
6.7 Do your staff log all their bird control activities? (in case of lawsuits) Yes, results of bird strike or runways reports are made and compared with the results and reports of the BRIA.
6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? No, problems are only with birds.
7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture. VIMP 2 MGN, RV/SIDES, VIM 90 P2.5 – 2001; VIMPS 2 MGN, RVI, Baleroute G310 – 1985; VIMP 3 MGN, RV/SIDES, VIM 90 P2.5 – 2005; VIM 7 MGN, RV/SIDES, VMA 72 – 1988; VIMP 8 MGN, RVI, VMA 105 - VBM – 1995; SECU 5 MGN, Toyota, Hilux 2.4d – 1999; SECU 9 MGN, MITSUBISHI, pajero – 2006; SECU 11 MGN, Toyota, Landcruiser – 2001; SECU 12 MGN, Renaul, Kangoo – 2000; SECU 13 MGN, Renaul, Clio – 2008; SECU 14 MGN, Renaul, Trafic – 1996; SECU 15 MGN, Renaul, Kangoo, 2003; VISAIV 1 MGN, SECU 10 VPI, Renault, Midium – 2001; FVUCO 2, Renaul, Kangoo – 2004; FVUCO 4, Renaul, Kangoo – 2004; BOLMEN, MAG France – 1993; DURANCE, Delavergne, Vedette 11,33m – 2006; CANOT S, Zodiac, Pro 470. 7.2 Future developments – are there plans to purchase or dispose of any equipment? Only for the change plan,
15. AIRCRAFT DE-ICING
economise on chemical use? not really necessary, total de-icing agent reserves : 70 000 l

13.2 Comment on storage capabilities of spreaders with a capacity of 6000 l and 5000 l runways and taxiways last year. Cf. point 10, use of and achieved holdover times etc. no de-icing of on effectiveness of chemicals at low temperatures with the quantities used last season. Comment

12.2 What are the typical intervals between friction testing? not really often, when we are asked by the control tower (in case of snow, oil pollution, …)

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

12. FRICITION TESTING
12.1 What model(s) of friction tester do you use? Friction tests are performed by the airport (this is a new task for the airport, it has just began, before, this task was performed by French DGAC), Equipment is : Model “MK3” built TES Limited
12.2 What are the typical intervals between friction tests? Not really often, when we are asked by the control tower (in case of snow, oil pollution, …)

13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. No de-icing of runways and taxiways last year. Cf. point 10, use of 2 spreaders with a capacity of 6000 l and 5000 l
13.2 Comment on storage capabilities of the chemicals which you use. Cf. point 10: total de-icing agents : 70 000 l
13.4 Have you experienced any corrosion problems with de-icers? No
13.5 Have you employed any special means to economize on the amount of de-icing agent really necessary, de-icing is not performed very often in Marseille Airport

14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. Meteorological warnings are published by Meteo France.

15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti-
according to recommendation of the national German bird strike prevention committee (DAVWL).

6.1 Do your staff attend recognised bird control training courses? Yes. The co-workers of the Airport Authority, the environment caretakers and the hunters are trained internal as well as external courses.

6.2 Are your bird control staff working on the airfield a) continuously? b) at least every hour? c) less than hourly? Yes, they work on the airfield, however, less than hourly.


6.4 How often do you carry out a bird strike risk assessment, and is this process audited? Once a year, it is audited.

Every month bird strike trend is assessed in comparison with last year situation in order to understand possible changes in bird behaviour and action strategy.

6.5 What procedures are in place to identify bird species following a bird strike? If a species can’t be identified, it is sent to the German Bird Strike Committee (GBSC) for identification. Special identification (hunter).

6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Whenever a bird strike happens, it is reported to the GBSC.

6.7 Do your staff log all their bird control activities? (in case of lawsuits) There is at least one daily bird control report.

7. CRASH FIRE RESCUE

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

4 Command Vehicles (ELV1); 1 Command Vehicle (ELV2); 4 Airport Fire-Fighting Vehicle (FLF 80/135); MAN-Sawal-Woermann B8b; 13500 l water, 1600 l AFF foam; 1 Airport Fire-Fighting Vehicle (TroFLF/ Panther/ AT); MAN B8b; 12500 l water, 1500 l foam, 1000 kg powder; 1 Airport Fire-Fighting Vehicle (TroFLF/ Simba); TITAN B8b; 11500 l water, 1200 l foam, 2000kg powder; 2 Airport Fire-Fighting Vehicles (FLF/ MAN-Ziegler with articulated snozzle) B8b; 12500 l water, 1500 l foam; 1 Airport Fire-Fighting Vehicle (FLF/ MAN-Ziegler) B8b; 12500 l water, 1500 l foam, 1000 kg powder; 2 Rescue Ladder; 2 x MAN 4x4; 1 x Mercedes Benz 4x4 (Reserve); 4 Rescue Fire-Fighting Vehicle (HF); MAN 4x4; 2500 l water, 300 l foam; 2 Aerial Ladder and Platform (DIK 23-12 / GL C); MAN 4x4; 1 Rescue Unit (RW) MAN 4x4; 3 Interchangeable-body truck (WLF); MAN 6x6;

7.2 Future developments – are there plans to purchase or dispose of any equipment? 4 Airport Fire-Fighting Vehicles (FLF) B8b, replacing 4 FLF MAN-Sawal-Kronenburg manufactured in 1991; included in the business plan for 2009.

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

7.4 If any, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly used by the airport. No.

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8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 01st Nov – 30th Apr

8.2 Average annual days of snow: 67 days

8.3 Average snow depth: 25 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 winter services personnel are available per shift? 18 foreign companies with a total of 366 employees

9.2 How many sub-contracted winter services personnel are available per shift? 18 foreign companies with a total of 366 employees

10. WINTER INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmitt, CJS 720, 4 units) Airblast sweeper, Schöbring, P1TH; 3; Airblast sweeper, Schöbling, P1THE, 9; Airblast sweeper, Overasen, RS 200, 5; Airblast sweeper, Overasen, RS 400, 7; Compact airblast sweeper Översesan RSC 200H, 1; Snow plough, Schmidt, MT 9.3, 6; Snow plough, Kahlbacher, Vampir 620, 7; Snow plough, Kahlbacher, Vampir 360pro, 6; Snow plough Gerstad 6, 1, 4; Combined dispenser, Küpper Weisser, STA 95, 5; Liquid de-icer dispenser, Dammann, 2; Fendt 927 with Granulate Caster, 1; Rotary snow plough, Kahlbacher, KFS 160, 1; Turbine snow loaders, Kahlbacher, KFS 160M, 3; Turbine snow loaders, Kahlbacher, KFS 1150, 4; Wheel loaders, 1; Mini loader, Kramer, 1; Plough Gritter, Unimog, 1; Snow thrower, 1; From external: Tractors fitted snow ploughs and sweepers, 75; Trucks for snow transport, 20; Wheel loaders, 4,

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility. 1. runways and taxiways; 2. apron and all areas where service / ground handling vehicles must have access to. 11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. We operate with two groups. One apron group and one runway group. Both operate at the same time. The runwaygroup clean the runway and the necessary taxiways in dependence on the landing direction. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 20 minutes.

12. FRICTION TESTING

12.1 What model(s) of friction tester do you use? SFT 9000, SFT 95, SFT 95 Combis

12.2 What are the typical intervals between friction tests? Friction measurements are conducted whenever a change of surface conditions may be expected or reported. Friction measurements will also be carried out before and after any snow removal and de-icing activity.

12.3 Have you any comments on the reliability of friction indexers? Munich is actively participating in Joint Winter Runway Friction Measurement Programme. The Research project is aimed at harmonising different friction measurement devices and improve the correlation between aircraft braking characteristics and ground friction measurement devices.

13. EXPERIENCE WITH CHEMICALS

13.1 Which state which de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover time etc. Potassiumformate, 1,310 to; Potassiumformate, RMY’s and TMY’s, 1,630 to; Sodiumformate, RMY’s, TMY’s and Apron, 204,000 kg. The effectiveness of formate chemicals at low temperatures is good. The holdover time depends on weather conditions and snowfall.

13.2 Comment on storage capabilities of the chemicals which you use. The storage capability of the liquid de-icer is very good. If we store the solid de-icer for more than a year, it tends to “compact” and pack together, which makes using it slightly more difficult.

13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. liquids, “blow-away factor” etc. Normally we use 20-23 g/l2 de-icer. When necessary, we use a mixture of half liquid (12.5 g/l2) and half solid.

13.4 Have you experienced any corrosion problems with de-icers? Yes, with potassiumformate.

13.5 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.

13.6 Do you have any other comments on experience with chemicals? It will be slippery when aircraft de-icing chemicals are on the ground.

13.7 Do you use other chemicals or sand on operational areas? Yes, we use sand on operational areas.

14. ICE WARNING SYSTEMS

14.1 State model and number of ice warning systems. GPS 2000 (Boschung), 12 outdoor measuring-stations.

14.2 Have you plans to purchase further ice warning systems and if so which model(s)? New negotiations.

14.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. Ice warning systems are useful in supporting decisions of how to prepare / conduct de-icing operations at any given time.

15. AIRCRAFT DE-ICING

15.1 Does the airport directly provide aircraft anti- de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. Yes, EFMT on behalf of Munich Airport, 21 units Vestergaard Beta; 2 units Vestergaard Beta 15; 1 unit Vestergaard Mt.

15.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Yes, Munich Airport operates dedicated de-icing areas located close to the RWY heads. Munich Airport employs a special “recapture” system consisting of run-off canals in the cement platform on which the de-icing stations are based. This allows us to recapture 50-60% of the de-icer chemicals used on aircraft; we then reuse the collected and recycled fluid as aircraft de-icing fluid.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) Yearly readjustments on the requirements of airport handling.

16.2 Are there areas of your winter operations which require improvement? 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 plan to purchase new equipment or vehicles? If so, please provide details. Airside Operations is continuously looking at new vehicles and equipment. Several improvements in weather forecast.

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

16.5 Do you have any winter services equipment which you would like to sell? No.
1. Airport information

1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airport operations management. Contact information: Oslo Airport, PO. Box 100, N-2061 Gardermoen, Norway. Att: Henning Bråtebæk, Director Airport Services, E-mail: henning.bratebek@osl.no, Phone: +47 64 81 21 38, Fax: +47 64 81 22 01, Internet: http://www.osl.no

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), taxi Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): Runway 01/19 length 3600 m, TORA 3600 m, Width 45 m + shoulders 7,5 m, Asphalt 216,000 m2, taxiways asphalt 266,000 m2. Runway 01R/19L length 2950 m, TORA 2950 m, Width 45 m + shoulders 7,5 m, asphalt 174,000 m2, taxiways asphalt 206,800 m2. Apron 478,000 m2, other 256,000 m2

2.2 Landing aids for each RWY (e.g. CAT II); RWY 01L: CAT II; RWY 01R: CAT III; RWY 01L: CAT III; RWY 01R: CAT III; RWY 19L: CAT I

3. Safety management systems

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. We have had a Safety Management System for the aerodrome since the opening in 1998 as an integrated part of the company operations manual. 3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? The Safety management system is continuously developed and improved, but no major changes has been made last year.

4. Foreign object damage (FOD) prevention

4.1 Describe your airport’s programme to control FOD in terms of: a) Training. This is a part of the training program for airport personnel on elementary and advance level. b) Inspection by airline, airport, and airplane handling agency personnel. FOD inspection is done by airport services personnel. It is also stressed that FOD is a responsibility for every person at the airside, like handlings agents that operate on aircraft stands. c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). We have a sweeping magnetic bar and there is FOD bins at every aircraft stand d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). An airside forum with representatives from airport and handling agents has FOD as a part of the regular agenda.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add contact persons.) None at the moment

5. Runway incursion prevention

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? A ground radar system is used by local ATC for monitoring the vehicle and aircraft movements. MLAT (Multilateration) 5.2 Are any ongoing congested areas where clearances being undertaken/required to eliminate perceived hazards? None at the moment 5.3 What safety devices are currently employed? (a-SMGCS) - Ground Activity Safety System - AMASS; or ASDS-X, the Model X Airport Surface Detection Equipment? We have an improved surface surveillance system, using Mode-S Multilateration. 5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. We have painted signs like RWY AHEAD in combination with stop bars and RWY guard lights.

5.5 What specific procedures are in place for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? All personnel that have access to the airside must have an airside safety course. Personnel that are allowed to enter the manoeuvring area [TORA] must have an additional radio communication course. 5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do the airport follow ‘non-punitive’ principles such as ‘no-penalty’ reporting? We have no penalty reporting system used by the different actors on airside.

6. Bird and wildlife control

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. The problem with birds is relatively small at OSL. No large open Water bodies within ore close to the airport. We have a long grass policy along the runway and taxiways. 6.1.1 Do your staff attend recognised bird control training courses? No. 6.2 Are your bird control staff working on the airfield a) continuously? Bird control is a part of the responsibility of Airport Patrol which perform continuously inspections of the airfield. 6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. We use shot guns, pyrotechnics and traps for catching birds. 6.4 How often do you carry out a bird strike risk assessment, and is this process audited? We carry out a bird strike assessment if/when we observe a change of the bird situation at the airport. Our procedures regarding bird strike/wildlife management are/may be audited as a part of a CAA audit of airfield services or by an airline audit. 6.5 What procedures do in place to identify bird species following a bird strike? The bird remains (legs and wings) are collected and sent to a zoologist at the University of Oslo for identification 6.6 Do you collar bird strikes and report numbers to your regulatory authority? How often do you report? We make a report after each birdstrike. 6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use data in the future) Yes 6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? No. We have fences around the airport that are continuously inspected by Airport Patrol 7. Crash fire rescue

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (litre/ litre and type); year of manufacture. The CFR vehicle at Gardermoen is 2010. Rosenbauer with MAN chassis x 8, capacity 13000 /1000 I foam
12. FRICITION TESTING
12.1 What model(s) of friction tester do you use? 3 units SARSYS SAAB 9-5 friction tester
12.2 What are the typical intervals between friction tests? Three per day as a minimum, otherwise when change in the weather affects the runway conditions, or after request from TWR. In difficult weather conditions every 30 – 60 minutes on each runway.
12.3 Have you any comments on the reliability of friction indexes? There is a concern of the overall reliability of friction indexes due to the many parameters that influences the result and that reproducing the result within a certain limit even given the same conditions is difficult. Due to this, we don’t report measured friction values, but a parameter from 1 to 5 to pilots.

13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. We use Aviform L 50 and Aviform S- Solid, about 1.100.000 l / 129.000 kg last season. Further results on effectiveness of the chemical within the temperature ranges we have experienced so far since the opening of the airport. However, chemicals keep the runway wet for a long time in low temperature. This may cause problems, because snow then will stick to the surface and more chemicals are needed to get a black top again. We avoid to use chemicals if it starts snowing on a cold and dry runway.
13.2 Comment on storage capabilities of the chemicals which you use. We have 4 * 40 m3 tank storage capacity at the airport. This lasts about a quarter of a normal season, depending on weather conditions. We also have a good support from the producer of the chemicals.
13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc. We have experienced good results with a mix of Aviform liquid and solid de-icers. It is important that the liquid and solid are mixed before spreading.
13.4 Have you experienced any corrosion problems with de-icers? We have experienced some corrosion on electrical wires and components on winter services equipment, especially galvanized metal 13.5 Have you employed any special means or methods for winter services for the coming season. This will also demand more of all types of winter equipment. Details are not worked out yet.
13.6 Do you have any other comments on experience with chemicals? We have reason to believe that runway de-icing chemicals have a negative effect on bitumen, which may result in shortened lifetime for the asphalt pavement.
13.7 Do you use other chemicals or sand on operational areas? In addition to chemicals we use sand on runways and taxiways.

14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. We have a Vaisala system with 3 sensors each runway in addition with weather radar that covers the southern part of Norway.
14.2 Have you employed any other ice warning systems and if so which model(s)? No plans for further ice warning systems for the moment.
14.3 Comment on your experiences of the benefits/ disadvantages of ice warning systems. Together with the ordinary de-icing systems gives valuable information for deciding when to use chemicals in order to prevent ice.

15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facilities manufactured or the number of units. The airport does not provide aircraft anti/de-icing operations. It is taken care of by handling operators
15.2 Are you required to have dedicated de-icing positions or do you de-ice in the parking area? We have dedicated de-icing platforms at each RWY 15.3 Is glycol recovered? If so, please state methods.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example). We will not have any major changes in our methods for winter services for the coming season.
16.2 Are there areas of your winter operations which require improvement? There will be focus on the use of sand on the runways in order to reduce the amount used.
16.3 Do you plan to purchase new equipment or vehicles? 2 x deployment details. The airport is working with a project that will expand the terminal, increase the numbers of aircraft stands and the size of the maneuvering area. This will also demand more of all types of winter equipment. Details are not worked out yet.
16.4 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. We are planning to order 1 towed runway sweeper for 2010, Overseas RS 400.
16.5 Do you have any winter services equipment which you would like to sell? 2 old sandspreader form Nido, 1 ASPT SAAB 9-5 friction tester

PAPHOS
PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT INFORMATION
1.1 Please insert your airport name and full contact information (phone, fax and e-mail for safety/airport operations management. Contact information: 1.1 Aris Hadjigeorgiou, Operations Manager, Hermes Airports Ltd, PO Box 62181, 8061 Paphos Cyprus, aris.hadjigeorgiou@hermesairports.com, Tel 26 00 70 19 1.2 Airport ICAO code and category: LCPH Category 7
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, others; RWY 29/11: 2699m Length; RWY 29/11: 45m width; TORA: 2699m for both RWys; Paved shoulders: 7.5m on each side; Total Apron Area ~180,000 sq.m 2.2 Landings aids for each RWY (e.g. CAT II): RWY 29: CAT I, RWY 11: Visual approach.
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensure that it is managed in a demonstrably controlled and way are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. As per Airport Operations Manual you can use Article 5.2 Safety Policy Statements, Safety Objectives, To ensure the safety of persons using the aerodrome and the employees at their places of work. Safety Management: The Management & Staff at PFO International Airport will continuously strive to achieve the highest possible level of safety by taking a pro-active approach to safety management. Safety responsibilities for the employees are responsible for the safe performance of their duties and must accept responsibility for the safety of their individual actions...Managers are accountable for the safe operation of the activities for which they are responsible. Hermes Airports Ltd is committed to providing training to employees in support of this policy. End of December 2006 3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Following audits / reappraisals by Hermes Health and Safety Officers but also by auditors from insurance companies, various standard Operating Procedures have been reviewed to take into account the feedbacks on risks and/or hazards identified.
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of: a) Training. - Basic Airside Safety (BAS) training to all Airport Staff including FOD awareness. - FOD awareness displays at Staff Rest Rooms / Canteen etc… b) Prevention by airline or other facility manufactures, and number of units. Regular FOD walks involving airlines, handling agents etc. Regular FOD walks involving airlines, handling agents and employees staff working at airport.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments.) Not applicable.
5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? CCTV cameras from Operations Centre, Airport Operations staff monitoring Ramp activity.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? New taxiway in planning to connect apron with RWY 29 so that taxing aircraft do not use or cross the runway.
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) not applicable.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Runway “hold point” painted every 50m along taxiway. Warning and No entry signs on ARFF and ATV vehicle access roads + barriers installed on each end of the road.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, aircraft vehicle operators and people who work at the airport? An Airside Vehicle Programme has been elaborated and all Airport Users driving airside must pass a written test to acquire the Airside Driving Licence. Staff, driving on the manoeuvring area or on the ramp on their vehicle uses, have to attend a Radio communications skills training
provided by ATC trainer + practical test. Airside
Safety Environment Department. Bird populations
monitoring - frequent patrols around the perimeter of
the airport conducted by adequately trained Hermes
Operations Department personnel on daily basis (extra
attention during sunrise and sunset since they are
identified as the most risky regarding flight of birds
across the airport); The collected daily data (for years
2007, 2008 and 2009) was retrieved from the existing
digital data base of Hermes Operations Dept, and
thermic maps were created (e.g. total bird counts,
bird counts per month, per day, bird counts per kind of
bird, etc.) and reviewed by HSE Department. The
data was used by the wildlife expert to fine tune the
Wild Life Management Plan, based on the experience
gained during these 3 years of implementation. Habitat
modifications - Removal of food sources, closure
of refuse dump located next to Runway, Netting of
other wildlife (sheep/deer, for example) and,
Identification of the incompatible uses present outside the airport,
However implementation lies within the responsibilities
of the various relevant Government Departments. The
operation of all waste disposal sites within the airport
boundaries have been terminated immediately after
HERMES took over the operation of the airport and the
areas had been remediated and managed accordingly.
6.1 Do your staff attend recognised bird control
training courses? Yes - an initial intensive training
take place on January 2009 and it was focused on
the bird species identification, flight habits and
efficient use of distress means. The training procedure
is a continuous process. A training course was held
between 1st and 5th of December 2008 on the use of
the new distress call system (ULTIMA). A refreshing
training course was organised between 4th May
2009 – 5th May 2009 at PFO Airport on the Wild Life
Management Plan. The instructor of the course was Dr.
Albert De Hoorn a worldwide known bird strikes expert,
and was addressed to the PFO wildlife controllers
as well as to staff from the other stakeholders of
both airports (Control Tower, Airlines, Police, DCA,
6.2 Are your bird control staff working on the airfield?
6.3 What specialist equipment do you employ for
bird control? (Recorded distress calls, Distress
pyrotechnics, shotguns, dogs, lasers, falcons).
Please state relevant supplier/manufacturer. Recorded
distress calls fitted to Follow-me vehicle, Supplier/
manufacturer : Scarecrow Bio-Acoustic Systems Limited
6.4 How often do you carry out a bird strike risk
assessment, and is this process audited? The Initial
Bird Strike Risk Assessment was performed in May
2008 by Mr. Gary Searing. The second one was
completed in August 2009 by Dr. Albert De Hoorn.
6.5 What procedures are in place to identify bird
species following a bird strike? Wildlife controller
check around the area we got informed that a
bird strike occurred and collect the remains.
6.6 Do you collate bird strikes and report numbers
to your regulatory authority? Yes to the Aircraft
accident Investigation Board How often do you report? Once a year
6.7 Do your staff log all their bird control activities?
(to manage success in dealing with the problem,
and to use in defence in case of lawsuits) Yes, a new
system has been installed on one of the Airport
Vehicles and records wildlife control inspections daily
6.8 Does your airport have problems with other
wildlife (sheep/deer, for example) and,
if so, how are these issues being addressed?
Presence of hares nearby runway. Gamefund is
regularly asked to come and capture them.
7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating:
vehicle type; chassis (e.g. MAN); axles (4x4, 6x6);
capacities (kg/litre and type), year of manufacture.
1 no RV, IVECO Somerset, 4x4, 1998, 4000 litres
water, 480 litres foam, 250kg powder; 2 No IVECO
Somerset, 6 x 6, 1997 each 8800 litres water, 960
litres foam, one with 50Kg BCf and one with 30 Kg
CO2. 1 No IVECO Somerset, 6x6, 1999, 8000 litres
water, 960 litres foam. To be fitted with 30Kg CO2
7.2 Future developments – are there plans to
purchase or dispose of any equipment? 1 No
OSH100SH Striker to be delivered in 2009, 1200
litres water, 1680 foam and 250 kg dry powder
7.3 If your airport has an FTS, name it and describe
the Fire Training Simulator, is it available to other airports
for training purposes? There is a fire training
simulator. It is not available to other airports
part 1: General Airside Safety
1. Airport Information Year 2008
1.1 Please insert you airport, name and full
contact information (phone, fax and e-mail) for
safety/airport operations management. Contact
information: Aéroports de Paris: PARIS–ORLY
airport contact: Pierre LEMOINE general manager
airport facilities. Phone: (+33).1.49.75.64.00 Fax:
(+33).1.49.75.64.12 / e-mail: pierre.lemoine@adp.fr 1.2 Airport ICAO code and category: ICAO
code: LFPO, ICAO code: 4E
2. Movement and Manoeuvring Area Data
2.1 Please list the identities of primary operational facilities and the areas and services.
(e.g. for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, other); RWY
02/20, 2400 x 60, TORA 2400, TODA 2400, ASDA
2400, LDA 2400. RWY 08/26, 3320 x 45, TORA
3320 (2783 from W38)/3320 (2096 from W32),
TODA 3320 (2783 from W38)/3640 (2416 from W32),
ASDA 3320 (2783 from W36)/3320 (2096 from
W32), LDA 3320/2885. RWY 06/24, 3650 x 45,
TORA 3650/3650 (3079 from W42), TODA
3710/3710 (3079 from W42), ASDA 3650/3650
(3079 from W42), LDA 3320/3650 (all lengths in m)
2.2 Landing aids for each RWY (e.g. Cat II): Runway
02/20: cat I, Runway 20: non precision approach,
Runway 06: cat II, Runway 24: cat I, Runway 08:
non precision approach III. 
3. Safety Management Systems
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a
Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a
demonstrably controlled way and are improved where
necessary.” Please outline the SMS for your airport,
and the date of its introduction. Paris-Orly airport has a
certified SMS since April 1st 2008 (French regulatory
deadline). The SMS is handled by the airport direction
and has a representative in each unit involved. The
Safety Manager, in charge of the implementation and
monitoring of the SMS gives guidance to the unit
representatives and follows up its implementation.
Monthly reviews are scheduled to analyse safety
occurrences. Others are organized with the Safety
Manager and the unit representatives to follow up the
SMS processing every 2 months. Safety committees
are also scheduled each year (one focused on safety
on manoeuvring area, organized with the ANSP
and another focused on safety on aprons and service roads)
with the third parts working on the movement area.
3.2 Has your airport made any changes to its SMS
processing every 2 months. Safety committees
are also scheduled each year (one focused on safety
on manoeuvring area, organized with the ANSP
and another focused on safety on aprons and service roads)
with the third parts working on the movement area.
3.3 Please insert you airport, name and full
contact information (phone, fax and e-mail) for
safety/airport operations management. Contact
information: Aéroports de Paris: PARIS–ORLY
airport contact: Pierre LEMOINE general manager
airport facilities. Phone: (+33).1.49.75.64.00 Fax:
(+33).1.49.75.64.12 / e-mail: pierre.lemoine@adp.fr 1.2 Airport ICAO code and category: ICAO
code: LFPO, ICAO code: 4E
2. Movement and Manoeuvring Area Data
2.1 Please list the identities of primary operational facilities and the areas and services.
(e.g. for example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, other); RWY
02/20, 2400 x 60, TORA 2400, TODA 2400, ASDA
2400, LDA 2400. RWY 08/26, 3320 x 45, TORA
3320 (2783 from W38)/3320 (2096 from W32),
TODA 3320 (2783 from W38)/3640 (2416 from W32),
ASDA 3320 (2783 from W36)/3320 (2096 from
W32), LDA 3320/2885. RWY 06/24, 3650 x 45,
TORA 3650/3650 (3079 from W42), TODA
3710/3710 (3079 from W42), ASDA 3650/3650
(3079 from W42), LDA 3320/3650 (all lengths in m)
2.2 Landing aids for each RWY (e.g. Cat II): Runway
02/20: cat I, Runway 20: non precision approach,
Runway 06: cat II, Runway 24: cat I, Runway 08:
non precision approach III. 
3. Safety Management Systems
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Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a
demonstrably controlled way and are improved where
necessary.” Please outline the SMS for your airport,
and the date of its introduction. Paris-Orly airport has a
certified SMS since April 1st 2008 (French regulatory
deadline). The SMS is handled by the airport direction
and has a representative in each unit involved. The
Safety Manager, in charge of the implementation and
monitoring of the SMS gives guidance to the unit
representatives and follows up its implementation.
Monthly reviews are scheduled to analyse safety
occurrences. Others are organized with the Safety
Manager and the unit representatives to follow up the
SMS processing every 2 months. Safety committees
are also scheduled each year (one focused on safety
on manoeuvring area, organized with the ANSP
and another focused on safety on aprons and service roads)
with the third parts working on the movement area.
3.2 Has your airport made any changes to its SMS
processing every 2 months. Safety committees
are also scheduled each year (one focused on safety
on manoeuvring area, organized with the ANSP
and another focused on safety on aprons and service roads)
with the third parts working on the movement area.
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

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

(a) Training. Continuous training program is developed for airport authority staff in order to increase staff awareness on that issue. Airport staff responsible for daily airside inspections has been taught how to detect FOD and how to treat them. A specific procedure has been established. In each activity where FOD can be produced on the airside, staff are made aware of hazards FOD can cause and specific procedures are published: - FOD prevention is also enforced after infrastructure works, during mowing the grass on the runway or taxiway strips... by sweeping the area or collecting the grass for instance. - Papers are also regularly collected by airport personnel and analyses are performed in order to launch.... - Information campaigns are periodically organized to make all persons working on ramps aware of FOD hazards.

(b) Inspection by airline, airport, and airplane handling agency personnel. FOD prevention is now (since 2006 July 23th) totally achieved by the Orly airport operator (especially by staff responsible for ramp safety and for safety on the manoeuvring area) both on apron and manoeuvring areas. FOD detection is performed during daily runways and taxiways visual inspections. Ground handling staff is also in charge of checking parking stands before each aircraft arrival and after each departure.

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). Paris – Orly airport owns 3 sweepers used for prevention and maintenance of aprons, runways and taxiways. FOD containers are available on aprons and specifics containers are used by the airport authority to stock FOD that have been properly registered (all FOD except papers, plastic bags... found on aprons). Each time a FOD identified as an airplane element (or supposed to be an airplane element) is found, the national aviation investigation agency is informed.

d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). Agents working on the apron know how to contact airport staff responsible of the whole airside area. Thus if they find something they suspect to be an aeronautical object, they immediately call airport staff.

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 automatic system of that kind at Paris – Orly Airport.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? A system developed by the French CAA for aircraft movements monitoring enables ATC to have a real time visualisation. Aéroports de Paris developed a system for vehicles movements monitoring: each vehicle on manoeuvring area driving license. During this training they learn the meaning on each aeronautical lighting and painting. And to drive on the manoeuvring area a specific training is also provided about the phrasology.

5.2 Are your bird control staff working on the airfield continuously? Permanent staff is operating on site, a final training course assessment and attendance to a continuous retraining program.

5.3 What safety devices are currently employed?

- AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) The A-SMGCS implemented in Paris – Orly airport is RIMCAS. It has been running since beginning of this year (2009)

- RWY AHEAD markings have been painted at each runway heading, except at runway crossing since the vehicle lightings are radio piloted by agents from their vehicle and trips when circulating on 02/20 for service needs.

- Lower-cost technologies. Lighting signals powered by solar sensors are located on each road leading to the runways. At the crossing of runway 08/26 (one of the main access roads) fixed loudspeakers are emitting the following calls: redding, except at runway crossing since the vehicle lightings are radio piloted by agents from their vehicle and trips when circulating on 02/20 for service needs.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Lighting signals powered by solar sensors are located on each road leading to the runways. At the crossing of runway 08/26 (one of the main access roads) fixed loudspeakers are emitting the following calls: redding, except at runway crossing since the vehicle lightings are radio piloted by agents from their vehicle and trips when circulating on 02/20 for service needs.

5.5 What specific procedures are there for training and awareness airport vehicle operators, and other people who work at the airport? People using a vehicle on the airside have a specific driving license adapted to their activity (apron driving license or apron + manoeuvring area driving licenses). To obtain these licenses they are specifically trained (theoretical, plus a practical training for the manoeuvring area driving license). This training has to be done every 3 year to obtain the apron driving license and every 2 year for the manoeuvring area driving license. During this training they learn the meaning on each aeronautical lighting and painting. And to drive on the manoeuvring area a specific training is also provided about the phrasology. Furthermore, a bird strike risk assessment is performed whenever required if special bird development is noticed.

6. BIRD AND WILDLIFE CONTROL

6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. On Orly airport, habitat management policy consists in stopping any agricultural activity (which existed in the past), in cutting most of trees within the restricted area, in adjusting grass height within the range of 10 to 30 centimetres, in draining water places all over the airfield including grass areas, in protecting existing ponds which cannot be avoid for technical reason by nets. A counting of vegetation and animal species are conducted. Animals which represent a hazard for aircraft or airport equipment, such as foxes and rabbits, are regulated (captured or hunted). Other species are conducted. Animals which represent a hazard for aircraft or airport equipment, such as foxes and rabbits, are regulated (captured or hunted). Other species which represent a hazard for aircraft or airport equipment are highly encouraged and supported on the airport.

6.2 Are your bird control staff working on the airfield continuously? Permanent staff is operating on the airfield continuously? Permanent staff is operating on runways during aeronautical day (30 minutes before sunrise and 30 minutes after sunset). One person is requested by French authority for each of the 2 main runways (one dedicated for take-offs and one for landings).

6.3 What specialist equipment do you employ for bird control? (Recommendations: range finders, spotlights, cameras, lasers, fixed loudspeakers, mobile loudspeakers, portable lasers (manufacturer : LORD Engineering).

6.4 How often do you carry out a bird strike risk assessment, and is this process audited? Every month, a bird strike trend is assessed in comparison with last year situation in order to understand possible changes in bird behaviour and action strategy. Furthermore, a bird strike risk assessment is performed whenever required if special bird development is noticed.

6.5 What procedures are in place to identify bird species following a bird strike? Pictures of birds involved in a collision are taken and sent to French CAA.

6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Since September 2007, this process has been under the legal responsibility of the airport authority which collates bird strikes and reports to regulatory authority.

6.7 Do you support your bird control activities? (in case of lawsuits) Bird hazard prevention team logs their activities, on a daily-basis. Vehicle routes are monitored and recorded in order to prove when necessary that bird control staff were in working position when a bird strike occurred.

6.8 Does your airport have problems with other wildlife (sheep,deer, for example) and, if so, how are these issues being addressed? Mainly with pets (cats, dogs). Our staff have been trained and equipped to deal with wandering pets: isolate it then catch it. If they cannot handle it, specialists are called by airport staff to catch it. If the animal is on the airside, it has to be monitored so that it cannot reach runways or taxiways. If it is too close, it has to be moved away to a place where aircraft cannot access.

7. FIRE FIGHTING AND RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and year); of manufacturer. The crash fire rescue has: Three fire-fighting cars 4x4 chassis, Chanaël, 150 litres, powder: 50 kg, foam: 30 litres, Three fire-
fighting trucks 4x4 chassis THOMAS manufactured by SIDES, water: 2500 litres, powder: 250 kg, foam: 300 litres, year of manufacture 1996. Three fire-fighting trucks 6x6 Type MARK III manufactured by SIDES, water: 15 000 litres, powder: 250 kg, foam: 3000 litres, year of manufacture 2003 to 2005. One fire-fighting car 4x4 chassis Toyota manufactured by GIMAEX, equipped with documentation and maps. Two fire-fighting cars 4x4 chassis Toyota manufactured by SIDES, water: 150 litres, foam: 30 litres.

7.2 Future developments – are there plans to purchase or dispose of any equipment? A whole plan to renew all CFR vehicles is under study over the 5 to 7 years to come and will enter into a purchase process in 2010.

7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? An old aircraft is used for staff training.

PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? From October 15th to April 15th.

8.2 Average annual days of snow: 0 to 5 days.

8.3 Average snow depth: 0 to 5 centimetres.

8.4 Maximum snow in 24 hours: 12 cm recorded within a 24 hour period.

8.5 Annual number of days of de-icing activities: 7 days in average, maximum 22 days.

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? Around 70 persons are available on a 12-hour shift basis.

9.2 How many sub-contracted winter services personnel are available per shift? Only 2 or 3 persons from sub-contractors are available upon request to remove snow from aircraft parking stands.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJ 720, 4 units) 6 blower sweepers, Schorning; 3 blower sweepers, Sicard; 2 frontal blower sweepers, Schmidt; 8 compact blower sweepers with blade, Schmidt; 4 snow cutters, Rolba; 1 tractor (Renault) equipped with hinged blades (Schmidt); 1 spray bar spreader Rocher, with a capacity of 5000L; 4 disc spreaders, (3 Kupper + 1 Arel); 4 tractors equipped with blades and brushes; 3 compact blower sweepers with spreader (CJS III Schimdt).

11. PROCEDURES AND METHODS

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

1. Runways with associated ramp (at least at each threshold).
2. Main taxiways (in front of the terminals to reach the aprons, to reach the threshold of the opened runway,...).
3. Parking stands according to the needs. The choices of keeping both main runways open or not, of clearing the snow of this or that stand depends of the meteorological conditions and on the needs expressed by the Tower or the terminals.

11.3 After a snow event, how quickly do you expect to achieve “black top” on the runway? Normal time to achieve “black top” on runways is 45 minutes to one hour.

12. FRICTION TESTING

12.1 What friction test equipment / test method / tester do you use? SFT and IMAG equipment.

12.2 What are the typical intervals between friction tests? Friction tests are performed on request.

13. EXTERNAL CHEMICALS

13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Potassium formiate is used for aeronautical pavements de-icing.

13.2 Comment on storage capabilities of the chemicals which you use. Storage volume of potassium formiate is 100m3.

13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “slow-throw factor” etc. Solid de-icers are available since 2004 only for small areas, but last winter conditions did not require this type of treatment.

13.7 Do you use other chemicals or sand on operational areas? Aeronautical sand is used to avoid service roads to be too slippery.

14. ICE WARNING SYSTEMS

14.1 State model and number of ice warning systems. No ice warning systems available.

14.2 Have you plans to purchase further ice warning systems and if so which model(s)? Assessment of such ice warning systems is under progress.

15. AIRCRAFT DE-ICING

15.1 Does the airport directly provide aircraft anti- de-icing operations? If yes, please state vehicles or other facility manufactures, and number of units.

15.2 Are you required to have dedicated de-icing positions or de-icing areas on the parking area? At Paris – Orly airport, the airport only provides de-icing products for aircraft.

15.2. Are you required to have dedicated de-icing positions or de-icing areas on the parking area? At Paris – Orly airport, de-icing is done by the airlines or their sub-contractors on the parking stands.

15.3 Is glycol recovered? If so, please state methods. Sweeping can be done after de-icing operations on parking areas. But most of the de-icing products are washed with the rain or melted snow and collected in the water network. No glycol recovery is performed.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) No major changes are expected in the coming future.

16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. New vehicles which will be purchased in the coming future are to replace old vehicles of the same type.

PODGORICA

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT INFORMATION

1.1 Please insert your airport’s name and full contact information (phone, fax and e-mail) for safety/airfield operations management. Contact information: Podgorica Airport, Tel: 00 382 20 444 230, 00 382 67 204 002, Fax: 00 382 81 444 231, Mailto: gorica.raidervc@apm.co.me

1.2 Airport ICAO code and category: LYPG, 4E

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas, total RWY length - 2500m with TORA included, RWY length – 45 m, shoulder widths, total apron area, ramp area, other: Apron area – 2800m2, Apron area for general aviation – 5220m2.

2.2 Landing aids for RWY - CAT C.

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a safety management system for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and if not of its introduction. Within its OMS and SMS, 9001:2000, Airports of Montenegro provided for SMS implementation by virtue of defining required procedures and processes.

General properties are following: Identification of processes required for QMS applicable throughout the company, Setting order of sequence and interoperability of processes, Defining criteria and methods required for effective implementation and management of processes, Securing availability of resources and information relevant to the process implementation and monitoring, Analysis and performance analysis, Implementation of measures required for achievement of the planned results, Continuous process improvement through application of the defined procedures. Date of Certificate ISO 9001:2000 is 17-04-2008. Brussels. Improvements are continuous and permanent.

3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Management of Airports of Montenegro in charge of QMS meets regularly once a year (in December). On this occasion, among other issues, a consideration is given to risk and threat assessment based on findings of internal and external Management team members: Director General of APM, Assistant Directors, Director of Podgorica Airport, Director of Tivat Airport, Representative of QMS department.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

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

- Control and maintenance of the airport operating areas with a view to FOD prevention is performed in accordance with the Maintenance Instructions through following operations:
  - Training. The staff engaged for the purpose of the operating areas maintenance is subject to training pursuant to the applicable training program.
  - Inspection by airline, airport, and airline handling agency personnel. Regular inspection by authorized airline employer once a year.
  - Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). Use of sweepers once a month and when required regarding condition of the operating areas at inspection time.

5. RUNWAY INCURSION PREVENTION

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

- No design or engineering changes are undertaken.

5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) None mentioned safety devices from the list.

5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other low-cost technologies. None.

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 physical security ref. QP 2.09

6.2 Do your staff attend recognised bird control training courses? - No recognized courses attended.

6.2 Are your bird control staff working on the airfield – a) continuously? - Yes

b) at least every hour? c) less than hourly?

c) At least every hour.

6.3 What specialist equipment do you employ for bird control? (Recorders, acrylic discs, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. – Sirens mounted vehicles and shotguns.

6.5 What procedures are in place to detect and report bird strikes – according doc9137-An/898 report is delivered to CAA
6.6 Do you callate bird strikes and report numbers to your regulatory authority? How often do you report? As appropriate.
6.7 Do you staff log all their bird control activities? (10 manage successes and failures of the problem, and to use in defence in case of lawsuits) yes.
6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are you issues being addressed? According local procedure the problem of wild dogs are solved.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (eg: MAN); axles (4x4, 6x6); capacities (eg/weight and type); year of manufacture.
7.2 Future developments – are there plans to purchase or dispose of any equipment? There are no plans to purchase new equipment.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We do not possess a fire training simulator, but we do practical exercises/drills.
7.4 I if you, the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. None.

PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? From 1st Dec – 1st Mar.
8.2 Average annual days of snow: 0.2 days a year.
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: not applicable.
9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available per shift? 20 employed.
9.2 How many sub-contracted winter services personnel are available per shift? 7.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment (snowploughs, snowblowers, sanders, salt spreaders, etc.) plus manual picking by handling personnel.
10.2 Listing compact jet sweeper, Schmidt, CJS 720, 4 units)

11. PROACTIVE BEANS AND SHEET METAL
11.2 State the vehicles, formations and airport vehicle operators, and other people who work at the airport? Local RWy Safety Team has been working at UKPI. Members are representatives of home-based airlines, Air Navigation Services, Civil Aviation Authority, Air Accidents Investigation Institute and Airport Operator.

12. FRICION TESTING
12.1 What model(s) of friction tester do you employ for FOD control? (Please specify product name and add any comments.) no.
12.2 What are the typical intervals between model ASFT CFME – T10 (ICAO:SFH).
12.3 Have you any comments on the reliability of the FOD solution? yes.

13. EXPERIENCE WITH CHEMICALS - not applicable
14. ICE WARNING SYSTEMS - not applicable
15. AIRCRAFT DE-ICING - not applicable

PLANE RUYZNE
PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT INFORMATION
1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airport operations management. Airport name: Prague-Ruzyně. Contact information: Mr. Jan PRIDON, Airport Operation Department, K Leistol 6, Post Code: 166 00, Ruzyně, jan.pridonyz@prague.aero, tel.: +420 22011 5970.

2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other; RWY 06/24: Dimensions 3715 x 45 m; PCN 62/RB/V/T; shoulders 2 x 7.5 m; TOR, ASDA, LDA – 3715 m; TODA – 4015 m. RWY 13/31: Dimensions 3250 x 45 m; PCN 40/RB/V/T; shoulders 2 x 7.5 m; ASDA, LDA – 3250 m; TODA for RWY 13 – 3400 m; TODA for RWY 31 – 3550 m. RWY 04/22: Dimensions 2120 x 60 m; PCN 45/F/B/X/T (for parking only). Apron: APON NORTH: 417 140 m2; PCN 68/RB/8/B/T; APRON EAST: 65 453 m2; PCN 65/R4/20/B/T; XTP, APRON; PCN 55/30/B/X/T; 2.2 Landing aids for each RWY (e.g. CAT II): RWY 06: CAT I; 480 m LVP; PRYP 24; CAT II/ III; 900 m LVP; PRYP 13: SALS 420 m LVP; PRY 31; CAT I, 900 m LVP; PRYP.

3. SAFETY MANAGEMENT SYSTEMS

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of: a) Training, Performed within the framework of safety training and organized by Safety Department, mandatory for all the personnel. b) inspection by airline, airport, and airport handling agency personnel, Apron Safety Team leads by Airport Operator and Aircraft Operators Committee was established. The members of this team are the Handling companies, Refuelling companies, ANS Provider (Follow Service) and Airport Operator. AST organize APRON safety inspection, approx. 5 times a year. Airport Operator provides daily inspections at least 6 times a day. c) Maintenance campaign, where sweeping, magnetic bars, rumble strips, FOD containers etc. FOD inspection is performed by dispatchers of Airport Operations Control and handling staff. Approx 50 FOD containers installed on the APRON, each with capacity of 30 litres, yellow painted with black sign “FOD”. Maintenance performed by sweepers (Boschung Jet Broom sweeper, KOBIT Sweepers) plus manual picking by handling personnel.

d) Coordination of multiple agencies using airport (airlines, handling agents etc.) FOD prevention campaign, include leaflets disseminated to all organisations operating on the APRON.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments.) No.

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Visual observation and A-SMGCS (incl. Surface Movement Radar, Multilateration System and Conflict Alerting System).
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? A-SMGCS LEVEL 2: CONTROL (Alerting)
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) A-SMGCS
5.4 Comment on the use of any innovative warnings or guidance systems, use of paint, marking, signs, and other low-cost technologies. GENERAL: RWY. All I CAT I holdings are equipped with Guard Lights and “RWY AHEAD” marking. Stop bars on RWY 24 are installed in front of RWY 13. TWY and APRON: TWY centre line marking has been widened for 30 cm, where an information sign would normally installed and where is impractical to install, information marking has been painted on TWY centre line, prior to TWY intersection. The lighted signs “Low Visibility Operations" on the apron area.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Local RWY Safety Team has been working at UKPI. Members are representatives of home-based airlines, Air Navigation Services, Civil Aviation Authority, Air Accidents Investigation Institute and Airport Operator.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles as such ‘no-punitive’ reporting? Both Civil Aviation Authority and Air Accidents Investigation Institute have web-based online reporting system, where reporting of all personal information is voluntary. AA Committee of calAHP has a no-punitive Safety Reporting System. Pilots are asked to report accidents, incidents, extraordinary steps of flight crews or ATC or imperfections of navigation aids or airport equipment, dangerous for safety of aircraft operations.

6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airport to birds. 6.2 Do you staff attend recognized bird control training courses? No.
6.3 Are your bird control staff working on the airport? Yes. data provided above.
6.4 How often do you conduct bird population count and risk assessment, and is this process audited? Year and day time periods of increased incidence, average height of animals, number to your regulatory authority? How often do you report? As appropriate.
6.5 What is the designated period of winter readiness? From 1st Dec – 1st Mar.
6.6 Average annual days of snow: 0.2 days a year.
6.7 Average snow depth: no data available.
6.8 Maximum snow in 24 hours: no data available.
6.9 Annual number of days of de-icing activities: not applicable.
9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available per shift? 20 employed.
9.2 How many sub-contracted winter services personnel are available per shift? 7.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment (snowploughs, snowblowers, sanders, salt spreaders, etc.) plus manual picking by handling personnel.
10.2 Listing compact jet sweeper, Schmidt, CJS 720, 4 units)

11. PROACTIVE BEANS AND SHEET METAL
11.2 State the vehicles, formations and airport vehicle operators, and other people who work at the airport? Local RWy Safety Team has been working at UKPI. Members are representatives of home-based airlines, Air Navigation Services, Civil Aviation Authority, Air Accidents Investigation Institute and Airport Operator.

12. FRICION TESTING
12.1 What model(s) of friction tester do you employ for FOD control? yes.
12.2 What are the typical intervals between friction tests? Once time yearly.
12.3 Have you any comments on the reliability of the FOD solution? yes.
Bird species are determined and reported only for internal company needs.

6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Bird strikes are reported to ATC and airlines directly to the regulatory authority. The Airport Operator gets the information from this authority. 6.7 Do your staff log all their bird control activities? (in case of lawsuits) Yes.

6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? There are some appearances of greenhorns, dogs and foxes and bird and wildlife control frightens in this cases.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture.

*PANTHER Rosenbauer HRET – 1x (water 12 500 l, foam 1 500 l, powder 250 kg); PANTHER Rosenbauer – 3x (water 12 500 l, foam 1 500 l, powder 250 kg); CAS K 40 Mercedes Benz – 2x (water 8 000 l, foam 1 000 l); CAS K 30 Mercedes Benz – 1x (water 2 500 l, foam 200 l); CAS K 30 SCANA – 1x (water 2 500 l, foam 200 l); Volkswagen Transporter (UHPS) – 1x (water 200 l, foam 20 l); Volkswagen LT 46 - technical support; Scania Container incl. medical container and foam contact UK 37 CC – ladder (37 m); IVECO Daily Stratos – minibus; IVECO Daily - technical support; Skoda Octavia - command car.

7.2 Future developments – are there plans to purchase or dispose of any equipment? No. 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? No. 7.4 If any, list the (nationallfy) differnces with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. No.

Part 2: Winter Services Questionnaire

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 01 NOV – 30 APR

8.2 Average annual days of snow; 30 days (based on statistics of last 15 years), 28 days (last winter 2008/2009)

8.3 Average snow depth: 64,5 cm (based on statistics of last 15 years), 67,2 cm (last winter 2008/2009)

8.4 Maximum snow in 24 hours: 35 cm (winter 2006/2007), 8,5 cm (last winter 2008/2009)

8.5 Annual number of days of de-icing activities: N/A

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? Total winter services personnel available: Operational dispatcher – 5; Operational coordinators (Foreman) – 5; Drivers – 45 + 10 external; Total winter services personnel available per shift: Operational dispatcher – 1; Operational coordinators (Foreman) – 1; Drivers – 15; 52 How many sub-contracted winter services personnel are available per shift? Totally aprox. 15 sub-contracted services personnel.

10. WINTER EQUIPMENT INVENTORY

10.1 Please list all de-icing and other relevant winter equipment, equipment name, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJS 720, 4 units)

Airside: Wide-scope Blower-sweeper, 4 units; Blower-sweeper, compact, Schörling, P17B, 4 units; Blow-sweeper, compact, Schörling, P17C+P21C, 7 units; Blow-sweeper with scope 4,2 m, 1 unit; High speed cutter blower, 1 unit; Snow cutter Schmidt, 2 units; Snowunimog, 2 units; Sprayer, ÉPOKE PW/87THD, 2 units; Boschung, Jet Broom, 1 unit; Sweeper with plough and spreader

10.2 Please list all de-icer vehicles, company name, year of manufacture, type of de-icer, for example mixing ratios with liquids, “blow-away factor” etc. We don’t use it.

10.3 Have you experienced any corrosion problems with de-icers? Galvanised parts and copper connectors of sprayers get rusty.

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

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

10.6 Do you use other chemicals or sand on operational areas? Application of the sand on operational areas is prohibited by CAA and area is prohibited due to environmental reason.

14. ICE WARNING SYSTEMS

14.1 State model and number of ice warning systems.

*GSF 2000, Manufacturer: Boschung Mecatronic AG, Switzerland, No. of measuring points: 9 (three on RWY 06/24; three on RWY 13/31; one on RWY 04/22; two on an access road to Terminal North), Sensors: Air temp: 7x (50 cm from the ground), RWY/road temp: 7x (1 cm under surface), Depth temp: 2x (20 cm under surface), Freezing temp: 7x, Infrared measurement of precipitation, 7x (fine or heavy rain, snow). Wind gauge: 2x. Hygrometer: 1x. Rain gauge: 1x. Snow depth: x1

14.2 Have you any plans to purchase further ice warning systems and if so which model(s)? No. 14.3 Comment on your experiences of the benefits/disbenefits of ice warning systems.

15. AIRCRAFT DE-ICING

15.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. De-icing and anti-icing is provided by 3 companies (ground handlers): Czech Airlines (main aircraft operator + ground handler) – 4 de-icing vehicles; Mercedes Aviation (ground handler) – 2 de-icing vehicles; Prague Airport (airport operator + ground handler) – 2 de-icing vehicles.

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

15.3 Is glycol recovered? If so, please state methods.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) We would like to improve a clearance procedure and reduce a clearance time.

16.2 Are there areas of your winter operations which require improvement? De-icing procedures (missing de-icing areas for RWY 06 and RWY 13/31).

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

16.4 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units.

16.5 Do you have any winter services equipment which you would like to sell? No.
1. AIRPORT INFORMATION
1.1 Please insert your airport name and full contact information, fact, figures for safety/airport operations management. Contact information: Pula Airport, Safety contact: David Vitasovic, phone: +385 52 530 379, fax: +385 52 550 925, e-mail: david.vitasovic@airport-pula.hr
1.2 Airport (ICAO code and category: LDPL, 4E

2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Runway length: 2950m, runway width 45m, Shoulders: No, Apron/Ramp area: 65,500m², RWY 09: TORA 2950m, ASDA 2950m, TODA 2950m, LDA 2950; RWY 27: TORA 2950m, ASDA 2950m, TODA 2950, LDA 2950.
2.2 Lading aids for each RWY (e.g. CAT II): RWY 09: APCH GRT 420m, THR: G VLB LH, PAPI 18.6m, RWY 27: LGV LH, THR: G VLB LH, PAPI 15.8m

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. Pula Airport has implemented the first phase of SMS (retroactive on 31JUL2009 and the implementation of the second phase (proactive) is just taking place.
3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Yes, it has.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training. We have internal procedures for ensuring the control of FOD, along with national training procedures.
   b) Inspection by airline, airport, and airline handling agency personnel. Airport employees are conducting inspections of FOD on operating areas several times a day. Airport procedures for controlling FOD are presented to the airlines and handling agencies during audits.
   c) Maintenance (use of sweeping, magnetic areas several times a day. Airport procedures for ensuring the control of FOD, along with national training procedures.

5. RUNWAY INCISION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Monitoring is ensured through DCS system, video surveillance (video records) and personnel observations. 5.2 Are any of your sweeping procedures being undertaken/required to eliminate perceived hazards? No, there are not.
5.3 What safety devices are currently employed? (e.g. STRAMS, Roadside Aid, Aircraft Surface Detection Equipment) Above mentioned devices currently are not employed.
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Use of these technologies can be useful and successful.
5.5 What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? There are procedures and procedures defined in the national programme for training and awareness among all mentioned personnel.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the "non-punitive" principles such as "no-penalty" reporting? The reporting procedures for safety incidents has been already set up jointly with other parties active in these processes and "no-punitive" principles are ensured.

6. BIRD AND WILDLIFE CONTROL
6.1 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 cutter on the airfield and on surrounding areas.
6.2 Do your staff attend recognised bird control training courses? They have attended just internal training course, but it is planned that they attend recognised bird control courses in the future.
6.3 Are your bird control staff working on the airfield a) continuously? Yes, continuously.
6.4 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. Pula Airport employees use pyrotechnics, alarm shotguns and dogs.
6.5 How often do you carry out a bird strike risk assessment, and is this process audited? Bird strike risk assessment is included in the second phase of SMS which should be implemented this winter.
6.6 What procedures are in place to identify bird species following a bird strike? Bird species are identified by expert personnel.
6.7 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Yes, we report every single case of severe meteorological conditions, winter service is formed from maintenance personnel and technical service personnel. The number of available personnel per shift would be min. 12-15.
6.8 Do you have any comments on the reliability of friction indexes? No, I do not.
6.9 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. Pula Airport employees use pyrotechnics, alarm shotguns and dogs.
6.10 Do you have any comments on the reliability of friction indexes? No, I do not.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/litre and type); year of manufacture. Pula Airport vehicles: 1. PANTHER I, 6x6, Rosenbauer, 2009, Water tank: 12000l, Foam tank: 1500l, Powder tank: 250kg, 2. PANTHER III, 6x6, Rosenbauer, 2007, Water tank: 12000, Foam tank: 1500l, Powder tank: 250kg, 3. PANTHER III, 6x6, Rosenbauer, 2005, Water tank: 12000, Foam tank: 1500l, 4. MERCEDES, 6x6, MB3357, Mercedes-Benz, Ziegler, 1999, Water tank: 8000l, Foam tank: 1000l, 4. FAUn, 6x6, MB3357, Mercedes-Benz, Ziegler, 1999, Water tank: 8000l, Foam tank: 1000l, 5. MAZDA, 4x4, 82500 TD, MAZDA, 2004. 7.2 Future development activities: There are plans to purchase or dispose of any equipment! At this moment, there are no plans, but necessary equipment to ensure the maintenance of 10th RFF category.

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: 3-5cm
8.4 Maximum snow in 24 hours: 5cm
8.5 Annual number of days of de-icing activities: 4-6 on A319, 20-30 on ATR42

9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available at Pula Airport? Pula Airport does not have a special winter service. In the case of severe meteorological conditions, winter service is formed from maintenance personnel and technical service personnel. The number of available personnel per shift would be min. 12-15.
9.2 How many sub-contracted winter services personnel are available at Pula Airport? Pula Airport has a contract with two companies which will in the case of severe meteorological conditions provide required equipment, along with sufficient number of personnel.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CIS 720, 4 units) 1. Anti-de-icing truck, Man-Soder, 18.232 F-Automatic, 1 unit, 2. Pavement sweeper, FMS, 3 units, 3. De-icers sprayer, 1 unit, 4. Other sub-contracted vehicles and equipment

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating the identity of each facility. 1. Runway 2. Taxiways C, F and then A and others, 3. Apron 11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. The clearing starts after 15-20mm of wet snow or 50mm of dry snow. It is performed with our and sub-contracted sweepers. After sweeping, the de-icers spreader, sprinkles the de-icer chemicals.
11.3 After moderate snow, how quickly do you expect to achieve 'black top' on the runway? It is hard to estimate because there was no moderate snow on Pula Airport in the last 3 or 4 years.

12. FRICTION TESTING
12.1 What model(s) of friction tester do you use? Saab, SFH Friction tester. 12.2 What are the typical intervals between friction tests? Typical intervals are once a year. 12.3 Have you any comments on the reliability of friction indexes? No, I do not.

13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. We use "UREA" pavement de-icer and last 2 or 3 seasons we did not have to use it at all. "UREA" de-icer has enough effectiveness for our meteorological conditions.
13.2 Comment on storage capabilities of the chemicals which you use. We have 1,250 kg of "UREA" in our storage and 1,250kg in a sub-entered storage. 13.3 Comment on your experience with solid de-icers, for example "anti-snow" with liquids, "blow-away factor" etc. "UREA" is a solid de-icer.
13.4 Have you experienced any corrosion problems with de-icers? No, until now we did not.
13.5 Have you employed any special means to economise on chemical use? No, we did not.
13.6 Do you have any plans to develop new components or experiences with chemicals? No, I do not.
13.7 Do you use other chemicals or sand on operational areas? No, we do not.

14. WARNING SYSTEMS
14.1 State model and number of ice warning systems. We do not have ice warning system because meteorological conditions at Pula Airport are very good. At this moment, monitoring is performed by personnel observations.
14.2 Have you plans to purchase further ice warning systems and if so which model(s)? At this moment, we do not have plans to purchase an ice warning system due to meteorological conditions.

15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or facility manufacturer, and number of units. 1. Anti/de-icing truck, Man-Snoder, 18.232 F-Automatic, 1 unit
15.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? We are performing de-icing on the parking area.
15.3. Is glycol recovered? If so, please state method. No, it is not recovered.
15.4 Comment on the use of any innovative warnings. FOD radar is expected in future.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods (snow clearing vehicle formations, for example)? No, at this moment we will not change any of airport methods.
16.2 Are there areas of your winter operations which require improvement? At this moment, there are no areas which require improvement.
16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. At this moment, we do not have plans to purchase new equipment or vehicles.
16.4 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. No, we do not have any equipment or other products on order.
16.5 Do you have any winter services equipment which you would like to sell? No.
16.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Reports are collected by a SMS manager and then reported to the CAA on strike-occasion basis.

6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer.
Scarecrow handholds, Lacroix pistol
6.4 How often do you carry out a bird strike risk assessment, and is this process audited? Annually, last assessment dated SEP 2009.
6.5 What procedures are in place to identify bird species following a bird strike? Visual (crew report and/or feather recognition).
6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Reports are collected by a SMS manager and then reported to the CAA on strike-occasion basis.
6.7 Do your staff log inspection and control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Since JUL 2009 the full-time Wildlife Biologist is on staff and she logs all her activities. During her off-hours aerodrome engineers perform lower intensity bird control and log only significant observations and activities.
6.8 Does your airport has problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Roes, foxes, bears, and cats occasionally are observed. Most of fence is undergoing reconstruction to be buried at least 30cm under surface. Trees are cut to create a 6m wide clear buffer behind the fence.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: 1x Scania, 4x4, 2500 litres, type A, 2009.
7.2 Average annual days of snow: ~150 days of aircraft de-icing ~60 days of pavement de-icing.
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We don’t have Fire Training Simulator.
7.4 If any, list the (nationa tally) fixed differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport.

AIRSIDE SAFETY SURVEY 2010 P67
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 de-icing/snow plough - MOXZ, 4 units. Frontloader - CASE, 1 unit. Tractor - Various, 5 units. Snowblower - URAL, 2 units. Grader (rented), 1 unit

11. PROCEDURES AND METHODS
11.1. Please list your order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility. Runway, operational taxiways, RFFS, apron 1, apron 2, apron 3, apron 4, service roads, non-operational taxiways.
11.2. State the vehicles, formations and general method of runway, taxiway and apron clearance. Centre-line-to-edges method when no significant crosswinds present. 4 vehicles start on the runway, 2 – on taxiways. After two full-length runs on runway, 2 of the vehicles move to taxiways, the other 2 remain on runway to “fine-clean” the corners and edges. 11.3. After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 13-15 minutes

12. FRICITION TESTING
12.1. What model(s) of friction tester do you use? Sarsys Saab 9-5 (main), ADR/FFM (back up), Borowaer AFM/RM3 (back up)
12.2. What are the typical intervals between friction tests? Whenever surface conditions change due to precipitation and/or temperature fluctuation; also after each runway snow removal; during stable weather conditions at least once a day.
12.3. Have you any comments on the reliability of friction indexes? No one has ever complained on reliability of friction indexes.

13. EXPERIENCE WITH CHEMICALS
13.1. State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Remira Clearway (liquid, #0x last season), unknown for 2009/2010 season. Ukrainian KNS (granulated, 160t last season), Mettway for 2009/2010 season
13.2. Comment on storage capabilities of the chemicals which you use. Granulated agent is very well stored in the original plastic bags, 50m3 fibreglass storage tank for liquid agent.
13.3. Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. We do not mix.
13.4. Have you experienced any corrosion problems with de-icers? Minimal. Issues are mostly reported when steel parts get in contact with vaporized agent.
13.5. Have you employed any special means with chemicals? Clariant Product Information.
13.6. Have you used other chemicals or sand on operational areas? no
13.7. Do you use other chemicals or sand on operational areas? Sand is sometimes used as temporary solution on service roads with combed snow or ice.

14. ICE WARNING SYSTEMS – N/A

15. AIRCRAFT DE-ICING
15.1. Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facilities, purpose, and number of units. N/A
15.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? A special de-icing pad is constructed but it is not yet operational. Currently de-icing takes place on apron.
15.3. Is glycolate used as a de-icing agent? Yes, please state methods. The new de-icing pad incorporates liquid gathering system for glycol recovery but the pad is not being used yet due to operational reasons.

16. FUTURE DEVELOPMENTS
16.1. Are you about to change any of your airport’s methods of snow and ice removal? (show before/after diagrams, scale drawings, for example) The existing model works well.
16.2. Are there areas of your winter operations which require improvement? The communication procedure between winter service units and ATC is undergoing a major upgrade.
16.3. Do you plan to purchase new equipment or vehicles? If so, please provide details. Yes, a new snowblower and grader.
16.4. Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. Nothing on order yet.
16.5. Do you have any winter services equipment which you would like to sell? None

Rostock-Laage

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT INFORMATION
1.1. Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airport operations management. Contact information: Rostock-Laage Airport; Head of Airport Operation, Mr. Jürgen Roske, Phone +4938454321 300; Fax +4938454321 150; eMail j.roske@rostock-airport.de
1.2. Airport ICAO code and category: ETNL; Cat 7
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 2050x45m; 10 TORA 2.720m TODA 3.334m ASDA 2.825m LDA 2.520, 28 TORA 2.720m TODA 3.220m ASDA 2.825m LDA 2.520
2.2. Landing aids for each RWY (e.g. Cat II): 10 ILS CAT I, 28 ILS Cat I
3. SAFETY MANAGEMENT SYSTEMS
3.1. The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. Rostock-Laage Airport has established and implemented one ICAO compliant SMS
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1. Describe your airport’s programme to control FOD in terms of: a) Training. All airport airside personnel had FOD awareness training b) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). Sweeping, FOD containers
5. RUNWAY INCURSION PREVENTION
5.1. What is the primary method of monitoring vehicle and aircraft movements on the ground? Monitoring by ATS.
5.2. 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 airside staff (every 6 Month)
5.3. Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Reporting via Safety Management System
6. BIRD AND WILDLIFE WROL
(Rostock-Laage Airport is a Wing of the German Air Force in civil-military cooperation; responsibility by GAF)
7. CRASH FIRE RESCUE
(Responsibility by GAF)
8. PART 2: WINTER SERVICES QUESTIONNAIRE
8.1. What is the designated period of winter readiness? 15OCT to 30APR
8.2. Average annual days of snow: 27 days
8.3. Annual number of days of de-icing activities: 20 to 30
9. WINTER ORGANISATION
9.1. How many airport-employed winter services personnel are available per shift? airport-employed: 3
9.2. How many sub-contracted winter services personnel are available per shift? sub contracted: 4
10. WINTER EQUIPMENT INVENTORY
10.1. Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units. (For Example: compact jet sweeper, Schmidt, CJIS 720, 4 units) Bucher-Schörfling, P17B, jet sweeper, 1 unit, owned by RLG, Runway, Taxiway, Apron. Bucher-Schörfling, P17C, jet sweeper 5 units, Airforce, Runway, Taxiway, Schmidt, CJIS14, compact jet sweeper 1 unit, RLG, Runway,Taxiway, Apron, Mulag, Comet (A, snow slide, 1 unit, RLG, Apron. Multicar, Fumo, snow slide, fluid sprayer, 1 unit, RLG, Apron. Mercedes, MB 1824/RTS, fluid spayer, 1 unit, RLG, Runway,Taxiway, Apron, Skidometer, BV 11, friction tester, 1 unit, RLG, Runway,Taxiway, Apron, Skidometer, ASFT????, friction tester, 1 unit, Airforce, Runway,Taxiway
11. PROCEDURES AND METHODS
11.1. Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility. 1, Runway, 2, Taxiway south, 3, Apron Position 12 until Position 16, 4. Apron south, 5, Apron north
11.2. State the vehicles, formations and general method of runway, taxiway and apron clearance. Yes
11.3. After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? min. 30 min, max. 60 min
12. FRICITION TESTING
12.1. What model(s) of friction tester do you use? Skidometer BV 11
12.2. What are the typical intervals between friction tests? As required depending on traffic and weather conditions
13. EXPERIENCE WITH CHEMICALS
13.1. State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Season 2009 / 2010: Safetyfay KH Hot and Safetyfay SF
13.2. Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. Only fluid de-icer
13.4. Have you experienced any corrosion problems with de-icers? No
13.5. Have you employed any special means to economise on chemical use? Substitute
13.7. Do you use other chemicals or sand on operational areas? N/A

14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. In 2010: Manufacturer: Luftf Mess- und Regeltechnik GmbH Ploče; 2: Type: Intelligent Road Sensor (IRS) - UMB WS 600.

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

15. AIRCRAFT DE-ICING

15.1.1 Does the airport directly provide aircraft anti/de-icing operations? Yes. No changes to Anti/de-icing operations; if so, please specify.

15.1.2 Airports and handling agents using airport (airlines, handling agents, etc). Airlines and handling agent.

16. 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 16/34 TORA=TODA=LSDA = 2450 m x 45 m, Shoulders width 2 x 7.5 m, Total Apron area 80100 m².

2.2 Landing aids for each RWY (e.g. CAT II): Landing aids for each RWY: CAT II downgrade to 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 with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary." Please outline the SMS for your airport, and the date of its introduction. Not implemented.

3.2. Has your airport made any changes to its SMS and the date of its introduction. Not implemented.

3.3. What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Implementation of European Action Plan for Prevention of Runway Incursions is in progress.

3.4. 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? Joinery with CAAs of R. of Macedonia. Yes we have "no-penalty" reporting.

6. BIRD AND WILDLIFE CONTROL

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

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

6.2. Are your bird control staff working on the airfield? No.


7. CRASH FIRE RESCUE

7.1. Please detail your CFR vehicle inventory stating: Extinguishing agent: water-litre / FFFP foam-litre / dry chemical powder BC-kg. 1. Rosenbauer - Rapid Intervention vehicle - Mercedes Benz Atego 1225 4x2 - model "RV 2.400 / 1.500 / 250 kg" FIX MIX. - 2002 year. 2. Rosenbauer - Universal Fire-Fighting truck MB Actros 3343/6x6 - model "ULF 6.500 / 800 / 250 kg" - Foamatic -2002 year. 3. Rosenbauer - Aircraft Fire-Fighting truck- MB Actros 3343/6x6 model "FLF 9.000 / 1.000 / 250 kg" - 2002 year. 4. FF truck –TAM Dry Chemical Powder S- 2000 kg. 5. Technical Interventions Vehicle - MB Sprinter 313 cdi /4x4 -2006 year (rff equipment). 6. Command Vehicle-Lada Niva 4x4-2008 7.2 Future developments – are there plans to purchase or dispose of any equipment? Supplying rescue & fire fighting equipment: RFF vehicles, power- operated tools, forcing-hydraulically operated, lighting- portable generator, protective clothing and respiratory equip. Installing Fire detection & suppression systems in objects. Suggestion to dispose of the FF truck DCP-2000 kg. 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Alexander the Great Airport doesn’t possess a Fire Training Simulator. 7.4 If any, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. Domestic regulation (Fire Safety at Airport) is in accordance with ICAO SARPs, Airport Services Manual Doc. 9137 -AN-898 Part I - "Aerodromes, Volume I"

8. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1. Describe your airport’s programme to control FOD in terms of: a) Training: Airport staff internal training b) Inspection by airline, airport, and airline handling agency personnel: Handling agency personnel c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). Use of sweeping, FOD containers

d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). Airlines are handling agent

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

5.1.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? TWR controllers

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

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

Airport Surface Detection Equipment) None

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

5.5. What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Implementation of European Action Plan for Prevention of Runway Incursions is in progress.

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? Joinery with CAAs of R. of Macedonia. Yes we have "no-penalty" reporting.

11.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? De- icing area, no Gate de- icing

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

16. FUTURE DEVELOPMENTS

- n/a
PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT INFORMATION

1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airfield operations management. Contact information: Sofia Airport EAD, Hristo Shterionov – Director Operations, Tel: + 359 2 937 21 02, Fax: + 359 2 937 20 82. E-mail: shterionoh@sofia-airport.bg

1.2 The ICAO code and category for Sofia Airport is LSFB.

2. MOVEMENT AND MANOEUVRING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other; RWY 09/27 length: 3 600 m, TORA 09: 3 600 m (2 450 m)*; TORA 27: 3 600 m, TODA 09: 3 600 m (2 450 m)*; TODA 27: 3 600 m, ASDA 09: 3 600 m (2 450 m)*; ASDA 27: 3 600 m, LDA 09: 3 300 m; LDA 27: 3 600 m, RWY 09/27 width: 45 m, Shoulders widths: 8 m. Total apron area: 213 300 m². * Take-off from intersection with RWY C.

2.2 LANDING aids for each RWY (e.g. CAT IIIa, RWY 27, CAT IIIb, RWY 09, 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 with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. Sofia Airport established the SMS from 20.05.2007.

3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? YES

3.3 The airport SMS is an open system. Sofia Airport is monitoring the hazard area and implements changes in the procedures in order to improve the SMS.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of: a) Training. All staff which is working at the airport passes basic airside safety course. The FOD programme is a part of the course. b) Inspection by airline, airport, and airplane handling agency personnel. Inspections are conducted by the airport operator and by the ground handling operators. c) Maintenance (use of Sweepers, Magnetic bars, Rumble strips, FOD containers etc). Sweeping by Boschung, Jet Broom BJB 800 – 1 unit, yellow path sweeper, Use spreader (if necessary), Friction testing with recorded distress calls and sounds is available 24/7 – Phoenix Airport Wailer Mk III. Pyrotechnics and shotguns are used by airport bird patrol unit.

4.2 How often do you carry out an annual bird strike risk assessment, and is this process audited? Bird strike risk assessment is made minimum twice per year. The process is audited by CAA and by the customer airlines. 6.5 What procedures are in place to identify bird species following a bird strike? A part of the bird is taken and physical examination of the specie is done. 6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? YES. Sofia Airport authority immediately reports to CAA and to the Aircraft Accident Investigation Unit when a bird strike occurs.

5. RUNWAY INCURSION PREVENTION

5.1 What is the primary method of monitoring aircraft and movement on the ground? On the apron all vehicle movements are monitored by Sofia Airport Operation and Slot Co-ordination Centre; All vehicles moving on runway and taxiways are monitored by the tower and are equipped with two way radio communication with ATC Tower.

5.2 Are any design/engineering moves being undertaken/required to eliminate perceived hazards? YES. All visual navigation aids (markings, lightings and signs) and systems are designed according ICAO Annex 14.

5.3 What safety devices are currently employed? (Airport Movement Area Safety System - AMASS; or ASDX-the Model X Airport Surface Detection Equipment) Movement area is monitored with ground radar. 5.4 Comment on the use of any innovative warning or guards – use of paint, signs, lighting and other lower-cost technologies. Reflective pavement paint, illuminated signs, AGL system, etc.

5.5 What specific airport procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Training; radio communication ICAO phraseology for staff working at the movement area.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? YES. Sofia Airport applies local regulations. The reporting system is an important part of airport SMS. Principle of ‘non-punitive’ reporting is applied, except of Intentional or Criminal acts and violations; Incompetent actions or lack of competence.

6. BIRD CONTROL

6.1 Do your staff attend recognised bird control training courses? YES

6.2 Are your bird control staff working on the airport a) continuously? YES b) at least every hour? YES c) less than hourly? NO

6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, faucets). Please state relevant supplier/manufacturer. Electronic bird deterrent system with recorded distress calls and sounds is available.

6.4 How often do you carry out an annual bird strike risk assessment, and is this process audited? Bird strike risk assessment is made minimum twice per year. The process is audited by CAA and by the customer airlines.

6.5 What procedures are in place to identify bird species following a bird strike? A part of the bird is taken and physical examination of the specie is done.

6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? YES. Sofia Airport authority immediately reports to CAA and to the Aircraft Accident Investigation Unit when a bird strike occurs.

6.7 Do your staff log all their bird control activities? YES

6.8 Does your airport have problems with other wildlife (sheep/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 (e.g. MANN); axles (e.g. 4x4, 6x6); capacities (kg/litre and type); year of manufacture. SAURUS AS 10000/250, Mercedes-Benz, 8x8, 10000/12000 litre - 2 units, TATRA RS200 – 2 units, Sweeper Rolba Viking – 4 units, Sweeper Rolba 8000/12000 unit, Sweeper Rolba RS200 – 2 units, Sweeper Rolba Viking – 4 units, Submariner IFA – 1 unit, Rotor sweeper URAL – 2 units, Jet Broom SFT 800 – 1 unit, Tatra FS 2000 – 2 units, Sweeper Rolba – 2 units

8. FIRE FIGHTING AND WATER CARRYING VEHICLES

8.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility. 1st – Runway, 2nd – Taxiways, 3rd – Apron

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? 8 employed / shift; total 16 – 8

9.2 How many sub-contracted winter services personnel are available per shift? 8 persons on request, to carry out snow from movement area

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CS 720, 4 units – Sweeper Rolba Bucher – 2 units, Equipment Rolba RS200 – 2 units, Sweeper Rolba Viking – 4 units, Submariner IFA – 1 unit, Rotor sweeper URAL – 2 units, Jet Broom SFT 800 – 1 unit, Tatra machine TATRA – 9 units, Sweeper Rolba – 2 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. 1st – Runway, 2nd – Taxiways, 3rd – Apron

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. General method during snow-cleaning and state the vehicle: Push out snow with ploughs, Cleaning surface with jet sweeper, Throw out snow with rotor sweeper, Use spreader (if necessary). Friction testing 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 20 – 30 min

12. FRICTION TESTING

12.1 What model(s) of friction tester do you use? Saab 9000 SFT

12.2 What is/are the typical intervals between friction tests? Depend of weather conditions. If there is no change of the runway surface status after the last friction test, the next test is to be done only in case of meteorological changes.

12.3 Have you any comments on the reliability of friction indexes? NO

13. EXPERIENCE WITH CHEMICALS

13.1 State which pavement de-icers you use, along with the quantities used last season. Currently, Sofia Airport uses Carbamat / urea as runway de-icer. In the last 2 years the consumption was about 100 – 150 t. New equipment will be supplied to enable using of other de-icers in the next winter season.

13.2 Comment on storage capabilities of the chemicals which you use. 200 t

13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. Sofia Airport uses only solid de-icers.
When the wind is stronger than 9 – 10 m/s the treatment is made in the same direction as the wind blows (i.e. if the wind is blowing from North, the runway is treated firstly from the Northern side).

14. Have you experienced any corrosion hazards? Yes, Sofia Airport is not equipped with ice-warning systems.

15. AIRCRAFT DE-ICING
15.1 Does the aircraft directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. Yes, Sofia Airport directly provides anti-de-icing operations. Vehicles available: Ford 1800TM – 3 units, FSM-TEMPET II – 2 units.

15.2 Are you required to have dedicated de-icing equipment and also to retrieve the owner of the FOD (sheep/deer, for example) and, if so, how are these issues being addressed? Small deers, they are shot as soon as possible. Fence control every day to make sure the deers will not find their way into the airport.

15.3 Have you any comments on the reliability of the bird strike reporting system? Photo of bird taken following a bird strike? Yes, photo taken following a bird strike.

15.4 Comment on the use of any innovative warnings or risk technologies. RWy AHEAD markings on TWy’s, Internal bird control training courses? Yes, started.

15.5 What specific procedures are in place to identify bird species following a bird strike? Photo of bird taken following a bird strike will be sent to the specialist by mail.

15.6 Please detail your bird strike risk assessment and also to retrieve the owner of the FOD process Audrey? Yearly, and yes

15.7 Please detail your CFR vehicle inventory stating; vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/ft and type); year of manufacture. 4X Rosenbauer MAN Super buffallo (1984-2000) all 6W, Capacities 1X 6500 liters and 3X3800 liters (foam)

15.8 Future developments – are there plans to purchase or dispose of any equipment? Purchase during the next years.

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

15.10 Please state your order of priority of snow clearing, de-icing equipment and other products on order. If so, please provide details including manufacturer and number of units. Yes - Plough Sweeper Boschung – 2 units, De-icing machine Boschung – 1 unit.

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

STAVANGER

PART 1: GENERAL AIRSIDE SAFETY

1. AIRPORT INFORMATION
1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airfield operations management. Contact information: Stavanger airport, Sola, Phone +47 67 03 10 00, Fax +47 67 03 10 02 E-mail informasjon.sola@avinor.no

1.2 Airport ICAO code and category: ENZV, IAT 4D

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 surface, shoulder widths, total apron area, ramp area, other: RWY 18 tot length/with 2556/60m TORA 2556. RWY 36 tot length/with 2556/60m TORA 2556. RWY 11 tot/with 2449/45m TORA 2299. RWY 29 tot/length/with 2449/45m TORA 2349. Total apron area more than 200 000 sq meters

2.2 Landing aids for each RWy (e.g. CAT II): RWY 18 ILS CAT II, RWY 36 and 11 ILS CAT I, RWY 29 VOR/DME

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. Stavanger Airport is using the Avoir SMS, including central and local regulations and reporting system

3.2 Have you experienced any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? SMS is constantly improved.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:

a) Training. All employees are trained, and retrained every 5th year

b) Inspection by airline, airport, and airline handling agency personnel. Inspection on aprons and runways/taxways several times each day, by airport personnel and airline/handling personnel

c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). FOD containers established, sweeping of surface when necessary

d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). Photo of FOD are distributed to mail to airports using the, as a reminder of what is actually found and also to alert local airports platforms: PAD “East” to RWY 27 and PAD “West” to RWY 09

8.3 Has glycol recovered? If so, Sofia Airport have two de-icing platforms: PAD positions or do you de-ice on the parking area?

9. WINTER ORGANISATION
9.1 Please state here order of priority of snow clearing, de-icing equipment and other products on order. If so, please provide details including manufacturer and number of units. Yes - Plough Sweeper Boschung – 2 units, De-icing machine Boschung – 1 unit.

10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CIS 720, 4 units) 6 snow removers, Mercedes Benz 1841 AK/39; 1 chemical disposer, Volvo FH 12 460; 6 sweepers/blowers, Øverasen RS 400; 1 compact jet sweeper, Kniela

10.2 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. 1st RWY 18 and 36 including apron 9, TWL L and G, and N, Aids. 2nd RWY 11/29, including apron 7. 3rd Aprons and internal roads

11.2 State the vehicles, formations and general methods of runway, taxiway and apron clearance. Snow removers connected with sweepers and blowers in formation, followed by the compact jet sweeper. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runways? Within a couple of hours.

12. FRICTION TESTING
12.1 What model(s) of friction tester do you use? Tribometer SKH

12.2 What are the typical intervals between friction tests? If you are using fixed site weather conditions?

12.3 Have you any comments on the reliability of
of friction indexes. No comment

13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. APUFORM. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Relative ok at our airport, temperatures below -5 C are very seldom
13.2 Comment on any special capabilities of the chemicals which you use, OK
13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. -
13.4 Have you experienced any corrosion problems with de-icers? Some remark from helicoptercompanies, not documented as far as I know. But they do not want Avinorm used at passenger walkway to minimise Aviform to be brought into the cabin..
13.7 Do you use other chemicals or sand on operational areas? Sand

14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. The only equipment we have is a "ground temp, measurement"
14.2 Have you plans to purchase further ice warning systems and if so which model(s)? No
14.3 Comment on your experiences of the beneficial/airport winter warning systems. Used together with experience it works all right

15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti-de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. Handling agents provide act de-icing, Three units, manufacture unknown
15.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Dedicated de-icing area, preventive de-icing allowed om stand 15.3 Is glycol recovered? If so, please state methods. Yes, all glycol used on de-ice platform are collected to drainage system.

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) No
16.2 Are there areas of your winter operations which require improvement? This is discussed every autumn in the airside safety committee
16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. No plans
16.4 Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. No
16.5 Do you have any winter services equipment which you would like to sell? No

2. MOVEMENT AND MANOEUVRING AREA DATA
2.1 Please list the identities of primary operational facilities and the surfaces area. (total RWY length, Take Off Run Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): 01L/19R; 3301m; 3301m; 45m; 12.5m.
2.2 Landing aids for each RWY: 01U/L CAT IIII
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. Our SMS are available to Airport customers through our extranet, current version no. 3. have for years been part of our work in Airside Safety. 3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? No
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training. Integrated training programme “Working at an Airport”.
   b) Inspection by airline, airport, and airplane handling agency personnel. Yes, at regular intervals.
   c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc), FOD containers available at all gates and stands, sweeping at regular intervals
   d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). Discussed at meeting forums and communicated daily by Airport Supervisor.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments.) Under development in-house solution incorporated in GIS mapping system.
5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? A-AMGCS, mode S transponders
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? Under constant review.
5.3 What safety devices are currently employed? A-AMGCS
5.4 Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Under constant review and adopted if leading to a positive result.
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 is supplied to all, through various agencies, where we perform initial training of the instructors and establish regular contacts.
5.6 Have the reporting procedures for runway safety incidents with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Established in the 1970’es, a self control system was implemented by our Regulatory Authority, leading in to reporting system that safe guard the reporter and his findings.

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, regular grass cutting, ground covering fencing strengthened at un-manned gates, choice of ground covering vegetation helps to prevent a food-chain build up, hence a less attractive environment for birds.
6.2 Do your staff attend recognised bird control training courses?
6.3 Are your bird control staff working on the airfield a) continuously? Yes
6.4 What specialist equipment do you employ for bird control? Recorded distress calls, pyrotechnics, shotguns, dogs, lasers.
6.5 How often do you carry out a bird strike risk assessment, and is this process updated? At intervals guided by occurrence reporting – internal audits made. 6.6 What procedures are in place to identify bird species following a bird strike? Laboratory and DNA testing.
6.7 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Reporting tied into our own deviation reporting system and within 72 hours sent along to the Regulatory Authority.
6.7 Do your staff log all their bird control activities? Yes 6.8 Does your airport fixate problems with other wildlife and, if so, how are these issues being addressed? Ground covering fencing keeps most wildlife away, only a very few German Hares, Foxes and Badgers might be visible however keep away from the runways.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: 6/ CFR Volvo R90B 6x6/Capacity 9400 liters/1992. 4/ CFR Scania SweCredit 6x6/Capacity 10440 liters/2002-2003 7.2 Future developments – are there plans to purchase or dispose of any equipment? New CFR vehicles, period 2011-2012 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes 7.4 If, any list the (nationally filed) differences in fire fighting – 120 seconds. 7.5 The current version is 3 Articulated Haulers Volvo A 30 Snowdumpers; 2 Snowblowers Overaasen 1560 Supra 5000; 1 Wheel Shovel-Loader Overaasen Supra 5000; 1 Truck + Plough MAN 6x2

8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? Late October to April
8.2 Average annual days of snow: 75 days
8.3 Average snow depth: 800 mm
8.4 Maximum snow in 24 hours: 350 mm (record 700 mm)
8.5 Annual number of days of de-icing activities: 80 days

9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available per shift? 21
9.2 How many sub-contracted winter services personnel are available per shift? 10 for snow transportation

10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment stating manufacturer, model and number of units: 22 Schmidt TJS560 Compact Jet Sweepers + Ploughs; 16 Wheel Loaders Volvo L50-120; 5 Sand sprinkle-devices Nido RSP; 3 Granulate sprinkle-devices Schmidt Nido Stroman; 3 Runway de-icing vehicles with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Established in the 1970’es, a self control system was implemented by our Regulatory Authority, leading in to reporting system that safe guard the reporter and his findings.

11. PROCEDURES AND METHODS
11.1 Please state here the priority of snow clearance of main operational facilities (runways,
taxiway, aprons etc) stating identity of each facility. 1. Runways / Emergency roads; 2. Taxiways; 3. Aprons; 4. Main Road System and ILS protected areas

11.2 State the vehicles, formations and general method of operation, taxing and apron clearance. Runway 10 sweeper formation covering full width, followed by 1 or 2 runway de-icers and 2 frictiontesters. Taxiways and aprons/’3-S’ sweeper formation. Stands/ 5 Wheel Loaders with brush or plough attachments. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? We expect a black top after first run, however snow intensity regulates result. Normal sweeper run is 6-10 min over longest runway.

12. FRICTION TESTING

12.1 What model(s) of friction tester do you use? 2 units SFH SABB 9-5 Mark 3 and 4, 2 units SFH SABB 9-5 Maloys. 12.2 What are the typical intervals between friction tests? 4 times / 24 hours. During snowfall performed and reported after each sweeper run. 12.3 Have you any comments on the reliability of friction index? Our experiences help us keeping best practice, constant reviews in co-operation with other airports and airlines.

13. EXPERIENCE WITH CHEMICALS

13.1 State which pavement de-icers you use, along with the respective benefits/ disadvantages. Sand at taxiway exits to application use and weather sensitive. 13.2 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. We use solid de-icers mainly for our road system, as it requires liquid de-icers, for example mixing ratios with liquids.

13.3 Comment on storage capabilities of the chemicals which you use. 300 000 liters. 13.4 Have you experienced any corrosion problems with de-icers? yes, equipment have to be washed after each use. 13.5 Have you employed any special means to protect your equipment? no, other airports and airlines have to be effective. Too slow for runway use. 13.6 Have you experienced any corrosion problems with de-icers? yes, equipment have to be washed after each use.

13.7 Do you use other chemicals or sand on operational areas? Sand at taxiway exits to apron and at stands with apron boarding. 13.8 Have you any comments on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. We use solid de-icers mainly for our road system, as it requires liquid de-icers.

13.9 Do you have any comments on the reliability of friction index? Our experiences help us keeping best practice, constant reviews in co-operation with other airports and airlines.

14. ICE WARNING SYSTEMS

14.1 State model and number of ice warning systems. 2 units SFH SABB 9-5 Maloys with waterfriction testing

14.2 Describe your airport’s programme - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment! ASP System (SAFEAGATE)

14.3 Do you have any other comments on your programme to control FOD in terms of: a) Training: No b) Inspection by airline, airport, and airplane handling agency personnel. Two visuals controls per day by the CFR firemen

15. AIRCRAFT DE-ICING

15.1 Does the airport directly provide aircraft anti- de-icing operations or do you sub-contract this to providers and handling companies this service. 15.2 Are you required to have dedicated de- icing positions or do you de-ice on the parking area? Pending on runway in use and where parking area is adjacent to a privileged and remote de-icing due environmental reasons.

15.3 Is glycol recovered? Yes, through drainage system and suction sweeping. Recycling performed locally.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? No, however reviews are made constantly.

16.2 Are there areas of your winter operations which require improvement? Not at the moment.

16.3 Do you plan to purchase new equipment or vehicles? 2 new De-Icing Spreaders with low pressure nozzles 24 m

16.4 Do you currently have equipment or other products on order? No 16.5 Do you have any winter services equipment which you would like to sell? Surplus equipment from Swedish State owned airports are sold through IVD, acting as agent. www.kvd.se

17. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (l/litre and type); year of manufacture. 1. VIM 60 – 2005 / 1. VIM 60 – 2009 / 1. VIM 90 -2001 / 1 VIS -1997

7.2 Future developments – are there plans to purchase or dispose of any equipment? NO 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? NO

8. RECENT WINTER CONDITIONS

8.1 What is the designated period of winter readiness? 09 November 09 au 04 avril 10

9. WINTER ORGANISATION

9.1 How many airport-employed winter services personnel are available per shift? 3 persons

9.2 How many sub-contracted winter services personnel are available per shift? 2 x 4 persons

10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CJ 720, 4 units) 2 sweepsters; 1 sweesper mounted on a Renault G340; 1 snow Cutter – blower FRESIA; 3 snow ploughs mounted on Renault G340 TI 19T and on MERCEDES; 1 airport sprayer KUPPER WEISSER with triple rotary spinners (spray width : 24m – capacity : 6 m3); 1 airport sprayer KUPPER WEISSER mounted on a MERCEDES with double rotary spinners (spray width : 12m – capacity : 6 m3)

11. PROCEDURES AND METHODS

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, aprons etc) stating identity of each facility. 1. Runways / Emergency roads; 2. Taxiways; 3. Aprons; 4. Main Road System and ILS protected areas

11.2 State the vehicles, formations and general method of operation, taxing and apron clearance. Runway 10 sweeper formation covering full width, followed by 1 or 2 runway de-icers and 2 frictiontesters. Taxiways and aprons/’3-S’ sweeper formation. Stands/ 5 Wheel Loaders with brush or plough attachments. 11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? We expect a black top after first run, however snow intensity regulates result. Normal sweeper run is 6-10 min over longest runway.

14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. METEORFRANCE and special message for bird control. (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant VIP or manufacturer. Recorded distress calls, shotguns.

12. FRICTION TESTING
12.3 Have you any comments on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Safety cons are in place

13. EXPERIENCE WITH CHEMICALS
13.5 Have you employed any special means of monitoring or detecting ice? (e.g. routine test, use of probes, infrared cameras)

13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. SAFELY KA RUNWAY DE-ICER from Cianit, 231. 000 Liters

2.1 Please list the identities of primary operational facilities and the surfaces. (For example: total RWY length (or lengths), Take Off Run Available (TORA), RWY width, shoulder widths, total apron area, ramp area, other): Total runway length 2750m, TORA: 2735m, Rwy width 45m, Shoulders width: 10m each side, Total apron area: 45.600m2

2.2 Landing aids for each RWy (e.g. CAT II): ICAO CAT 1

5.3 What safety devices are currently employed? Hotspot works, SOP . Monitored and escorted by Follow me Staff, coordinated by ODM.

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? Hotspot works, SOP. Monitored and escorted by Follow me Staff, coordinated by ODM.

11. PROCEDURES AND METHODS
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? Moderate <3cm/h – runway width 40m, taxiway width 20m – 45mins, sections A & B – 1h30mins. Heavy snow >3cm/h – runway width 35m – 45 mins, taxiway width 20m – 30 mins.

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

11.1.2 State the airport code and category: TIA LATI, CAT 1

11.1.1 Insert your airport name and full contact information (phone number, e-mail) for safety/airport operations management. Contact information: Tirana International Airport, Administration Building, Rinas, Tirana, Albania. Phone: + 355 4 2381 600, Fax: + 355 4 2381 601. E-Mail: vniko@tirana-airport.com, Web site: www.tirana-airport.com

1.2 Airport ICAO code and category: TIA LATI, CAT 1

1.1 Insert your airport name and full contact information (phone number, e-mail) for safety/airport operations management.

12.1.1 What model(s) of friction tester do you use? * IMAG * from French STAC Vieille version de l’IMAG qui ne fait que des mesures operationnelles et non fonctionnelles

12.1 What model(s) of friction tester do you use? * IMAG * from French STAC Vieille version de l’IMAG qui ne fait que des mesures operationnelles et non fonctionnelles

12.2 What are the typical intervals between friction tests? Depend on meteorological conditions

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

13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. SAFELY KA RUNWAY DE-ICER from Cianit, 231. 000 Liters

6.1.2 Do you attend recognised bird control training courses? Yes

6.1.1 Do you attend recognised bird control training courses? Yes

6.2 Are your bird control staff working on the airfield? a) Continuously? Yes

6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant VIP or manufacturer. Recorded distress calls, shotguns.

6.4 How often do you carry out a bird strike risk assessment, and is this process audited? The effect is not compared with a bird strike. The process is solved by monitoring and implementing appropriate measures.

6.5 What procedures are in place to identify bird species following a bird strike? The effect is not compared with a bird strike.

6.6 Do you collate bird strike reports and report numbers to your regulatory authority? How often do you report? The effect is not compared with a bird strike.

6.7 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Our airport does not have problems with wild life, only dogs but in the vicinity of the apron.

6.8 Does your airport possess a Fire Training Simulator, is this available to other airports for training purposes? NO

7. CRASH FIRE RESCUE
7.1 Please detail your CPT vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (kg/litre and type); year of manufacture.

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

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

8. FOD CONTROL
8.1 Describe your airport’s programme to control FOD in terms of: Removing FOD is the responsibility of everyone. In our airport are provided special FOD containers in specific locations. The operators report all FOD found on the bins. To control FOD a daily inspection takes place every 3 hours by Ramp Supervisors and Duty Managers. All staff is well trained (Airside Safety Awareness Training). We use sweeping with vacuum machines.

8.2 Future developments for FOD control: upkeep of equipment, maintenance, etc.

9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available per shift? 2 operators of snow and ice removal + maintenance and if required.

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

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. This answer is valid for both 11.13th questions. The machine does the spraying of anti-icing liquid manufactured by CRYOPEK36. Up to now never used because it was not required. We have a stock for 4 times usage.

12. FRICTION TESTING
12.1 What model(s) of friction tester do you use? We use friction tester produced by ASFT, mounted on MB 3341, 6x6, 6500 litre water.

12.2 What are the typical intervals between friction tests? Depend on meteorological conditions

12.3 Have you any comments on the reliability of friction indexes? If the test is well performed, the results are reliable.

TIRANA
PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT INFORMATION
1.1.2 State the airport code and category: TIA LATI, CAT 1

1.1 Insert your airport name and full contact information (phone number, e-mail) for safety/airport operations management. Contact information: Tirana International Airport, Administration Building, Rinas, Tirana, Albania. Phone: + 355 4 2381 600, Fax: + 355 4 2381 601. E-Mail: vniko@tirana-airport.com, Web site: www.tirana-airport.com

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

11. PROCEDURES AND METHODS
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? Moderate <3cm/h – runway width 40m, taxiway width 20m – 45mins, sections A & B – 1h30mins. Heavy snow >3cm/h – runway width 35m – 45 mins, taxiway width 20m – 30 mins.

12. FRICTION TESTING
12.1 What model(s) of friction tester do you use? * IMAG * from French STAC Vieille version de l’IMAG qui ne fait que des mesures operationnelles et non fonctionnelles

12.2 What are the typical intervals between friction tests? Depend on meteorological conditions

12.3 Have you any comments on the reliability of friction indexes? No
1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airfield operations management. Contact information: Tivat Airport, Contact info: Phone: 00 382 32 670 960, Fax: 00 382 32 670 950,mailto: ranko.boskovic@apm.co.me

1.2 Airport ICAO code and category: LTVT, 4D

2. MOVEMENT AND MANEUVURING AREA DATA

2.1 Please list the identities of primary operational facilities and the surface areas. total RWY length - 2500m with TORA included, RWY length - 45m, shoulder widths, total apron area, ramp area, others: Apron area - C category aircrafts - 14350m² (stands 1-4), Apron area - D category aircrafts - 22822 m² (stands 5-7).

2.2 Landing aids for RWY – RWY lighting, RWY end, RWY edge for RWY14 and RWY32, and approach lighting only for RNW32

3. SAFETY MANAGEMENT SYSTEMS

3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. Within its QMS (ISO 9001-2000), Airports of Montenegro provided for SMS implementation by virtue of defining required procedures and processes. General procedures are no process required for QMS applicable throughout the company, Setting order of sequence and interoperability of processes, Defining criteria and methods required for effective implementation and management of processes. Securing availability of resources and information relevant to the process implementation and monitoring, Process monitoring, analysis and performance analysis, Implementation of measures required for achievement of the planned results, Continuous process improvement through application of the defined procedures. Date of Certificate ISO 9001:2000 is 17-04-2008, Brussels. Improvements are continuous and permanent.

3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Management of Airports of Montenegro in charge of QMS regularly once a year (in December). On this occasion, among other issues, a consideration is given to risk and threat assessment based on findings of internal and external Management team members: Director General of APM, Assistant Director General, Director of Tivat Airport, Representative of QMS department.

Upon QMS meeting in December, we will no if some amendments or improvements are necessary

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD. Control and maintenance of the airport operating areas with a view to FOD prevention is performed in accordance with the Maintenance Instructions based on the following:

a) Inspection by airline, airport, and airplane handling agency personnel. Regular checks by authorized airport operator staff at least 1 times a day.

b) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc). Use of sweepers and is based on the condition of the operating areas at inspection time and when required

c) Coordination of multiple agencies using airport (airlines, handling agents etc). Maintenance of the operating areas is at sole responsibility of the airport operator. In case of eventual need for engagement of a third party, these services are subcontracted.

5. BIRD AND WILDLIFE CONTROL

5.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. – Tivat Airport took following actions which lead to significant decrease in presence of birds: a) Remediation of a regional landfill „Lovranja“, which is located in close vicinity of the airport. b) Removal of metal tools used for crustacean farming which sea-gulls used for temporary habitat. These measures assuming removal of source of food and habitat lead to great results in decrease of number of bird strikes. 6.1 Do your staff attend recognized bird control training courses? - Our staff has not attended any recognized bird control training course, but we do regularly attend conferences and presentations related to bird control. The most recent conference we attended took place on Kk island, November 24-26, 2008 6.2. All bird control staff working on the airfield is permanently employed at Tivat Airport.

6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. Tivat Airport employs following equipment for bird control: - Fire Engine horns, manufacture - Stevcevic Co - Star gun, manufacture - BLOM Magnum Model F92 - Shotguns, manufacture - Zastava Kragujevac 6.4 How often do you carry out a bird strike risk assessment, and is this process audited? We do not carry out a bird strike risk assessment.

6.5 What procedures are in place to identify bird species following a bird strike? We do have a procedure for prevention of airports from birds and wildlife which specifies activities, actions and use of bird control equipment and reporting, 6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? So far, there has been no need for these reports.

6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes, our staff logs all the bird control activities regularly on daily basis during regular or extraordinary runway and maneuvering areas checks. These records are maintained and made available to the inspection if required. In case of a bird strike we notify Civil Aviation Authorities of Montenegro immediately.

6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Prevention of access of other wildlife is handled by recent construction of new perimeter fence in accordance with ICAO standard. Additionally, there is a procedure in place for these cases as well.

7. CRASH FIRE RESCUE

7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4x4, 6x6); capacities (l/itre and type); year of manufacture. Airports of Montenegro is in possession of brand new, modern fire vehicles: Type – Panther – 2 units, Chassis – MAN, Axle – 6x6, Capacity – water - 12.000 litres of water; foam - 1500 litres, Year of manufacture - 2004

7.2 Future developments – are there plans to purchase or dispose of any equipment? There are no plans for purchase of new equipment 7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? We do not possess a fire training simulator, but we do practical exercises/drills

8. WINTER SERVICES QUESTIONNAIRE

8.1 Please state how severe the winter conditions are in the airport area (snow, ice, etc.). The airport would be closed under these conditions. However, these conditions are rare at our airport. In the last three years there was no need for closing of the airport due to winter conditions.

9.1 Please rate your airport’s winter service by the following categories: 1 - very unsatisfactory, 2 - unsatisfactory, 3 - satisfactory, 4 - good, 5 - very good

9.2 Future developments – are there plans to change the method of snow clearance on the ground? No, the airport is closed until the snow melts away.

11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility. There is no order of priority of snow clearance as the airport is closed until the snow melts away.

12.1 What model(s) of friction tester do you use? Friction tester – model ASFT – RWY is closed under these conditions. However, these conditions are rare at our airport. In the last three years there was no need for closing of the airport due to winter conditions.

13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved road/surface quality etc. No chemicals are used for de-icing. Due to climate conditions there is no case of pavement covered with ice.

13.7 Do you use other chemicals or sand on operational areas? The sand is used only for cleaning of pavement cracks before these are filled in with a bitumen.

16. FUTURE DEVELOPMENTS

16. Presently there is no winter equipment at the airport and there are no plans for procurement of such equipment
2.2 Landing aids for each RWY (e.g. CAT II): RWY 14: ILS Cat 1, VOR/DME, ND. RWY 32: ILS Cat 1, VOR/DME, ND

7. CRASH FIRE RESCUE
7.1 CFR vehicle inventory: Compact jet sweeper, Schmidt, CJS 720, 4 units
7.3 The airport possesses a Fire Training Simulator, Twin Star Airport Management AD - Varna Airport to your regulatory authority? How often do you report? YES, when the bird strike occur Fraport Twin Star Airport Management AD - Varna Airport Authority immediate reports to Regulatory Authority.
6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) YES, all aspects of bird control are documented.
6.8 Does your airport have problems with other wildlife (sheep,deer, for example) and, if so, how are these issues being addressed? Usually we have no problems with other wildlife.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axes (4x4, 6x6); capacities (kg/litre and type); year of manufacture. CFR vehicle, Tatra 815, 8000l water, 800l foam; 1997; CFR vehicle, Renault Keraks, 10000l water, 1000l foam; 2004, CFR vehicle, Tatra 148, 6000l water, 600l foam; 1981, CFR vehicle, Mercedes 1500, 10000l water, foam 100l; 1990, CFR vehicle, Yelch 325, extinguishing powder 3000 kg; 1987, CFR vehicle, Panther Rozenbauer, 125000l foam, 250kg foam – 3 units
7.2 Future developments – are there plans to purchase or dispose of any equipment? No
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? NO
7.4 If any, list the (nationally filed) differences with ICAO SARPs, specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. Varna Airport has guaranteed 7 RFF category.

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

9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available per shift? 1-2 technician, 4-5 drivers on shift
9.2 How many sub-contracted winter services personnel are available per shift? None

10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment including stating, manufacturer and number of units (For example: compact jet sweeper, Schmidt, CIS 720, 4 units) Unimog dual engine snow sweeper – 2 units, Rotor sweeper – 2 units - ZIL model K 701-1 unit, Plough ZIL 131-1 unit, Plough Knaz-1 unit
11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiways, apron) to start priority of each facility. Runway, Taxiways - A, B, Apron, then all other areas.
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. It depends on the weather condition -/2 hours. Expect to achieve 'black top' on the runway? It depends on the weather condition -/2 hours.

12. FRICTION TESTING
12.1 What model(s) of friction tester do you use? Skidometer VB 11
12.2 What are the typical intervals between friction tests? At the runway check, if precipitations occurred at low temperatures. After each snow or ice removal action, friction testing must be carried out. Friction test is carried out if significant change is expected.
12.3 Have you any comments on the reliability of friction testing? Easy to maintenance.

13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Carbamid-urea - Effectiveness up to minus 5 C, activity up to 30 minutes, duration-4-Hours.
13.2 Comment on storage capabilities of the chemicals which you use. Carbamid approx. St. 13.3 Comment on the attraction of the chemicals with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc. Until now only solid deicers, no experience with mixing ratios with liquid.
13.4 Have you experienced any corrosion problems with de-icers? There are no any corrosion problems.
13.5 Have you employed any special means to economise on chemical use? Not yet. We are planning to purchase new vehicles with precise proportioning.
13.6 Do you have any other comments on experience with chemicals? NO
13.7 Do you use other chemicals or sand on operational areas? NO

14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. VAIASALA-RWY 09/27-1 sensor
14.2 Have you plans to purchase further ice warning systems and if so which model(s)? NO
14.3 Comment on your experiences of the benefits/ disbenefits of ice warning systems. Good

15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti-/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. Yes - DAF FMC- 1 unit, Quantum FMC- 1 unit, Magirus -1unit. We use 'Clariant' de-icing product, trade name-Safewing MP II 1951 airframe. Producer- Clariant
-1unit. We use 'Clariant' de-icing product, trade name-Safewing MP II 1951 airframe. Producer- Clariant
15.2 Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Parking area is used.
15.3 Is glycol recovered? If so, please state methods. NO

16. FUTURE DEVELOPMENTS
16.1 Are you about to change any of your airport’s landing aids (snow clearing/vehicle formations, for example) It depends on the purchase of new winter equipments, afterwards on the change of technology and methods.
16.2 Are there areas of your winter operations which require improvement? It depends on the weather and the concrete conditions.
16.3 Do you plan to purchase new equipment or vehicles? If so, please provide details. YES
16.4 Do you have any new equipment or other products on order? If so, please provide details including manufacturer and number of units. No
16.5 Do you have any winter services equipment which you would like to sell? NO

VIENNA

PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT INFORMATION
1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/ airfield operations management. Contact information: Department: Rescue and Airport Operations, Oliver Russ, Vienna International Airport, 1300 Wien-Flughafen, PO. Box 1, Austria – Europe, Phone: +43 1 7007 23085, Fax: +43 1 7007 25320, Email: o.russ@viennainternational.com
1.2 Airport ICAO code and category: LDWW, 4E
2. MOVEMENT AND MANOEUVERING 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), Runway width, shoulder widths, total apron area, ramp area, other): RWY 11/29 – 3500m length – TORA: 3500m – 45m width – 7,5m shoulders. RWY 16/34 – 3800m length – TORA: 3600 – 45m width – 7,5m shoulders. TWs: TTL 22km – 23m width – 4,5m shoulders. Apron: TPL approximate 1,000,000 m²
2.2 Landing aids for each RWY (e.g. CAT II): RWY 11 & 34; CAT I. RWY 16 & 29: CAT IIIb
3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. The implementation was finished by end of August 2007. Parts of the SMS: Safety Committees, non punitive reporting system, Hazard Identification, Risk Analasys, Audits. All apron users have access to an internet site to receive latest information about SMS, airside safety, apron activities and other useful information.
3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Changes are made either re- as also proactive whenever a risk or hazard is identified.
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training, Flyers and Handouts for the prevention of FOD.
   b) Inspection by airline, airport, and airplane handling agency personnel. Several Audits; checks by airport operations duty-officers and marshaller
   c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc).
   d) Co-ordination of multiple agencies using airport (airlines, handing agents etc). Ramp Safety Committee
   4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments.) No

5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground?
5.2 Are any design or engineering changes being undertaken/requisite to eliminate perceived hazards? Cars on the maneuvering areas are equipped with transponders to become visible on the Advanced Surface Movement Guidance and Control System
5.3 What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment) A-SMGCS – ASTOS – AVBIT
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? Recurrent training of vehicle operators (maneuvering area). Short time works only under supervision of trained staff.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? Incidents and safety relevant matters can be reported non punitive (Safety Report)

6. BIRD AND WILDLIFE CONTROL
6.1 Do you staff attend recognised bird control training courses? Internal Training
6.2 Are your bird control staff working on the airfield a) continuously? Yes
6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer.
6.4 How often do you carry out a bird strike risk assessment, and is this process audited? Part of SMS
6.5 What procedures are in place to identify bird species following a bird strike? Staff is familiar with bird species.
6.6 Do you collate bird strikes and report numbers to your regulatory authority? How often do you report? Yes, once a year
6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Yes
6.8 Does your airport have problems with other wildlife (sheepdeer, 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, 8x8); capacities (litre/tonne) and year of manufacture. Several vehicles fulfill ICAO CAT 9 requirements for both RWY’s
7.2 Future developments – are there plans to purchase or dispose of any equipment? No
7.3 If your airport possesses a Fire Training Simulator, is this available to other airports for training purposes? Yes – it’s used by all Austrian Airports.
7.4 If any, list the (nationally filed) differences with ICAO SARPs specifically on the guaranteed RFF category in relation to the largest aircraft regularly using the airport. No

PART 2: WINTER SERVICES QUESTIONNAIRE
8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? Oct. 15th to Mar. 31st.
8.2 Average annual days of snow: 20
8.3 Average snow depth: 100cm
8.4 Maximum snow in one month: 30cm
8.5 Annual number of days of de-icing activities: 50
9. WINTER ORGANISATION
10. WINTER EQUIPMENT INVENTORY

10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units (for example: compact jet sweeper CJS 720, 4 units) Jetbroom Runway, Boschung, 10; Jetbroom JB8800, Boschung, 6; Snowblower, Kalibhrcher, 7; Snowplough, Mercedes Unimog, 8; Tractor with Snowplough, Stuy, 8; Liquid Deicer, Kupper Weisser, 20000l, 3; Multi Deicer, solid wet, Schmidt-Nido, 1; Small Multifunction Deicer with plough or brush, Boschung Pony, 6, PflauSchmidt, 3

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 & Apron, 2. TYW’s

11.2. State the vehicles, formations and general method of runway, taxiway and apron clearance. RWY: 10 JetbroomRunway, 3 Snowblower, 2 Unimog with plough – one run concept, TYW: RWY vehicles according to RWY width, APRON:6 Jetbroom JB8800, several Snowplough’s and other available vehicles.

11.3. After removal of snow, how quickly do you expect to achieve ‘black top’ on the runway? Staff to be expected on the airport after 75min. “black top” well within 30min.

12. FRICTION TESTING

12.1. What model(s) of friction tester do you use? Skiddometer

12.2. What are the typical intervals between friction tests? According ICAO standard’s

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

13. EXPERIENCE WITH CHEMICALS

13.1. State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Vehicles acc. to 10.1.

13.2. Comment on storage capabilities of the chemicals which you use. 500000l liquid, 40000kg solid

13.3. Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. application sold with 35% liquid deicer

13.4. Have you experienced any corrosion problems with de-icers? Yes

13.5. Have you employed any special means to economise on chemical use? Heightened rate of solid de-icing chemicals combined with mechanical clearing

13.6. Do you have any other comments on experience with chemicals? Deicing material must be environment friendly and is consequently less effective and very expensive.

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

14. ICE WARNING SYSTEMS

14.1. State model and number of ice warning systems. Findlay Irvine ICERT V1.3

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

14.3. Comment on your experiences of the benefits/disbenefits of ice warning systems. Around 0°C questionable reliability

15. AIRCRAFT DE-ICING

15.1. Does the airport directly provide aircraft anti- de-icing services? No, please state vehicle or other facility manufacturers, and number of units. 14 Westergaard Elephant Beta

15.2. Are you required to have dedicated de-icing positions or do you de-ice on the other operational areas? Yes, it’s applied in steps to the clarification plant.

16. FUTURE DEVELOPMENTS

16.1. Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example) No

16.2. Are there areas of your winter operations which require improvement? No

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

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

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

Vacuum-sweepers, 1 airport compact vacuum-sweeper and 1 airport sweeper are used...

d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). Coordination is being underway by Artport.

4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments.) Monitoring of FOD is carried out by the appointed employees and duty managers of airfield maintenance service.

5. RUNWAY INCursion PREvENTION

5.1. What is the primary method of monitoring vehicle and aircraft movements on the ground? Access to the runway is controlled by ATM. Movement of vehicles in the apron is being monitored by responsible Airside Traffic Safety Manager and Aviation Security Service.

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

5.3. What safety devices are currently employed? (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment). No, installation of the A-SMGCS is in process.

5.4. Comment on the use of any innovative warnings or guards – use of paint, signs, lighting and other lower-cost technologies. Surface painted signs, marking lights, airport signage.

5.5. What specific procedures are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Airport operator has established airside drivers training programme and airside traffic regulations. All drivers working airside must pass training course. Only very limited number of experience drivers after additional special course (radio communication training is included) can enter the manoeuvring area if control tower gives permission. Other persons can enter manoeuvring area only with special escort.

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 information regarding runway safety is gathered by the Aerodrome Safety Manager. Aerodrome operators safety policy declares ‘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. Habitat management policy is based on preventive works: grass cutting, bush and tree liquidation in the airside area, runway and taxiways vacuum cleaning in order to remove possible food. All these measures are preventing nesting and nourishment of birds.

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

6.2 Are your bird control staff working on the airfield. a) continuously? We do not have special bird control staff. Airport Fire and Rescue Service observer is in charge for permanent observation of the airside area and reporting about bird concentration. Aerodrome Maintenance duty engineer and Airport Perimeter Security Team is observing the airfield as well and they are tasked to do bird dispersal actions (they have bird dispersal equipment).

6.3. What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, protective lights, falcons) Please state relevant supplier/manufacturer. Bird dispersal devises PATROL TWO (iSCARECROW BIO-ACOUSTIC SYSTEMS Ltd), Pyrotechnics (Czech and England (PRIMETAKE LTD) origin), shotguns, handheld repeller pistols.

6.4. How often do you carry out a bird strike risk
assessment, and is this process audited? Twice per year, before bird migration. We rise this questions on the safety committee meetings, send bird strike reports to responsible persons (see 6.2). The process is not audited.

6.3 If your airport possesses a Fire Rescue station. 2. Taxiways “B”, “E”, “D”, Apron. 3. Service roads, cars parking areas and other areas.

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. Runway and taxiways: When the wind is calm (up to 3-5 m/s) or in absence of strong side winds, snow removal is performed side wise from the centre line to the edge of the paved surface. With strong side winds the removal starts from the windward side of the surface and moves to the lee side. Formation of 4-6 universal snow sweepers are used. Apron: Usually two groups, each 3-4 vehicles work in circle or shuttle manner. First of all they try to clean apron taxiways and stand taxi lanes We accumulate snow temporarily in snow disposal areas and than load on trucks and carry to assigned remote and dry areas. All works performed in cooperation with ground handling companies.

11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 30 minutes.

12. FRICTION TESTING

12.1 What model(s) of friction tester do you use? 1 x SARSYS trailer friction tester ST-FT 300, 1 x Mu Meter (MUM),

12.2 What are the typical intervals between friction tests? Inspections are carried out not less then four times per day. Friction tests: - immediately when runway and taxiways surface changes occur; - after end of snow and ice cleaning; - on “tower” request or when is suspected that runway conditions are not safe. No data available. Do you have any comments on the reliability of friction indexes. No.

13. EXPERIENCE WITH CHEMICALS

13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved hoildover times etc. Quantities used last season: UREA – 380.000 kg, Cleary SF-3 – 23000 kg, Cleanway F-1 – 35000 l. UREA is effective at the temperatures over - 5°C and UREA solution is effective over - 2°C. Fluid Cleanway F-1 and Cleanway F-1 are not used at the temperatures lower then -15°C. The Chemicals have anti-icing effect from 2 to 4 hours or more depending on weather conditions. 13.2 Comment on storage capabilities of the chemicals which you use. We have storage capabilities for up to 150.000 kg of solid and 72.000 l of liquid materials. 13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. Mixing ratios of solid with liquid de-icers is 1:1. 13.4 Have you experienced any corrosion problems with de-icers? Yes, UREA effects corrosion of metal and concrete constructions.

13.5 Have you employed any special means to enhance effectiveness of chemicals at low temperatures and reliability of friction indexes. No. 13.6 Do you have any other comments on experience with chemicals? No. 13.7 Do you use other chemicals or sand on operational areas? No.

14. ICE WARNING SYSTEMS

14.1 State model and number of ice warning systems. New Vaisala Ice Cast Ice Warning and Prediction System with 3 sensors points is installed on the runway. 14.2 Have you plans to purchase further ice warning systems and if so which models? No. 14.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. No.

15. AIRCRAFT DE-ICING

15.1 Does your airport currently provide aircraft anti-ice/ de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. Airport operator does not provide anti/de-icing operations, they are covered by the ground handling companies. 15.2. Are there any dedicated de-icing positions or do you de-ice on the parking area? On the parking areas.

15.3 Is glycol recovered? If so, please state methods. Glycol is not recovered.

16. FUTURE DEVELOPMENTS

16.1 Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example). No.

16.2 Are there areas of your winter operations which require improvement? No.

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

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

16.5 Do you have any winter services equipment which you would like to sell? No.
4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION

4.1 Describe your airport’s programme to control FOD in terms of:
   a) Training. All employees working at the apron and the manoeuvring areas are trained before obtaining permission to work. FOD prevention is included in Manual on Vehicular and Personnel Movement Regulations at Warsaw Airport. New FOD prevention procedure has been implemented.  
   b) Inspection by airline, airport, and airplane handling agency personnel. Aircraft parking stand inspection is performed by handling agents’ personnel. Marshaller and Follow Me (airport personnel) are obliged to check a/c parking stand before every taxi-in of an a/c and to monitor the taxiways and the other aprons.
   c) Maintenance (use of sweeping, magnetic bars, number of sralists (at least 1/2). Mechanical sweeping equipment is used, FOD containers are installed.
   d) Co-ordination of multiple agencies using airport (airlines, handling agents etc). No formal programme of coordination has been established, however the procedures for removing debris from the paved areas on the airside have been implemented – all activities are controlled and supervised by the Airport Duty Officer.

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

5. RUNWAY INCISION PREVENTION

5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? In VMC, primary method is visual monitoring done by ATC. The Surface Movement Radar (SMR) is treated as an advisory measure. During LVP, primary device is SMR. Additionally, the Airport Duty Officer is monitoring TWR and GND frequency and dedicated frequency for communication between ATC and vehicle drivers.

5.2 Are any design or engineering changes being undertaken to eliminate perceived hazards? Implementation of bidirectional stop bar at TWy J to prevent incursion into RWY15-33; Change of stop bar location at TWy A4 to reduce confusion and prevent incursion into RWY11-29; Implementation of RWY guard lights on TWy A4 and on the service roads with access to the runways; Implementation of 24 hrs/day stop bar and RWY guard lights on TWy M3 to prevent incursion into RWY11-29.

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) Basic SMGCS, A-SMGCS to be improved with ANPAS (Polish Air Navigation Services Agency)

5.4 Comment on the use of any innovative warnings or advisory measure. During LvP, primary device is SMR. Primary method is visual monitoring done by ATC. Bio-acoustic ULTIMA systems in 2009.

5.5 What other systems are there for training and awareness among pilots, controllers, mechanics, airport vehicle operators, and other people who work at the airport? Manual on Vehicular and Personnel Movement Regulations at the Warsaw Airport describing the rules of vehicular and pedestrian traffic on the airside have been implemented – all activities are controlled and supervised by the Airport Duty Officer.

5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no-penalty’ reporting? The reporting system established in accordance with the relevant national regulations (reports from the airport, ATC, airline and the State Commission on Aircraft Accident Investigation). All runway-related reports are investigated by the Runway Safety Team established at the aerodrome. Non-punitive principles have been implemented in the national regulations concerning the 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. Description of fences, agro-technological works – grass cutting to height which is not attractive to birds, acoustic bird dispersal system installed at each approach area and at runway crossing (10 units), use of pyrotechnic shotgun, development of a map of different bird species and development of a map of birds’ migration routes near the airport, control on pigeon breeding around the airport – with assistance of the Police, the City Guard, and land owners.

6.2 Do you share any recognised bird control training courses? Scientific Conference in D blin (Poland) 2009

6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. acoustic bird dispersal system (Recorded distress calls) – 10 units – BG SUPER PRO AMP BirdControl; pyrotechnic shotgun – 1 piece – mod. 36 Combat; RECK; falcon – 6 falcons; plans to purchase Scarcover Bio-acoustic ULTIMA systems in 2009.

6.4 How often do you carry out a bird strike risk assessment, and is this process audited? Bird strike risk assessment is done once a year, the process is audited.

6.5 What procedures are in place to identify bird species following a bird strike? No formal procedures, falconer makes the assessment according to his experience.

6.6 Do you collate bird strike and report numbers to your regulatory authority? How often do you report? Bird strikes are reported to the State Commission on Aircraft Accident Investigation (within 72 hours) and, once a year, to the Polish Civil Aviation Office.

6.7 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Presence of different kinds of birds on or close to the manoeuvring area is logged and analysed during patrols.

6.8 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being dealt with? There is a small population of hares and a few foxes. According to the national law, a special permission is required to hunt animals (sheep/deer, for example) and, if so, how are these issues being dealt with?

6.9 What procedures are in place to identify different bird kinds’ presence, development of a map of birds’ migration routes near the airport, control on pigeon breeding around the airport – with assistance of the Police, the City Guard, and land owners.

6.10 What is the primary method of monitoring bird strikes? no

6.11 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. acoustic bird dispersal system (Recorded distress calls) – 10 units – BG SUPER PRO AMP BirdControl; pyrotechnic shotgun – 1 piece – mod. 36 Combat; RECK; falcon – 6 falcons; plans to purchase Scarcover Bio-acoustic ULTIMA systems in 2009.

6.12 How often do you carry out a bird strike risk assessment, and is this process audited? Bird strike risk assessment is done once a year, the process is audited.

6.13 What procedures are in place to identify bird species following a bird strike? No formal procedures, falconer makes the assessment according to his experience.

6.14 Do you collate bird strike and report numbers to your regulatory authority? How often do you report? Bird strikes are reported to the State Commission on Aircraft Accident Investigation (within 72 hours) and, once a year, to the Polish Civil Aviation Office.

6.15 Do your staff log all their bird control activities? (to manage success in dealing with the problem, and to use in defence in case of lawsuits) Presence of different kinds of birds on or close to the manoeuvring area is logged and analysed during patrols.

6.16 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being dealt with? There is a small population of hares and a few foxes. According to the national law, a special permission is required to hunt animals (sheep/deer, for example) and, if so, how are these issues being dealt with?
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 11/29; 2. 3358: 9000l / 1000l; 3. FE 27.410: 9100l water, 1240l foam; 4. Available [TORA], RWY width, shoulder widths, total RWy length (or lengths), Take Off Runway Area (TORA), 2000m 45m TORA 2500m, USS 04/22 2000m 45m TORA 2000m, Apron area: 32420m2 

11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance. Snow Plough + Snow Sweepers formations first remove snow, then use 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. FRICTION TESTING
12.1 What model(s) of friction tester do you use? ASF Equipment SAAB 900 and SAAB 9000 and Grip Tester.

12.2 What are the typical intervals between friction tests? Usually once per day, but it depends on traffic and weather conditions. Decision is taken by Duty Officer.

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

13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Safety/Compliant de-icers are used at Tarmac Airport Airfield.

13.2 Comment on storage capabilities of the chemicals which you use. Liquid de-icer is stored in 4 x 60, 90 and 48 litre tanks.

13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc. No comments.

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

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

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

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

14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. ICE ALERT Boschung.

14.2 Have you plans to purchase further ice warning systems and if so which model(s)? Yes comments.

14.3 Comment on your experiences of the benefits/ disbenefits of ice warning systems. Good.

15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti/ de-icing operations? If so, state vehicle or other facility manufacturers, and number of units. No, the airport doesn’t provide aircraft anti/de-icing operations. Facility manufactures, and number of units. Yes comments.

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

15.3. Is glycol recovered? If so, please state vehicle or other facility manufacturers, and number of units. No comments.

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

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

15.6. Do you have any comments on experience with solid de-icers, for example mixing ratios with liquids, "blow-away factor" etc. No comments.

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

16. FUTURE DEVELOPMENTS
16.1. Are you about to change any of your airport’s methods? (snow clearing vehicle formations, for example)? Different methods and patterns in the columns of snow plow runners will still be tested to obtain more effective results.

16.2. Are there areas of your winter operations which require improvement? Snow/ice clearing of RWY and Aprons at the same time.

16.3. Do you plan to purchase new equipment or vehicles? If so, please provide details. Yes, we plan to purchase new equipment or vehicles. 10 x Oyeransen RS 400 runway sweepers with plough and brushes, 3 units in 2010, 3 units in 2011 and 4 units in 2012.

16.4. Do you currently have equipment or other products on order? If so, please provide details including manufacturer and number of units. 10 x Oyeransen RS 400 runway sweepers with plough and brushes, 3 units in 2010, 3 units in 2011 and 4 units in 2012.

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

b) at least every hour? Yes


16.7. Do you collide bird strikes and report numbers to your regulatory authority? How often do you report? Every month.

16.8. 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.

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

7. CRASH FIRE RESCUE
7.1. Please detail your CPT vehicle inventory stating: vehicle type: chassis (e.g. MAN); axles (4x4, 6x6); capacities (kg/ltre and type); year of manufacture. MAN FE FT 27.180, FZ 12000, 12000 FT. MAN FE 27.410, 9100l water, 1240l foam; Mercedes actors 3358: 9000l / 1000l; VOLVO F 1220: 9000l / 1000l.

7.2. Future developments — are there plans to purchase or dispose of any equipment? At this moment no comments.

8. RECENT WINTER CONDITIONS
8.1. What is the designated period of winter readiness? 8.2. Average annual days of snow: 1 to 5 days if any.

8.3. Annual number of days of de-icing activities: between 20-40 days.

9. WINTER ORGANISATION
9.1. How many airport-employed winter services personnel are available per shift? 4 comments.

10. WINTER EQUIPMENT INVENTORY
10.1. Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units. (For example: compact jet sweeper, Schmidt, CIS 720, 4 units) Deicing vehicle one unit.

15. AIRCRAFT DE-ICING
15.1. Does the airport directly provide aircraft anti/ de-icing operations? If so, please state vehicle or other facility manufacturers, and number of units. Yes comments.

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

16. FUTURE DEVELOPMENTS
16.3. Do you plan to purchase new equipment or vehicles? If so, please provide details. GPU, Towing vehicles, baggage carts, deicing vehicle.

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

ZÜRICH
PART 1: GENERAL AIRSIDE SAFETY
1. AIRPORT INFORMATION
1.1 Please insert your airport name and full contact information (phone, fax and e-mail) for safety/airfield operations management. Contact information: Unique Flughafen Zürich AG, Postfach, CH- 8058 Zürich-Flughafen. For winter operations management: Hanspeter Molti, Head of Airfield Maintenance, tel.: +41 (0) 43 816 21 36, fax.: +41 (0) 34 816 47 15, mailto: hanspeter.molti@unique.ch. For airport safety: Daniel Bircher, Safety Officer, tel.: +41 (0) 43 816 72 21, fax.: +41 (0) 34 816 83 36, mailto: daniel.bircher@unique.ch. 

1.2 Airport ICAO code and category: LDZD 4D.

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, Tarmac Area, Available [TORA], RWY width, shoulder widths, total apron area, ramp area, other): US 14/32 2500m 45m TORA 2500m, US 04/22 2000m 45m TORA 2000m, Apron area: 32420m2.

2.2 Landings aids for each RWY (e.g. CAT II): US 14/32 CAT I, US 04/22 Simple approach.

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAM Manual on Certification of Aerodromes specifies that: “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction: 04.05.2008.

3.2 Has your airport made any changes to its Safety Management System following the reappraisal of risks and hazards identified by internal/external SMS audits? No comments.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of: a) Training. Every employee has certificate of airside safety. This certificate cover FOD training, b) Inspection by airline, airport, and airline handling agency personnel. Every day inspection by airport staff, c) Maintenance (use of sweeping, magnetic bars, rumple strips, FOD containers etc). FOD containers, sweeper.

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

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

5.2 Have you any comments on the reliability of 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 comments.

6. BIRD AND WILDLIFE CONTROL
6.1 Please describe your airport’s policy and how it reduces the attraction of the airfield to birds. Removing food source, scaring with sounds.

6.2 Do you staff attend recognised bird control training courses? Some courses in Croatia, yes.

6.3 Are your control staff working on the airfield a) continuously?
5. RUNWAY INCURSION PREVENTION
5.1 What is the primary method of monitoring vehicle and aircraft movements on the ground? The primary method of monitoring vehicles and aircraft movements on the ground is visually supported by cameras and A-SMGCS during Low Visibility.
5.2 Are any design or engineering changes being undertaken/required to eliminate perceived hazards? One of the most hazardous RWy Intersections was physically closed. Designing standard taxi routes reduced taxi complexity significantly. Enhanced intersection equipment raises pilot’s awareness.
5.3 What safety devices are currently employed (A-SMGCS; Airport Movement Area Safety System - AMASS; or ASDE-X, the Model X Airport Surface Detection Equipment)? Zurich is operating the A-SMGCS with the integration of the Approach radar, two ASDE and a Multilateration-System (also called ASDE-X). 5.4 Comment on the use of any innovative weapons - guards of use, paint, signs, lighting and other lower-cost technologies. All Runway holding positions are adequately marked (including an additional red “RWY Ahead” marking) and equipped with red stop bars and wig-wag. RWY-Stop bars are operated (except line-up positions) during the whole airport operation time (also in good weather and daylight conditions).
5.5 What specific procedures are there for training and awareness raising? Risk management, emergency procedures, mechanics, airport vehicle operators, and other people who work at the airport? The Local Runway Safety Team is organising awareness campaigns to address identified hazards and to promote incident investigation findings. Furthermore, licensing requirements were introduced for all vehicle drivers on the airfield (including initial training, skill test and periodical refresher). In 2009 a Runway Incursion Prevention video was released which is also available on the EUROCONTROL homepage.
5.6 Have the reporting procedures for runway safety incidents been set up jointly with other parties active in these processes? Further, do they safeguard the ‘non-punitive’ principles such as ‘no penalty’ reporting? The Local Runway Safety Team has established a common runway incursion database. Furthermore, a bi-annual “Runway Safety Report” to monitor trends in incursion numbers and effectiveness of measures is published. Each runway incursion is analyzed in the runway incursion investigation team at Zurich Airport. A report will address various topics in form of safety recommendations.
6. BIRD AND WILDLIFE CONTROL
6.1 Please detail your habitat management policy and how it reduces the attraction of the airfield to birds. Pure grass management and no agriculture. Long grass management with cut stop by the end of September, such that the grass surfaces can regenerate to the necessary height of 15-20 cm. No fertilizations.
6.2 Do your staff attend recognised bird control training courses? Yes. The co-workers of the Airport Authority, the environment caretakers and the hunter are trained by the bird strike supervisor.
6.3 What specialist equipment do you employ for bird control? (Recorded distress calls, pyrotechnics, shotguns, dogs, lasers, falcons). Please state relevant supplier/manufacturer. For controlling stationary and mobile variances (e.g. geese), the following equipment is used: (signal pistol type Heckler & Koch P2A1 with signal rockets, and Röhm Revolvers RG 56) are used. Various others for hunting permitted firearms are used. In case of lawsuits yes. Bird strike control reports are filed out by the staff. The bird strikes are also listed in the daily airport operation service journal.
6.4 Does your airport have problems with other wildlife (sheep/deer, for example) and, if so, how are these issues being addressed? Yes with deer. The deer are hunted during open season.

7. CRASH FIRE RESCUE
7.1 Please detail your CFR vehicle inventory stating: vehicle type; chassis (e.g. MAN); axles (4X4, 6X6); capacities (light and type); year of manufacture.
7.2 Future developments – are there plans to purchase or dispose of any equipment? Yes. New command vehicle (at the end of 2006, Volvo XC90):
7.3 If your airport possesses a Fire Training Simulator, please detail what make and model it is. Yes. We are collecting bird strike messages from the main carrier Swiss. This enables us to identify a bird strike rate per 10,000 movements operated by Swiss. The total evaluation is reported annually to the FOCA.
7.4 Do your staff log all their bird control activities? Yes. We’re collecting bird strike messages from the main carrier Swiss. This enables us to identify a bird strike rate per 10,000 movements operated by Swiss. The total evaluation is reported annually to the FOCA.
8. FIRE RISKS
8.1 Please detail your water supply system stating: water source; water/pump capacities (kg/litre and type); year of manufacture.
8.2 Future developments – are there plans to purchase or dispose of any equipment? No. The water supply system is audited at least once a year and is always being audited at least once a year.
8.3 Do your airport have problems with other hazards? No. The structures are regularly being audited and maintained. The airport is audited (recertification) by the Swiss CAA in September of 2008. Any SMS audits are still pending. The SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Continuous improvement process with many changes, e.g. Adjustments in the low visibility process, in fueling section and the towing procedures. The Safety Policy was also adapted and communicated to all airport staff. External SMS audits are still pending.

3. SAFETY MANAGEMENT SYSTEMS
3.1 The ICAO Manual on Certification of Aerodromes specifies that “The aerodrome operator shall establish a Safety Management System for the aerodrome with a view to ensuring that operations are carried out in a demonstrably controlled way and are improved where necessary.” Please outline the SMS for your airport, and the date of its introduction. Unique (Zurich Airport) has received the Airport Certification by June 2006. Thus, it is the first certified Swiss airport. The Safety Management System consists of four pillars: Firstly, a Safety Policy (with corresponding targets and safety performance indicators), secondly, a Safety Management (including hazard & risk assessment, safety organisation with a airport safety committee, a ramp safety committee, a local runway safety team, a bird strike committee and snow committee), thirdly the safety monitoring (including an occurrence reporting) and finally the continuous improvement (including audits and inspections). Zurich Airport was audited (recertification) by the Swiss CAA in September of 2008. The audit was successfully accomplished.
3.2 Has your airport made any changes to its SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Continuous improvement process with many changes, e.g. Adjustments in the low visibility process, in fueling section and the towing procedures. The Safety Policy was also adapted and communicated to all airport staff. External SMS audits are still pending.
3.3 Are there any special systems or software you employ for FOD prevention? Zurich raises the issue of FOD on a regular basis. The Ramp Safety Culture is sensitized to the topic by special trainings and distributed flyers and CDs. The Ramp Safety Culture is sensitized to the topic by special trainings and distributed flyers and CDs. The Ramp Safety Culture is sensitized to the topic by special trainings and distributed flyers and CDs.
3.4 Has your airport made any changes to its systems for FOD and remove it. Specially marked FOD bins are distributed across the airport. Specially marked FOD bins are distributed across the airport. Safety organisation with a airport safety committee, a ramp safety committee, a local runway safety team, a bird strike committee and snow committee), thirdly the safety monitoring (including an occurrence reporting) and finally the continuous improvement (including audits and inspections). Zurich Airport was audited (recertification) by the Swiss CAA in September of 2008. The audit was successfully accomplished.
3.5 What specific procedures are there for training and awareness raising? Risk management, emergency procedures, mechanics, airport vehicle operators, and other people who work at the airport? The Local Runway Safety Team is organising awareness campaigns to address identified hazards and to promote incident investigation findings. Furthermore, licensing requirements were introduced for all vehicle drivers on the airfield (including initial training, skill test and periodical refresher). In 2009 a Runway Incursion Prevention video was released which is also available on the EUROCONTROL homepage.
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-punitive’ principles such as ‘no penalty’ reporting? The Local Runway Safety Team has established a common runway incursion database. Furthermore, a bi-annual “Runway Safety Report” to monitor trends in incursion numbers and effectiveness of measures is published. Each runway incursion is analyzed in the runway incursion investigation team at Zurich Airport. A report will address various topics in form of safety recommendations.
3.7 Is there a plan for a maintenance program for the runway? Yes. We are collecting bird strike messages from the main carrier Swiss. This enables us to identify a bird strike rate per 10,000 movements operated by Swiss. The total evaluation is reported annually to the FOCA.
3.8 Do your staff log all their bird control activities? Yes. We’re collecting bird strike messages from the main carrier Swiss. This enables us to identify a bird strike rate per 10,000 movements operated by Swiss. The total evaluation is reported annually to the FOCA.
3.9 Are there any plans to purchase or dispose of any equipment? No. The water supply system is audited at least once a year and is always being audited at least once a year.
3.10 Do your airport have problems with other hazards? No. The structures are regularly being audited and maintained. The airport is audited (recertification) by the Swiss CAA in September of 2008. Any SMS audits are still pending. The SMS following the reappraisal of risks and hazards identified by internal/external SMS audits? Continuous improvement process with many changes, e.g. Adjustments in the low visibility process, in fueling section and the towing procedures. The Safety Policy was also adapted and communicated to all airport staff. External SMS audits are still pending.

4. FOREIGN OBJECT DAMAGE (FOD) PREVENTION
4.1 Describe your airport’s programme to control FOD in terms of: a) Training. All airport partners and their staff are sensitized to the topic by special trainings and distributed flyers and CDs. The Ramp Safety Culture Zurich raises the issue of FOD on a regular basis. b) Inspection by airline, airport, and airplane handling agency personnel. Checks are accomplished by the Airport Authority. For necessary punctual cleansings, the sweeping service is assigned. c) Maintenance (use of sweeping, magnetic bars, rumble strips, FOD containers etc) Stands: Two cleaning teams are on duty 7 days/week from 3:30 to 21:30 o’clock. During the remaining time an on-call service is established. The early shift cleans daily all airplane stand surfaces at least once. When necessary, additional special cleaning can be ordered by Apro Control, and/or the Airport Authority. Apro and Taxi Areas: Same procedure and cleaning teams as for the stands; cleaning interval twice a week. Runways: No regular cleaning concept. However cleaning is done when necessary and requested and after maintenance work, bird strike incidents, etc. Runways are inspected four times a day. d) Coordination of multiple agencies using airport (airline, 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 distributed across the airport. The airport is audited (recertification) by the Swiss CAA in September of 2008. The audit was successfully accomplished.
4.2 General: Are there any special systems or software solutions you employ for FOD control? (Please specify product name and add any comments.) Currently no such software based reporting system exist. However Airfield Maintenance department is planning to evaluate an appropriate tool.
PART 2: WINTER SERVICES QUESTIONNAIRE

8. RECENT WINTER CONDITIONS
8.1 What is the designated period of winter readiness? Winter readiness is from 20 October through 17 April.
8.2 Average annual days of snow: Annual days of snow approx. 27 days
8.3 Average snow depth: Average snow depth 90 cm
8.4 Maximum snow in 24 hours: 13 cm, 27, December 2008
8.5 Annual number of days of de-icing activities: De-icing activities during 35 days

9. WINTER ORGANISATION
9.1 How many airport-employed winter services personnel are available per shift? Airport employees number 54 per shift (total 146)
9.2 How many sub-contracted winter services personnel are available per shift? Contractors number 70 per shift (total 199)

10. WINTER EQUIPMENT INVENTORY
10.1 Please list snow clearing, de-icing and other relevant winter equipment stating purpose, manufacturer and number of units. (For example: compact jet sweeper, Schmidt, CJ5 720, 4 units)
- Snow clearance airside (unique owned equipment): compact jet sweeper – Boschung, plough 6m X 9; compact jet sweeper – Boschung, plough 8.4m X 7; airblaster sweeper – Schörling, P-17B X 8; rotary snow – Øveraasen, TV 2000 X 1; rotary snow – Rolba, R-10’000 X 1; rotary snow – Rolba, R-3’000 X 1; rotary snow / loader – Bucher, R-600 X 1; loader / blower – Schmidt, Super X 3; snow-blade* - Ramphog, 6m X 1; snow-blade Øveraasen, 6m X 1; snow-blade – Ammann, 6m X 1; plough** - Peter, 6m X 16; plough** - Peter / Zaugg, 4m X 32; truck (for plough) – Mercedes, X 3; * truck from contractors, ** truck from contractors, De-icing vehicles: multi de-icer - Küpper-Weisser, 20m X 4; Multi de-icer - Küpper-Weisser, 8m X 2; multi de-icer – Pony, 4m X 2. Snow-clearance landside: plough / gritter – Unimog, 1; plough / gritter – Fendt X 3; plough* - various X 2; plough / Pony – Zaugg, 1,5m X 1; plough / Holder – Zaugg, 1,5m X 2; * truck from contractor, Contractors airside snow depositions: V-deportation trucks – various X 13-30; dumper – various X 4; wheel loader – various, 3m3 X 6

11. PROCEDURES AND METHODS
11.1 Please state here order of priority of snow clearance of main operational facilities (runways, taxiway, aprons etc) stating identity of each facility. Air- and landside have equal priorities. First priority airside: - RWY 16/34, 3.7 km (incl. TWy’s) - RWY 10/28, 2.5 km (incl. TWy’s) - RWY 14/32, 3.3 km (incl. TWy’s) - Apron (docks’ area snow clearance), all non-covered parking lots - Apron / apron-taxiways. Second priority airside: - Service roads - Maintenance areas - General Aviation area
11.2 State the vehicles, formations and general method of runway, taxiway and apron clearance.. Two formations with 7-8 trucks (mounted plough, blow-sweeper each), 2 trucks (mounted plough only), 1 rotary snow
11.3 After moderate snow, how quickly do you expect to achieve ‘black top’ on the runway? 45 minutes

12. FRICTION TESTING
12.1 What model(s) of friction tester do you use? BV-11; 2 units (modernization)
12.2 What are the typical intervals between friction tests? Friction testing is carried out as soon as weather conditions are changing
12.3 Have you any comments on the reliability of friction indexes? No

13. EXPERIENCE WITH CHEMICALS
13.1 State which pavement de-icers you use, along with the quantities used last season. Comment on effectiveness of chemicals at low temperatures and achieved holdover times etc. Axflow L50, ca.
13.2 Comment on storage capabilities of the chemicals which you use. Storage capacity 500’000 litres 24 hour additional supply guaranty
13.3 Comment on your experience with solid de-icers, for example mixing ratios with liquids, “blow-away factor” etc. Tests during the last and the coming winter season are being carried out with acetates and formates
13.4 Have you experienced any corrosion problems with de-icers? Some problems with corrosion at vehicles
13.5 Have you employed any special means to economise on chemical use? Heated aircraft stands at the docks A
13.6 Do you have any other comments on experience with chemicals? No
13.7 Do you use other chemicals or sand on operational areas? No

14. ICE WARNING SYSTEMS
14.1 State model and number of ice warning systems. Boschung system 2000; 3 sensors per RWY (9 in total), 6 sensors in the apron area)
14.2 Have you plans to purchase further ice warning systems and if so which model(s)? Facilities will be extended at the airport-expansion
14.3 Comment on your experiences of the benefits/disbenefits of ice warning systems. The system is a good aid in monitoring the weather impact in connection with winter services

15. AIRCRAFT DE-ICING
15.1 Does the airport directly provide aircraft anti/de-icing operations? If so, please state vehicle or other facility manufactures, and number of units. No
15.2. Are you required to have dedicated de-icing positions or do you de-ice on the parking area? Both, dedicated de-icing positions (de-icing pad F and C) and on-stand de-icing.
15.3 Is glycol recovered? If so, please state methods. Yes, glycol is recovered. The material is collected in storage basins for wastewater treatment. On 20 hectares it is treated for biological degradation by micro organisms of the soil. The high concentrated part is distilled and recycled; the rest as carbon denitrification goes to the Zurich waste water treatment or on a sludge stabilisation digesting tower.

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

DYNA TEST INTERNATIONAL A/S and Douglas Equipment Limited Special Products Division have announced a new strategic marketing alliance aimed specifically at both companies’ market leading Runway Friction Measuring devices.

The partnership will also enable Douglas & Dynatest to increase their range of products to their current and new airport customers, satisfying the diverse requirements of a modern airport for both truck and trailer mount friction measuring systems.

Dynatest is the manufacturer of the FAA and ICAO approved 6875 Runway Friction Tester (RFT). The RFT is mounted on either an American-made pick-up truck or a 4-wheel drive vehicle. It also features water capacity providing 44,000 feet (13,400 metres) of testing capability.

The company also provides pavement testing and evaluation equipment sales and service, as well as pavement engineering consulting services worldwide. Equipment manufacturing and sales include: Heavy Weight Deflectometers, Portable Falling Weight Deflectometers, Profilometers, Pavement Friction Testers and Heavy Vehicle Simulators.

THE LATEST IN DE-ICING EFFICIENCIES

SAFEAERO HAS DELIVERED its first 223XXL de-icing unit to SAS at Oslo airport for the Winter 2009/2010 season following a successful launch at the inter airport exhibition in Munich.

The all-new boom system has a horizontal reach of 14m, which can facilitate de-icing operations of the A380 in many scenarios. The new model is very environmentally friendly, ensuring maximum efficiency of fluids with minimal use of glycol through a “hot and blend at nozzle mixing system” for Type I and Type II/IV fluids.

Other features include a maximum nozzle height of 23m, a tank capacity of up to 14,000 litres and a maximum operator’s eye height of 17m. In addition, the new chassis has a hydraulic suspension for the front and rear axle to maximise driving comfort at high speeds and ensure stability during the de-icing operation.

In recent months, Safeaero’s newly relocated facility in Treleborg, Sweden, has also been modernised to provide space to triple production capacity and optimise production.

Almost three years since the first automatic debris detection system, QinetiQ’s Tarsier, was brought into operation at Vancouver International, other airports using the system include Doha, Dubai International and London Heathrow.

Source: BAA

FOD TECHNOLOGIES GAIN MOMENTUM

THE FAA’S ADVISORY CIRCULAR on Airport Foreign Object Debris (FOD) Detection equipment – published on 30 September 2009 – represents the first formal statement by a national regulator on FOD detection technology and suggests widespread adoption of automatic debris detection systems could be imminent.

Based on a three-year study of the FOD risk and available detection systems, the FAA states: “FOD has the potential to damage aircraft during critical phases of flight, which can lead to catastrophic loss of life and airframe, and increased maintenance and operating costs. FOD hazards can be reduced, however, by the use of FOD detection equipment.”

Almost three years since the first automatic debris detection system, QinetiQ’s Tarsier, was brought into operation at Vancouver International, other airports using the system include Doha, Dubai International and London Heathrow.

Where a “mark one eyeball” inspection of the runway, typically four times a day at international airports has been the generally accepted standard for the industry, the shortcomings of this process have been recognised, as runways have been stretched to their capacity limits and new runway construction often deferred.

With potentially several hundred movements between inspections, debris on the runway can pose an unacceptable safety risk and many airports have called for a better, more technically advanced method of managing such hazards.

Aviation technology and airport operations have come a long way since ICAO Annex 14 first set down its recommendations for runway inspections. Across Europe and the US, the industry is now poised to bring these inspections into the 21st century.
SARSY S RELEASES NEW COMPUTER SYSTEM

SARSY S HAS IN THE last few months finished the development of its new computer system for friction testing equipment. This system is Windows-based and compatible with optional software that helps airports to have full control of the runway, taxiways and surrounding areas.

The STMC measuring computer has all the latest functions that ICAO and the FAA requests for friction testing equipment/machines worldwide.

STMC – Wireless Bridge System is primarily developed to make the operations of the STFT easier and more convenient for the users. The STMC will also be used in the SFT with a wireless bridge as an option. The STMC - WBS has a robust wireless communication (peer to peer) established automatically on system startup, and Rugged Panasonic CF-19 Touch-screen laptop for control and presentation. STMC software can be used for transmitting and analysing friction data in conjunction with the FT-View.

The FT-View programme stores the data and displays data in a graphical manner for analysis. Both the STMC and the FT-View are developed with Tradewind Scientific Ltd.

More detailed information on the STMC – WBS, FT-View, TRACR II and TRACR AIM is presented on the website www.sarsys.se. Detailed technical information can also be downloaded from the website.

Some of the recent sales of SARSY S equipment have been done to Asia, South America, North America and Europe.
SCARECROW BIO-AcouSTIC SYSTEMS LAUNCHES IN THE US

SCARECROW BIO-AcouSTIC SYSTEMS’ ULTIMA has been installed at Pittsburgh International, the first airport in the US to add bio-acoustic technology to its portfolio of integrated wildlife management solutions.

The focus on wildlife safety management has moved to the top of the air safety agenda in the US following several recent high profile air disasters. Various factors have been attributed to the significant rise in air incidents since 2000, including a substantial increase in air traffic due to higher passenger numbers and birds adapting to urban environments, including airports and the surrounding areas.

Ultima is the latest technology in airside bird and wildlife control management, using bird distress calls to humanely disperse birds. It also enables proof of dispersal procedures to be completed in real-time, logging of species, time and date details, and includes GPS functions, a database of bird recognition information, self-learning software and full wildlife management capability.

Ultima’s data recording system can be used for every form of bird dispersal used by the airport and will create a history on the population changes, equipment and tactics used each season.

Scarecrow has worked alongside some of the world’s busiest airports including London Gatwick and London Heathrow, growing steadily over the years in line with huge developments in the aviation industry and more stringent flight safety legislation. Scarecrow’s ever-increasing portfolio of leading edge products has firmly positioned the company as a global leader in bio-acoustic bird dispersal technology.

ENVIRONMENTALLY SAFE DE-ICERS

KEMIRA SUPPLIES the world’s airport industry with a range of organic salts, which includes the development, production and marketing of environmentally friendly runway de-icers. The product range includes both liquid and solid products based on formates and acetates.

Clearway products have several environmental benefits compared with competing products and are readily biodegradable, with a lower oxygen demand than traditional de-icers; they melt ice and snow effectively and therefore improve air traffic access at the airport.

Throughout the manufacturing process the emphasis is on chemical purity and the highest standards of quality control; combined with Kemira’s application expertise, its customers can benefit through improved profitability and enhanced product quality. Kemira has ISO-9002 and ISO 14000 certification.

Boschung’s Jetbroom is a multifunctional, high performance, compact maintenance system. Unique Zurich and Liège are the latest airports to have procured the Jetbroom.

THE LATEST AIRPORTS to have procured Boschung Group’s Jetbroom include Unique Zurich Airport in Switzerland and Liège Airport in Belgium.

As a leading manufacturer of vehicles and equipment for surface maintenance of cities, roads, highways and airports, Boschung’s Jetbroom is a multifunctional, high performance, compact maintenance system. It can be used for roads and runways, with options for de-icing, vacuum sweeping, liquid recovery and rubber residue removal.

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

DE-ICING SPECIALISTS

FOR MORE THAN 75 YEARS, Kilfrost has been a leader in the global de/anti-icing sector and works closely with customers in over 50 countries across five continents. With facilities in the UK, Europe, North America and Japan, Kilfrost is able to deliver its safety critical products to the aviation, general aviation, rail, functional fluids and ground de-icing sectors.

For the aviation industry, Kilfrost offers a full range of innovative and sustainable products, including: Type I fluids DFSustain and DF Plus, Type II ABCK Plus and ABC3, Type IV ABC4 Sustain and ABC-S Plus, in-flight TKS Sustain and R328/80 and its exciting new ground de-icer Runway Plus.

The company’s world-renowned R&D facility continues to develop groundbreaking new products and is continuing to invest heavily in the innovation of ever more environmentally friendly de/anti-icing solutions.
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De-icing Technology

During the last decade, Proviron Industries N.V. have established themselves in the market as a reliable supplier of environmentally benign de-icers. We have now developed and are ready to launch a new formate based de-icer PROVIFROST KF.

With this 4th de-icer we expanded our product port-folio to anticipate an increasing European market demand.

At present we are working on developments which are even more ecologically driven.

Provifrost KF is a 50% aqueous Potassium Formate solution, by weight, plus corrosion inhibitors.

Provifrost KF has excellent anti-icing characteristics, it is active at low temperatures (-50°C).

Provifrost KF meets FAA approved specifications and is safe for airport runways, taxiways and aprons. It is safe for the environment, non-persistent, biodegradable, and has a low BOD.

Provifrost KF passes all material compatibility test per AMS 1435A and is as such compatible with most known materials used at airports relating to storage and applying equipment.

Provifrost KF is easy to apply with existing equipment.