Administration de la Navigation Aérienne (ANA)

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Administration de la navigation aérienne

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FOREWORD

This document is the Annual Report for the year 2013 up to end June 2014 for ANA, the Provider of Air Navigation Service and Aerodrome Management at Luxembourg Airport.

2013 – Implementing the basis for change

2013 saw the implementation of changes to a wide variety of processes and methods required by European Regulation in all certified services and establishing in practice the basis for the new way of managing, monitoring and steering the course of actions set out in the Annual Plan 2013.

This report summarises the activities, developments and results achieved in 2013 in comparison with what had been planned to be achieved in the certified services of ANA and beyond in all other service areas.

Stakeholder authorities in Luxembourg but also customers and users of ANA's services will find information on the following questions:

- How did ANA perform in 2013 in air navigation services generated?

- What did ANA achieve in actual performance terms as an ANSP in 2013 compared to what ANA planned to achieve in the Annual Plan for that year?

- What performance indicators did ANA apply to measure its performance or had set targets to be reached and in which areas ANA was not successful and why?

- What technical and operational infrastructure developments where put into operations in 2013?

- Which projects were finished successfully in 2013, were delayed or had to be postponed and why?

- What policies and processes ANA had in place in 2013 towards its human resources to maintain and increase the competence in all areas and use the potential of its staff effectively and efficiently?

- What are the financial results for the year 2013?

This report reflects the efforts and results achieved by ANA staff and management. The year 2013 was an especially challenging one for people in ANA. Without their motivation to learn and to overcome hurdles, their commitment to the goals and continued hard work 2013, ANA would not have managed to achieve its main targets in 2013, and in many instances would have failed.

A major achievement in 2013 - one, that is often taken for granted - is the fact that major SAFETY occurrences were prevented from happening and further improvements were achieved in the safety domain thanks to dedication to this prime task of all staff involved and their continuous efforts throughout the year.

The achievements in 2013 - 2014: The year 2013 was an even more challenging year than 2012. ANA had to implement processes or adapt existing ones, work on gaps and non-conformities identified, continue implementation of projects – all without substantial increase in the number of people. In short: learn quickly and do more in less time.

(1) The first was to keep up with the Single European Sky (SES) requirements. This needed the organisation to implement and make work the changes in its structure and management and resulted in it being more efficient and better focused on core tasks.

(2) 2013 was the implementing year for many change processes, formalising them to make them work and monitoring the change processes continuously as part of quality and project management. The coordination and review of processes was necessary but of required extra work to be done.

(3) 2013 – end June 2014 was also a year to get set for the forthcoming *Reference Period 2*: it was a time to put into practice a performance scheme with tangible indications and targets in all domains and departments. The outcome is a consolidated and integrated into the management processes set of KPIs and PI´s that help departments to keep focused on their priorities. Our customers have welcomed these developments.

(4) 2013 was a year in which project management (PM) showed that it works, that it delivers and that it keeps all of us on track. This was not always easily done given the limited resources available and faced with a number known and new upcoming new hurdles and problems to be resolved. But PM is a necessary and rewarding management tool and has proven its value for ANA.

What counts...: The processes set in motion do work. ANA often has to find its own ways to resolve open issues and close gaps. ANA will use all sources for support, will not wait, but press on.

…is partnership…: The coordination with its partners in FABEC was increased but our efforts were and are not limited to it. Users and stakeholders in Luxembourg were consulted and new partnership opportunities were actively pursued. There is neither time to waste nor an opportunity to be missed – ANA has learned to be flexible and open, transparent and efficient and pragmatic. ANA and the people in ANA learnt the lesson: don´t wait – be proactive!

…and commitment: This process continues in 2014.

The outlook for the remainder of 2014 is even more clear and pressing: ANA has achieved and improved a lot in 2013 to deliver a safe, expeditious and cost efficient service. However, for the next reporting period ahead of us we need even more the combined commitment and support of stakeholders and business partners.

This is the goal for the second half of 2014:

Establishing an alliance of all stakeholders for addressing together the common strategic objectives.

John Santurbano, Acting Director ANA

1 EXECUTIVE SUMMARY

In 2013 ANA started its ambitious overhaul and change process and programme that not only embraced the operational and infrastructural but also the management procedures and processes. The Business Plan 2013 – 2017 was a most important framework action and step up in this regard.

The objectives of ANA for 2013 and in the first half of 2014 were:

- apply safety, quality and other standards;
- align with SES legislation, ATM MP, ESSIP;
- establish a framework for setting and monitoring local performance indicators and targets;
- conduct and improve user consultation meetings and establish a process and framework;
- start and finish the process, procedures and means for cost allocation for all service areas (En route, terminal and aerodrome related);
- to create the basis for and start to analyse the cost base to improve cost efficiency and cost transparency;
- to establish and deliver the national inputs for the common Belgium – Luxembourg, the FABEC and national performance plans;
- adopt workable management structures and working arrangements at all levels and improve the related project management and quality management processes and procedures;
- further improve the competence of staff.

In all areas ANA could advance, achieve important targets and show improvements:

SAFETY: Measured against the (European) Key Performance Indicators (KPIs) and targets ANA (compared to 2012)

- improved the Effectiveness of its Safety Management System (EoSMS) from a level of 43% to 59%, meaning that ANA has been assessed as achieving effective implementation and management in this area in all but three items;
- maintained its level in the application of Risk Assessment Tool to ATM ground (100%);
- improved in Just Culture although the (ambitious) target set for 2013 could not fully be reached but the score rose from 9 up to 15 (out of 24) items (percentile 63%) – an increase of 25 %).

In the internal Safety KPIs that were defined, agreed with and signed by respective service managers ANA

- achieved the targets for reducing the number of ATC related incidents to a very low level,

- whilst in areas of safety critical equipment for ELE and MET the targets for equipment reliability were only partially met with a high number of class C occurrences (degraded ATM service while still able to function fully) beyond the set targets; remedial actions are ongoing.

Safety training of staff continued and achieved its targets of increasing and broadening the basis for safety work.

QUALITY: ANA made a big step forward in improving its internal and external quality management system.

The efforts in 2013 concentrated on internal QM structures, quality trainings and regular QM meetings at working (departmental) and management level. Internal processes, procedures and structures were either created or revised and integrated into the Integrated Management System (IMS) and documented.

Internal communication is strengthened: regular management reviews, internal audits, KPI reviews, meetings for coordinating legislative / regulatory issues and quality and safety officer meetings are conducted and followed up with actions.

The efforts resulted in a very good outcome in internal and external audits and review meetings, in further improvements in processes – a number of which were designed and implemented in 2013 – and documented procedures in the Integrated Management System (IMS).

Regular monitoring of performance and establishing corrective actions in time became the norm in ANA.

SES COMPLIANCE: During 2013 and early 2014 ANA was busy in further closing gaps in the EC Regulation 1035/2011 requirements area: the annual plan and 5 year business plan were established and agreed, KPI´s and local PI´s and targets were established in all departments.

User consultation processes were established and several meetings with users held.

Full transparency in determining En Route and Terminal related costs across the services was achieved and reported to users.

In view of the Common Requirements legislation 1035/2011, ANA needs to progress further and achieve later in 2014 to close the Non-Conformities (NC) identified during past DAC audits:

- Software Safety Assurance (SSAS) and
- finalizing and implementing the contingency plans together with its stakeholders and users.

In 2013 ANA created the LEAD – IMS process and working arrangement – a cross departmental legal and regulatory high level group that aims to coordinate internally the activities addressing European and other legislation requirements, resolving issues and joining forces for major projects at aerodrome and ANSP level.

MANAGEMENT: The implementation and strengthening of formal Project Management (PM) processes, procedures, lifecycle management and working structures and arrangements continued and was finalised in 2013.

A Strategic Management Team (SMT) and subordinate working structures at project level were further strengthened and are working as designed: to monitor and control progress, to take corrective actions and to organise and provide resources and support.

Regular meetings of project leaders are essential for gaining synergies, adopt common procedures and give help and support to each other. The results in 2013 – 2014 are visible as described in the section below.

Operational / technical infrastructure projects:
All ANA projects, and in particular the major ones as the

- update of the Flight Data Processing System (FDPS) and its bringing into operations;

- implementation of the Automatic Weather Observation System (AWOS);

- implementation of the Advanced Lighting and Control System (ALCMS);

- implementation of the ATS Message Handling System (AMHS) and

- continuation of the implementation of the Advanced Surface Movement Guidance and Control System (A-SMGCS).

These represent just some of the more significant of a total of 13 major projects successfully finalised during 2013 and the first half of 2014.

ANA benefitted here from its achievements in PM structures and dedicated project teams.

ATM Master Plan (MP): The further alignment of projects with the ATM Master Plan and European Single Sky Implementation Plan (ESSIP) was another step achieved in 2013.

The focus of ANA in view of projects and activities was to concentrate the efforts on priority projects in line with strategic objectives and to manage projects to deliver cost efficient, pragmatic and technologically sound solutions that are a benefit for ANA stakeholders and customers. This approach has delivered good results.

ANA needs to scrutinize even more projects and plans to find pragmatic and cost efficient solutions in regard to all upcoming projects in ATC, CNS, AIS and MET.

Effective management of stakeholder and user interfaces and processes and partners – existing or new ones – is a *sine qua non* for success as indicated in the section below.

OUTLOOK to RP2: ANA stands in front of the SES Reference Period 2 (RP2) starting in 2015 until and including 2019 and in particular to the challenge of having to apply the EU Performance and Charging Regulation in full.

This concerns and brings up further, and in some instances major, demanding changes in all performance aspects.

The first focus (besides Safety) is on Cost Efficiency (CEF) and adopting in close collaboration with users a revised cost and charging system in the terminal airspace and applying full cost transparency in En Route area in the common charging zone with Belgium.

These targets were achieved.

The second focus was and remains for the next reporting period on the investment plans (CAPEX) for the remainder of RP2.

The results were presented to users during formal consultation meetings at FABEC, common charging zone (BE-LUX) and finally a national consultation meeting on terminal costs and charges.

The feedback from users to ANAs cost and on the investment plan is encouraging but further work is required especially in the terminal area to develop a scheme for the modulation of terminal charges to honor the efforts of airspace users in environmental areas.

Towards a common Vision: The way forward cannot and will not be designed and paved only by ANA, as the ANSP and Aerodrome Operator in Luxembourg. The inputs and advice from users and stakeholders is required for the further efficient and focused planning for ANA.

To this effect ANA has started in early 2014 a ´Strategic Initiative´ with a vision and plan for its future to be: a vision and strategy developed and agreed together with its stakeholders and partners. The aim is to establish a common vision and action list and addressing them together.

The Table on the next page depicts this process and plan for 2014.

Table – 2014 Strategic vision and action plan with all stakeholders (<u>status</u>: end June 2014)

Strategic Level	ACTION / WP	SCOPE & CONTENT	Status O=Ongoing √=Finalized
High Level Strategy	**Develop Strategic Vision & Plan (ANA)**	Identify Strategic legislative / regulatory issues Present a potential vision for the future of ANA Address the aerodrome issues with ref EU 139/2014 requirements	√
Stakeholder Level	**Establish common vision and action list (all stakeholders)**	Stakeholder Consultation & Agreement Agree vision and allocate actions at stakeholder level Adapt inter-organisational structures, processes & procedures	O
ANA Level	**Set strategic objectives at ANA level**	Define and integrate strategic vision and derive objectives Allocate / agree objectives at Service level (all ANA) Adapt internal organisation structures, processes & procedures	O
ANA Service Level	**Revise / set objectives, KPI´s / PI´s at service level**	(1) Identify performance indicators and targets	O
− **Action**	**Action Plan**	(2) Define actions / activities / projects	O
− **Enablers**	**Resource Plan**	(3) Resource (FIN and HR) & competence planning	O
	Processes / structures	(4) Adapt PM and other working practices	O
	Stakeholder Mgmt	(5) Internal / external stakeholder & supplier Mgmt	O
ANA Plan Level	**ANA Annual Plan**	(6) Establish Annual Plan 2014 – 2015	O

<u>Note</u>: This top-down planning process and process steps will follow in the order as indicated by the arrows in the right hand column.

2   PERFORMANCE REPORT 2013

2.1   Performance framework

The Business Plan 2013 – 2017 (BP) and the Annual Plan 2013 (AP) are the basis for the performance reporting in this report[1].

These documents provide ANAs mission, vision and strategic objectives as well as the Key Performance Indicators (KPI´s), Performance Indicators (PI´s) and targets set for 2013.

The performance objectives of ANA for 2013 were, in line with ANAs vision and mission and the strategic objectives of the BP to

–   apply safety, quality and other standards;

–   align with SES legislation, the ATM Master Plan (ATM MP), and the European Single Sky ImPlementation (ESSIP) programme;

–   establish local performance indicators and targets;

–   improve user consultation;

–   improve cost efficiency and cost transparency;

–   adopt workable management structures and working arrangements at all levels;

–   improve the competence of staff.

These objectives were transformed and integrated into the performance scheme as far as applicable. The agreed KPI / PI scheme is used in this report as the reference scheme for assessing the level of performance against the set targets.

This performance framework will step by step become the main driver for all projects, developments and activities.

2.2   ANS Performance in 2013

ANA´s website provides news and information on all services and traffic, freight and passenger statistics[2]. The site also provides information on environmental programmes and achievements and their status.

In terms of ANS the year 2013 compared to 2012 has shown a slightly positive trend in the number of total commercial flights[3] (but a further decline of local flights) and an increase of transported freight[4] - which is climbing back and has now outperformed the level of transported freight established in 2011 and is further increasing in 2014 as the Q1/2014 figures indicate.

The most obvious and substantial increase is in the number of passengers[5] passing through Luxembourg Airport, which passed the 2 million mark in 2013. This continued the trend observed already in 2012, seems to be robust and demonstrates that airlines operating from Luxembourg are better using the available transport capacity.

Luxembourg airport is a base for both passenger and freight transport. The latter sector is of high economic importance for Luxembourg and expected to grow further in the forthcoming years. The 2013 results of the main freight operator demonstrate this strong trend.

The infrastructure developments in the cargo center and new business areas (e.g. Freeport) are a further indication for a growing importance of this economic sector.

Table 1 - Traffic, freight and passenger statistics 2011-2012 and changes 2012 - 2013

Year	Total commercial	Total international	Total local	Total mvt overall	Total passengers	Total freight (t)
2011	53 854	59 999	23 406	83 405	1 791 231	656 651
2012	54 168	59 785	21 378	81 163	1 919 694	615 905
2013	55 316	60 727	19 670	80 397	2 197 331	673 500
Change 2012-2013	2,10%	1,60%	-7,90%	-0,90%	14,50%	9,50%

The traffic peak and low months reflect the pattern experienced last year, with peaks of 5.830 and 5.847 movements (international) in June and July. Similarly the two months with the lowest number of movements were January and December with 4.030 and 4.352 respectively.

From April 2013 to March 2014 (incl.) a total of 473 passenger flights were handled at night time (23:00 – 06:00hrs); an average of about 39 movements (arrivals and departures) per month. This is less than in 2012.

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[1]   ANA (2013), ANA Business Plan 2013 – 2017, Version 1.0 (08/2013) and ANA (2013) Annual Plan 2013, Version 1.0.

[2]   http://www.ana.public.lu/fr/index.html

[3]   Combined scheduled, non-scheduled and business flights

[4]   Combined freight and postal transport

[5]   Combined departing / arriving passengers

2.3   ANS SAFETY Performance in 2013

ANA adopted the EU / FABEC Performance Indicators (PI) (see FABEC Performance Plan) and has set additional Performance Indicators (PI) and targets for all safety critical and safety relevant services in 2013.

EU Safety performance indicators & targets: Measured against the (European) Key Performance Indicators (KPIs) and targets ANA (compared to 2012)

−   the Effectiveness of its Safety Management System (EoSMS) from a level of 43% to 59%, meaning that ANA has been assessed as achieving effective implementation and management in this area in all but three items (still at Level 2);

−   maintained its level in the application of Risk Assessment Tool (RAT) to all ATM ground occurrences for which ANA was partially or completely responsible (100%);

−   improved its Just Culture results where the score is up from 9 to 15 (out of 24) items (percentile 63 %) – an increase of 25 %.

Figure 1 shows the 3-year continuous improvement trend 2011 – 2013 in ANA in the KPI ´Effectiveness of Safety Management System´ (EoSMS).
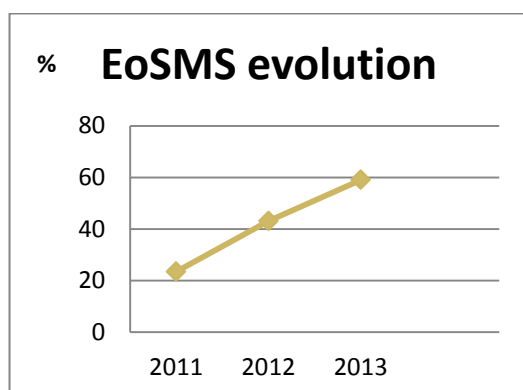

Figure 1 – EoSMS evolution 2011 – 2013 in ANA

Safety work: The Safety Management Unit (SMU) was involved in 2013 in safety assessments related to the

−   upgrade implementation of the Flight Data Processing (FDP) system in line with ICAO document 4444 PANS-ATM;

−   implementation of the ATS Message Handling System (AMHS);

−   final implementation of the Airport Lighting Controlling and Monitoring System (ALCMS);

−   ongoing implementation of the Advanced Surface Movement Guidance and Control System (A-SMGCS);

−   implementation of various ATS procedures e.g. contingency (clear the sky) and glider sector.

SSAS: As regards the EU legislation requirement on Software Safety Assurance System (SSAS), ANA has put in further efforts to increase its competence and expertise in SSAS in 2013 and to develop a Software Safety Assurance System compliant with EC regulation (EC 482/2008)[6].

ANA followed its medium-term plan developed in 2012 for the implementation of the SSAS in line with the Corrective Action Plan (CAP), trained internal staff, and developed with external expert support a pilot case on SSAS. The proposal was sent to DAC for further advice and approval which is still pending. ANA developed a two years plan in order to establish the SSAS documentation for legacy and new ATM systems.

Table 2 (next page) summarises the status of achievements in 2013 in the three EU wide/ FABEC PIs in ANA plus the related local PI´s and targets which address specific actions planned to be taken in 2013 in certain, identified safety related areas[7].

It is to be noted that no State Safety Programme was in place in 2013 and no ANSP Safety Plan.

Corrective Action Plan (CAP) Items: The following actions from the CAP were implemented in 2013:

−   *External services and supplies* – ANA developed and implemented a procedure to ensure the safety of the externally provided services and supplies a formal register of information of staff involved in safety related tasks, the number, status and deployment of personnel including personnel from subcontracted operating organizations.

−   *External assistance* – ANA has established and published formal interfaces with all stakeholders which may influence directly the safety of the provided services. External and internal stakeholders list have been defined, and SLAs with internal and external parties were set-up.

Continuous safety management improvements: Nothing is and will at all times be perfect. This is the case also in the safety area. It is through continuous monitoring and improvement work that quality and integrity of the SMS is and will be maintained and increased.

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6   SSAS was identified as non-conformity area during DAC audit in 2012 and a Corrective Action Plan (CAP) was developed accordingly which was agreed by DAC.

7   For a complete overview of all safety and other performance assessment targets including identified performance gaps identified in the Annual Report 2012 and status in 2013 see Table 17.

Throughout 2013 efforts at strategic management level, at unit and at operational working level increased; the latest update on SAF targets is the 2014/Q1 status from KPI - review.

The creation of the

– *LEAD Integrated Management System* (IMS) Team to address legislative / certification issues more effectively,

– regular *Safety / Quality officer meetings* and

– regular *Management reviews* to report, exchange and revise performance processes

are new, prominent examples of 2013 improvement activities at management levels in which Safety is a prime although not the sole area of performance.

Safety KPI developments: One important step in increasing safety performance in ANA was the setting up of safety performance indicators and targets for safety related incidents in ATC and for safety related technical impacts on ATM from CNS, MET and the Electro-technical Service (ELE).

Detailed results on the PIs in the respective areas are reported in the chapters on ATC, CNS, MET and ELE.

Table 2 – Assessment of safety performance against FABEC/EU and local PI´s in 2013

KPI – SAFETY - 2013	Performance targets set for 2013	Measured ANA achievements in 2013 against targets	Performance outcome assessment
PI#1 - EoSMS	FABEC / EU target: Reach Level 3 (by 2014) Local PI´s: Reach Level 3 in: – Competency Level – Safety data sharing – Publish safety performance info	FABEC / EU targets: - Level 3 reached in 12 items; level 4 reached in 10 items, level 5 reached in 1 item; 3 items are still at level 2 Local ANA PI´s: - Safety competency method / training programme was implemented in 2013 and 39 staff trained - Safety data sharing target not achieved (both items still at level 2)	FABEC / EU targets: - Level 3 and beyond reached 2013 in most items – target mainly achieved Local PI´s: - Target achieved for the safety training programme - Safety data sharing and info via newsletters – target achieved - Safety data sharing – target not achieved - Safety performance information is published internally – target achieved
PI#2 – Risk Assessment Tool application	EU target: - Implementation of RAT - Classification of all SMI, RI and ATM SE related incidents Local PI: - Classification of severity of all ATM incidents (100%)	FABEC / EU target: - All SMI and RI´s classified / assessed using RAT; ATM SE not classified Local PI: - Severity classification of all SMI /RIs not for ATM SE - Monitoring of safety critical equipment in ATM/CNS/NET/AIS	FABEC/EU target: - RAT implemented - Target partially reached; ATM SE missing Local PI: - RAT implemented for all SMIs, RIs were ANA has been responsible (partially or totally) – this part of the target was achieved - Target reached on monitoring of safety critical equipment for CNS, MET, ELE and ATM
PI#3 – Just Culture	EU / FABEC: no target Local PI: - Improve Just Culture – 16 items Yes - Introduction of statistical feedback in public report	Local PI: - 15 items Yes (9 No) - Status in Just Culture in ANA was discussed internally (ATC) and with DAC and MDDI; juridical issues at State level are pending	Local PI: - Targets set for 2013 not completely reached (1 item less) but an increase from 2012 – 2013 of 25% in the JC score - Target can be considered as reached as far as ANSP actions are concerned; lack of progress at State level items

Notes: Safety EU / FABEC targets are coordinated and agreed in FABEC Safety SC. As regards PI#2 – RAT application, the current definition of ATM SE is subject to revision following a discussion at FABEC level. This discussion continued within the RAT user group (with the consent of EASA) in May 2014 with the result   Only ATM-SE that have an effect on OPS should be scored and *'loss of redundancy´* and *'loss of supervision´* are not in the scope of the regulation (applicable as of 2014).

Local PI´s and targets are coordinated and monitored in the ANA Safety Committee which also takes corrective actions with the respective safety officers and heads of department.

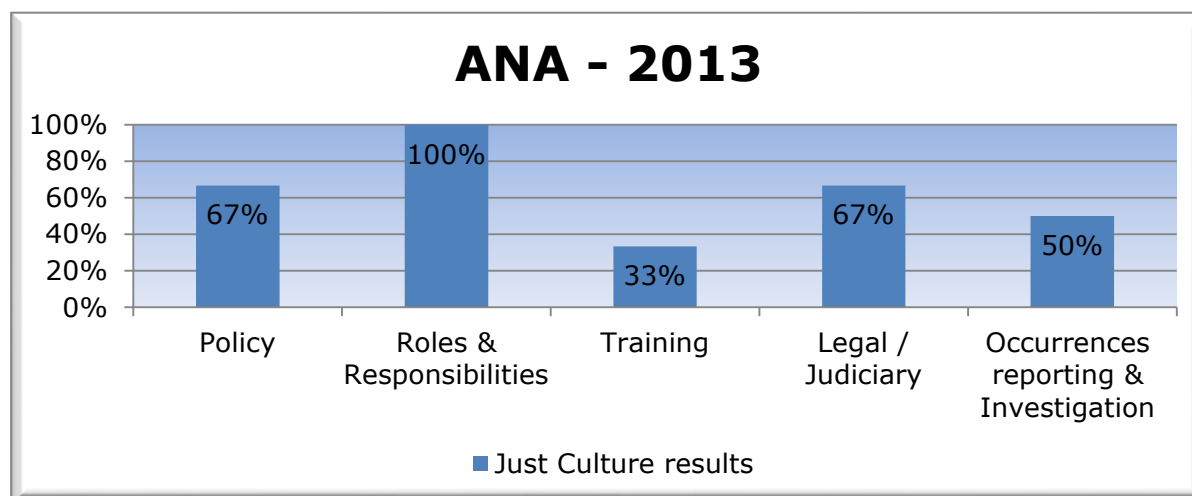Figure 2 shows the results in Just Culture scores in 2013 for ANA.

Figure 2 – Results (achievement scores) in the Just Culture (JC) questionnaire for ANA (ANSP level) in 2013

The results mirror the efforts in ANA and results in the different areas: a basic requirement, to have clarity about the roles and responsibilities is achieved, policies that govern processes have been developed and the legal aspects, as far as in the hands of ANA are sorted to some good extent. However, training on JC is an identified area for improvement as is the investigation and reporting of occurrences in a ´Just Culture – way´.

2.3.1 ESSIP - Safety Objectives achievements in 2013

The following Table 3 summarises the results of ANA Local Single Sky Implementation Plan (LSSIP) in 2013 in the European Single Sky ImPlementation (ESSIP) programme in safety related Objectives.

Table 3 – ESSIP Safety Objectives–Results / Status 2013

ESSIP OBJ	2013 Results	Measures to address performance gap
ATM Safety GEN01 - Contingency Measures	Objective is not anymore active and should have been achieved. ANA is late in implementing measures but has developed a contingency concept in 2013 (oingoing in 2014) which is in internal review status.	CAP is still active in 2014. Contingency concept is drafted and will after internal review be presented to stakeholders to establish level of contingency required
SAF10 - Airspace Infringement Risks	ANA has No Plan for this OBJ. Occurence reporting data suggests that airspace infringements are rare in LU airspace; occurrences are closely monitored.	No performance gap identified

Contingency measures are partially available but no dedicated formal contingency concept / strategy and plan is in place.

This objective is one that ANA has aimed to resolve for some time. Substantial progress has been made towards an integrated, balanced solution.

This area is part of the current CAP that will need to continue in 2014 with stakeholders and users to derive at safe, operationally sound, feasible, and cost – efficient solutions.

2.3.2 Efforts to increase safety competence and performance

ANA will increase the current level of competence of its staff and safety officers on safety issues in ATC, CNS, MET and aerodrome as a matter of priority.

Staff safety training: A safety programme is established and is followed for staff appropriate to their duties as safety officers / deputy safety officers assigned to ATS, CNS, AIS and ELE departments to broaden the basis of safety competence required in the day-to-day work and to work on safety critical aspects in projects.

The Safety training programme of ANA in 2013 consisted of the following courses organised internally or externally:

– SMS (5 days);

– ATM Safety Assessment (4 days),

– Safety Assessment Part 1 (5 days),

– Safety Assessment Methodology (3 days),

– Human Factors (5 days),

- Software Safety Assurance (SSAS) (5 days),
- Aerodrome SMS (5 days),
- Aerodrome Safety Risk Assessment (3 days);
- Aerodrome Auditing & Compliance (5 days).

These training efforts in 2013 have helped to increase the safety competence, safety awareness and safety proficiency in all safety relevant services and activities.

ANA staff and safety officers will receive further training and practical induction on site in 2014.

2.4   ATC Performance

In 2012 ANA ATC has been certified as an ATC Training Organisation for Unit Training, including full endorsement by DAC of Unit Training Plans and Unit Competency Schemes.

2.4.1   Safety

The "Clear the Sky" procedure implemented together with FABEC partner Belgocontrol needs to be complemented by a comprehensive contingency strategy and plan.

ATC has drafted a basic contingency concept which will be presented to stakeholders and users to define the contingency requirements that they demand, discuss the impact in terms of infrastructure needs and costs of the options before taking a final decision.

ATM ground: The safety record in ATC in the Performance Indicator (PI) **ATM ground contribution to incidents**[8], a safety area of high importance for ANA ATC, shows further improvements compared to the PI targets (red colons) defined in the KPI for ATC in 2013 (see Figure 2 below). The blue colons depict the actual incidents that happened during 2013.
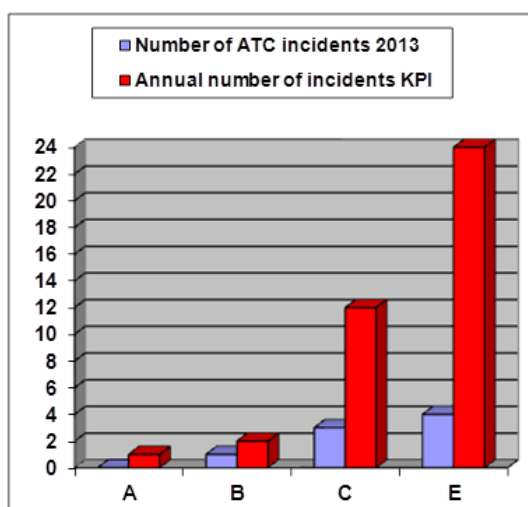

Figure 2 – ATC ground contribution to incidents compared to KPI targets set for 2013

The Q1/2014 results are a clear indication that the trend continues: no incidents were recorded.

SAF culture: Various initiatives to increase safety awareness, to refine and define safety processes and procedures and to involve staff and safety practitioners continued in 2013.

These efforts address the deficiencies that were *inter alias* revealed in a Safety Culture Survey (done in 2011).

In regard to other recommendations in the SAF Survey ANA identified and implemented the following actions in 2013:

1. **Just Culture** within ANA:
    a. *Immediate actions following critical incidents, accidents or serious occurrences* in ATC were developed and include Critical Incidence Stress Management (CISM) and are documented in the Manual for Air Traffic Services (MATS).
    b. *Provisional inability of ATCOs* - ATCOs will immediately notify Head of ATC and the supervisor when they become aware of any circumstances that render them unfit or unable to exercise the privileges of their license. After serious incidents or accidents established and agreed actions will be taken.

2. **Safe rostering** principles are identified and applied / laid down in an ATC convention. The non-conformities from the audit as regards rostering could be closed in 2013.

2.4.2   Environment

The environmental EU - wide performance indicators and targets were only partly relevant for ANA given the definition of the KPI in the SES performance scheme for Reference Period 1 (RP1, 2012 - 2014)[9]. The sole environmental performance indicator applicable for ATC is the following one:

Continuous Descent Operations (CDO): The definition, development and implementation of CDO procedures for approach to Luxembourg airport is an important aim for ANA.

The PI and target of developing and implementing one CDO in 2013 was adopted in the KPI for ANA ATC but has not yet been reached:

Belgocontrol developed, together with ANA, a Continuous Decent Approach (CDA) procedure for the routes to Luxembourg Airport (both RWY 06 and 24) which were ready for implementation in 2013.

However, due to the unavailability of electronic Terrain Obstacle Data (eTOD) in line with ICAO Annex 15[10] and EC Regulation 73/2010 the procedures are pending implementation and publication in AIP. ANA his working with the MDDI

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[8]   This PI sets targets for the maximal tolerable annual number of ATM incidents (where ANA is involved in), as regards 5 different categories of severity (as prescribed in European Commission Decision of 21 February 2011 (2011/121/EU)) for RP1.

[9]   Measured as the difference between actual and optimal flight trajectory - En route outside of a 40 NM circle around the airport.

[10] ICAO aeronautical data quality requirements are adopted in EC Regulation 73/2010.

to launch the tender action, start the action and receive the aeronautical eTOD.

The plan is to implement the CDO in late 2014 – beginning of 2015.

2.4.3 Capacity

Luxembourg airport and TMA are not constrained by a significant lack of traffic capacity.

There was no significant restriction in capacity due to ATC during the reporting period.

– **En Route**: SES performance indicator and targets for En-Route flight efficiency (delays) are not applicable to ANA; En route service in Luxembourg airspace is provided by Belgocontrol and MUAC.

– **Terminal**: For ATFM arrival (terminal) related delays FABEC has not yet defined as intended in 2010 a methodology to measure this PI in an agreed and consistent way. Terminal ATFM delays are calculated and monitored at Network Management (NM) level; ANA had in 2013 an average delay of 0,13 minutes per flight[11] which is very low compared with the current EU - wide arrival delay average 2012 (0,65 for all types of delay).

– **Airport**: As regards to airport induced delays ANA monitors the slot adherence at airport level in accordance with EU Regulation 255/2010. The 2013 results as per quarter are reported in Table 4 below).

Table 4 – ELLX Slot Adherence in 2013

Qarter 1 - 4 2013 Departure	Slot Adherence ELLX	Slot adherence > 80 % ?
Average Q1	82,39%	Y
Average Q2	84,28%	Y
Average Q3	84,48%	Y
Average Q4	80,61%	Y

The results are in line with the demand in the EC Regulation[12] for a > 80% of slots adhered to (annual average) and in fact as per quarter.

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[11] January – December 2013 average airport ATFM delay as calculated by PRU (see PRU dashboard on: http://www.eurocontrol.int/prudata/dashboard/eur_view _2012.html

[12] Art. 11 of Regulation (EC) 255/2010 (ATFM IR) stats that (1) ´Member States shall ensure that where adherence to ATFM departure slots at an airport of departure is 80 % or less during a year the ATS unit at that airport shall provide relevant information of non-compliance and the actions taken to ensure adherence to ATFM departure slots.´

The results of Q1/2014 (82%) are in line with the targets.

– **Taxi Out Time**: Taxi Out Time (TOT) is monitored by ANA ATC to determine the realistic time taken by aircraft to taxi to the runway at Luxembourg Airport.

The data gathered in 2013 will be used in 2014 to establish a ´best practice´ solution for a performance indicator and target that is balanced with other airport delay indicators to be respected and observed.
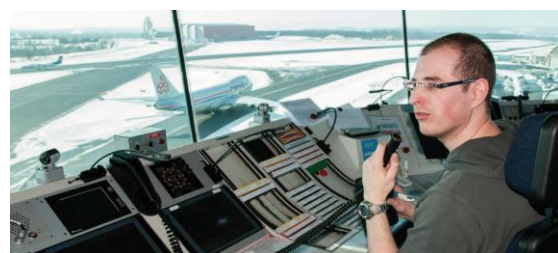
Figure 3 – TWR ANA at ELLX

Table 5 below summarises the results as copied from ten 2012 – 2013 KPI monitoring report for ATC

Table 5 – Summary 2012 – 2013 KPI / PI monitoring

KPI		Title	Measure	Results		Target
KPI	6	ATFM delay attributable to terminal ANS		2012	2013	Target
PI	6	ATC departure delay	min./dep	0,2	0,33	No target
PI	7	Arrival ATFM delay	min./arr	0,13	0,05	No target
PI	8	Slot adherence (ATOT-CTOT)	%	84%	83,14%	> 80%
PI	9	Add. taxi out time	min./dep	1,1	N.A. c)	No target
KPI	4	Severity of ATM ground contribution to incidents				
PI	5	Severity of ATC ground contribution to incidents A	# of incidents	0	0	1
		Severity of ATC ground contribution to incidents B	# of incidents	1	1	2
		Severity of ATC ground contribution to incidents C	# of incidents	5	3	12
		Severity of ATC ground contribution to incidents E	# of incidents	6	4	24
KPI	18					
PI	10	Develop and implement CDO's procedures	# of CDOs	NA	0	1

2.4.4 Training

During 2013 and after EASA scrutiny, training processes have been improved and revisited in an extensive June 2014 re-certification audit with success. All training documentation have been re-endorsed, all findings closed and a new certificate will be granted for November 2014.

Corrective Actions 2013 – 2014: The non-conformities noted during DAC and EASA audits in 2012 / 2013 were mainly resolved by end June 2014 with some minor observations that are planned to be closed before the end of this year.

In summary: The performance results measured against set targets of ANA ATC throughout the entire reporting period of this Annual Report were good.

The targets set were achieved except for the ENV target to implement one (developed) CDO in 2013.

The safety performance in ATC and the compliance with EC / EASA safety requirements through the CAP confirms that safety practices and procedures in ATC are sound and stable.

The safety and quality working arrangements in place ensure continuous improvement and learning cycle on operational safety issues.

2.4.5 ESSIP ATC Objective achievements in 2013

Table 6 to the right summarizes the results in regard to ESSIP Objectives relevant for ATC.

The results show that, except for the Environment Objective ENV01, ANA ATC is meeting all relevant ESSIP objectives.

2.4.6 ATC infrastructure projects

A-SMGCS is a major project for ATC / TWR and required active involvement of ATC staff throughout 2013 and further on.

The detailed planning of the airport infrastructure including all parking and the run-up area in the coverage map for this project had to be detailed before launching the process leading to the building permits.

One important item for ATC is the development of a Concept of Operation (CONOPS) for the operational integration and application of A-SMGCS in the TWR environment. This was achieved.

The A-SMGCS project requires, also for reasons of full exploitation of the new ground radar and its proper integration into the existing working environment - new Controller Working Positions (CWP) in the TWR. The respective planning started in 2013 with CNS and with leading technical support from DFS.

This part of the ASMGCS project will be finished in Q3 / 2014 (see project list in Table 15).

Table 6 - ESSIP ATC OBJ – Results / Status 2013

ESSIP OBJ	2013 Results	Measures to address performance gap
Airspace Management OBJ		
AOM13.1 - Harmonise OAT and GAT handling	OAT is negligible in LU	No gap in performance
AOM19 - Implement advanced airspace management	ASM / ATFCM is handled at FIR Brussels level by EBBR via NM	
AOM20 - Implement ATS route network V 7	Done in coordination with FABEC	
ATC & Data Processing OBJ		
ATC02.2 - Implement STCA	Is implemented since 2008 and operational procedures which were not in line with working practice have been developed and implemented in 2013	No gap in performance
ATC02.5 - Implement Area Proximity Warnings (GPW)	Is planned to be implemented by end 2014	No gap in performance
ATC02.6 - Implement Minimum Safe Altitude Warning (MSAW)	Is implemented since 2008 and operational procedures which were not in line with working practice have been developed and implemented in 2013	No gap in performance
ATC02.7 - Implement Approach Path Monitor (APM)	Planned to be implemented by end 2016	No gap in performance
ATC07.1 - Implement Arrival Manager (AMAN)	Not applicable in LU	No gap in performance
ATFM		
FCM01 - Implement tactical Flow Management Service	Is implemented since 2007. Some SLoAs are not economically justified andare not implemented	No gap in performance
FCM03 - Implement collaborative flight planning	Is implemented since 2007. Some SLoAs are not economically justified andare not implemented	No gap in performance
FCM04 - Implement short term ATFCM	LU is not in the applicablity area	No gap in performance
Airport ATS		
AOP04.1 / 04.2 - Implement A-SMGCS Level 1 / Level 2	A-SMGCS level 1 is under implementation and will be finalised in 2015 / 2016	No gap in performance
AOP05 - Implement Airport CDM	Not aplicable in LU	No performance gap identified
Environment		
ENV01 - Implement Continuous Decent Operation (CDO)	Luxembourg is late and did not achieve ist target in 2013.	Performance gap identified.

2.5   CNS performance

CNS is responsible and supports the technical realisation in a number of projects (see also Table 15 for a full list):

− The upgrade of the FDPS in line with ICAO and respective European requirements for a common flight plan data format exchange was finalised and put into operations.

− CNS provided implementation support to the ATS Message Handling System (AMHS) replacing the Aeronautical Fixed Telecommunication Network (AFTN) – an ANA – AIS/CNS - led project. The project was finalised in spring 2014.

− Implementation support to Advanced Surface Movement Guidance and Control System (A-SMGCS), technical planning and integration continued in 2013 and is in progress.

− Aerodrome Data Display (ADD) update in TWR and APP depicting all relevant aeronautical information including MET, RWY and air traffic situation etc. was finalised.

− Replacement of the Terminal Area Radar (TAR) TAR2 air-conditioning system to ensure the proper and reliable functioning of the radar system.

− Regional Meteorological Data Communication Network (RMDCN) upgrade of the connection with the European Centre for Medium-Range Weather Forecasts (ECMWF) (a MeteoLux led project) was achieved.

− Implementation support to the implementation of the AWOS/ATIS - Automatic Weather Observation System / Automatic Terminal Information Service, a project led by ANA MET/CNS, continued and will be finalised in 2014.

2.5.1   SUR projects

In 2013 the surveillance project on the implementation of a third Terminal Radar (TAR3) was put on hold.

ANA was charged by State authorities to search for opportunities and assess available options for the radar coverage in the airspace for which ANA is responsible without implementing TAR3 and propose other feasible and cost-efficient solutions. This work (a radar coverage study) started in early 2014 with the support from Belgocontrol. The results from dry runs, test flights and respective analysis are now available.

At the beginning of 2014, and related to the foregoing TAR3 issue, wider considerations were given by CNS to the state and performance of the surveillance chain (SUR chain). The aim is to prepare options for the SUR chain replacement and

upgrade whilst taking into account available (ARTAS, SDDS) or forthcoming radar data exchange options with neighbouring countries. This work will continue in the second half of 2014.

2.5.2   CNS safety critical equipment

Safety - ATM technical effects: When it comes to safety, the protection of the ATM system from effects or failures of the technical systems is at the focus of regular and preventive maintenance. A 24hr / 7 days intervention service in case of equipment failure to ensure ATM service continuity is available at ANA either on site or via standby duties

This service is a main task of CNS.

The PI for the (technical) Effects on ATM Services (ATM SE) is the ´Maximal tolerable CNS direct contributions to incidents´.

The 2013 target values and the 2013 results are given under PI#12 in Table 8.

The table shows that no category **B** (´partially affected ATM service´) event occurred, a result that is better than targeted. In category **C** (´degraded ATM service while still able to function fully´) more than double as targeted incidents happened in 2013 due to technical effects.

The main reason for this higher incident rate in class C were, similar to 2012, mainly the failures of the (old) AWOS / ATIS meteorological system and the upgraded FDPS. The latter system created additional bugs in the operational phase.

The new AWOS system could not been put into operations in 2013 with the effect that failures in the old system continued to happen.

Equipment availability: The technical safety record in CNS is governed by a PI with clearly assigned targets for all safety critical CNS equipment including ATC, MET and AIS equipment.

Frome the total number of safety critical systems maintained in 2013 by CNS availability results are provided in Table 7 and Table 8 in a condensed format.

Table 7 – CNS equipment availability in 2013 (year-end status)

Equipment	Outage (min)	Severity Class	Most failed equipment	> Target in 2013 over a 6 month period
Voice COM	42	C or E	NA	NO
Digital COM	1488	C or E	AFTN (654)	YES (AFTN)
NAVIGATION	1615	C or E	DME 24 (635) DME 06 (399) GP 24 (395)	YES (DME06, GP24, DME24)
SURVEILLANCE	2634	C or E	FDP (2219)	YES (FDPS)
MET	4659	C or E	AWOS/ATIS (763) WIND 06 (1920) METPRO (790)	YES (AWOS, ATIS, Wind Sensors)
Security & Measurement	250	C	UPS LOC 24	YES (UPS 24)

Table 7 gives the detailed system outage results as per equipment to identify systems that were prone to fail more often than targeted (targets are as per 6 month period).

The table shows that some equipment was more prone to outage or malfunctions in 2013 and required more frequent the intervention by CNS.

The reasons were:

− equipment at the end of lifecycle and in the meantime being replaced (e.g. ATFN > AMHS) or under replacement (e.g. AWOS/ATIS, MET wind sensors);

− removing bugs and malfunctions after equipment upgrade (e.g. FDPS);

− equipment close to the end of lifetime and more prone to error and outage.

Table 8 (below) gives a comparison with 2012 data for the three categories (% availability) in line with the four performance indicators (PI#11 – PI#14) agreed and monitored.

Service response time (PI#13) is kept in line with the target (less than 2 hrs) in all instances and also regular calibration of equipment / sensors required to maintain their reliability and validity.

In summary: CNS performance results in comparison 2012 and against set performance targets for 2013 are satisfying.

It is to be noted that the replacement of old systems takes often much longer as expected and that the maintenance of legacy systems beyond a certain lifetime not only leads to outages more often but demand more efforts from CNS to be spent in repair and fixing the problems. These are areas for improvement.

Table 8 – CNS – Performance Assessment / Achievement 2012 – 2013 against KPI and local PI´s (KPI#8)

CNS SERVICE - KPI # 8 - Availability of Safety Critical Equipment - Assessment / Achievement 2012 - 2013
KPI	# 8	Conformity/reliability of safety critical CNS services	2012	2013	2013 Target
PI # 11		Availability of safety critical equipment (min 99,90%)	25/31	25/31	31/31
		Availability of safety critical equipment (min 99,95%)	12/13	9/13	13/13
		Availability of safety critical equipment (min 99,99%)	04/04	04/04	04/04
PI # 12		Maximal tolerable ATM SE incidents (AA)	0	0	0
		Maximal tolerable ATM SE incidents (A)	0	0	0
		Maximal tolerable ATM SE incidents (B)	0	0	2
		Maximal tolerable ATM SE incidents (C)	84	100	45
		Maximal tolerable ATM SE incidents (E)	24	23	20
PI # 13		Average of service response time	not monitored	not monitored	< 2 hrs
		Number of service response time > 2hrs	0	0	0
PI # 14		Equipment calibration > 2 wks after due date	0	0	max. 2 weeks after due date

Note: The number in the columns 2012 and 2013 lists the number of equipment that achieved the target (e.g. 25/31 means 25 out of 31 equipment achieved the target).

2.5.3 CNS Staff Training

CNS staff followed the specific training requirements and targets as set in the KPI as planned:

Target: Fulfil training targets for Air Traffic Safety Electronics Personnel (ATSEPs) in line with competence requirements. In 2013 a total of 275 days of specific, mandatory training days were invested. High efforts in training of engineers / technicians in regard to SSAS and Interoperability requirements were made and need to continue.

CNS holds and maintains individual training and competence logs for all ATSEPs and sets individual training / OJT requirements as per equipment and in line with team / shift (duty/ call) assignment.

However, ANA CNS is aware of the requirements in regard to

− Software Safety Assurance (SSAS);

− Interoperability (IOP);

− Safety critical changes in all CNS areas.

Professional technical assistance and competence needs to be provided by the CNS team to these competence areas in all technical projects.

2.5.4 ESSIP achievements in 2013

Table 9 shows the ESSIP Objective results for 2013 as reported in the Luxembourg 2013 LSSIP report that fall under the auspices of CNS.

The table shows that ANA CNS has no immediate gap in performance in the Communication and Surveillance Objectives of the current ESSIP. However, completion of the Document of Verification (DoV) is still pending.

Table 9 - ESSIP Objective CNS – Results in 2013

ESSIP OBJ	2013 Results	Measures to address performance gap
CNS - Communication		
COM09 - Migrate data networks to Internet Protocol (IP)	Local IP network is in accordance with the requirements for international / regional communication exchange on IPv6 based protocol	No gap in performance
COM10 - Migrate AFTN to AMHS	AMHS implemented; full migration planned to be achieved before the ESSIP target date in late spring 2014 (all functionalities)	No gap in performance
COM11 - Voice over Internet (VoIP)	ANA has no fixed plan yet but is starting in 2014 with training of COM staff and checking available / to be changed HW / SW	No gap in performance
ITY-FMTP - Apply common Flight Message Transfer Protocol (FMTP)	ANA is technically compliant; safety assurance of change was done in Q2/2014 with NSA; DoV is still pending	DoV pending
ITY-AGVCS2 - Air/ground voice channel spaciing (8.33kHz) in airspace FL <195	Planned to be achived by 2018 in ANA for ANA frequencies	National Focal Point to be nominated
CNS - Navigation		
NAV03 - Implement P-RNAV	ANA does not plan to implement P-RNAV as their is no justification / business case for it	No gap in performance
NAV10 - Implement APV (Approach Procedure with Vertical Guidance)	ANA has no plan to implement this and has no established need	
CNS - Surveillance		
ITY-SPI - Surveillance performance and Interoperability	IOP ensured with other ANSPs using a common protocol (RADNET); changes in the SUR chain ongoing will require to be done according to EU IR and the provisions of EU 1034/2011	No gap in performance

2.6 MET (MeteoLux)

The meteorological service unit in ANA (since 2012 ANA MET service is renamed MeteoLux) provides two distinct services:

– **Aeronautical MET** service (weather forecast, warning, observation and climatology service, weather reports etc.) for ATC, commercial and general aviation, SAR and the airport;

– **General MET** service (weather forecast bulletins, alert service, climatological bulletins and customised weather reports) for general public, national institutions and other ministries.

The major achievement in 2012 was the re-certification for six further years as the aeronautical MET service provider for Luxembourg in accordance with EU regulation EC 1035/2011 on common requirements for the provision of air navigation services.

2.6.1 Aeronautical MET performance

MeteoLux is compliant with the relevant ICAO standards applicable to aeronautical MET services.

In 2013 ANA further strived to improve its aeronautical service provision and service quality:

– ANABEL, a new 2-daily briefing between ANA and Belgocontrol MET was put in place;

– Belgocontrol and ANA MET information exchange in case of significant meteorological phenomena relevant for aviation (SIGMET);

– reinforcement of competences of ANA MET staff with training sessions at Belgocontrol, Deutscher Wetterdienst (DWD) and Meteo France;

– improved quality of climatology data in the Climate System (CliSys) with support of Meteo France International;

– introduction of World Meteorological Organisation (WMO) Competence Assessment, in line with ICAO requirements to all MeteoLux personnel;

– Terminal Aerodrome Forecast (TAF) verification now fully implemented in cooperation with other partners in the MET Alliance[13]; a new PI was defined in order to monitor the forecast performance;

– update of existing Service Level Agreement (SLA) with ATC and improved Runway (RWY) state information procedure.

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[13] MET Alliance is an international organisation of designated MET service providers (BE, DE, AT, FR, IR, NL, CH and LU).

The installation of a new TELVENT automatic weather observation system (AWOS) running in parallel to the current AWOS for validation and system verification could not be finished in 2013 as was planned as software problems continued to happen.

MeteoLux is also represented in the airport Winter Operations Cell.

2.6.2 2013 / 2014 Results – aeronautical MET

The cooperation between MeteoLux and other institutes and universities as well as the partnership arrangements with other aeronautical and public MET services offer great opportunities for synergies, improved service quality and cost-efficiency.

Table 10 (next page) lists the results of the Aeronautical MET service in 2013 up to and including the 2014/Q1 update in the various performance indicators (PI# 17 – PI# 20) against set targets and in comparison to 2012 results (for PI#17 – PI# 19).

Staff competence: MET staff keeps up-to-date competence in all relevant working methods and procedures in line with applicable ICAO standards. The introduction of the WMO competence assessment is an important further step to maintain and increase MET competence.

In summary: ANA aeronautical MET service has achieved and outperformed in most instances its set performance targets. It delivers highly reliable and valid aeronautical data and information to aviation users in a timely fashion.

2.6.3 General MET services

Some part of the MET service is related to outside aeronautical MET areas and working together with other Luxembourg administrations, institutions and services with the following activities in 2013:

– coordination with and MET service support to luxembourgish administrations (e.g. agriculture, police, fire brigades and rescue services), universities and international meteorological services;

– organisation of a conference with other national European Center for Medium-Range Weather Forecasts (ECMWF) data users and the ECMWF.

The *MeteoLux website* and the meteorological bulletin are of public interest. Visitors receive up-to-date weather information, warnings and forecasts.

– The number of visits of the website constantly increased during 2013 by 57%.

– The subscriptions to the MET Bulletin are up by 35% compared to 2012.

In 2014 ANA MET plans to further improve the accessibility of its general MET web-information for mobile devices.

MET aims for synergies between both activity areas when planning projects and ensuring project sponsoring. Full cost-transparency of projects for the two areas is enabled.

Table 10 – Performance results against targets in PI´s for ANA aeronautical MET in 2013, the 2014/Q1 update in comparison to results 2012 (as far as they were available at that time)

MET SERVICE - KPI # 9				
KPI # 9	Conformity/reliability of safety critical aeronautical MET service services	2012	2013	2013 Target
PI # 17	Timely provision of METAR	97,80%	98,50%	≥97 %
PI # 18	Timely provision of MET bulletins	96,60%	99,50%	≥ 96,5 %
PI # 19	Timely provision of TAF	98,80%	97,30%	≥97 %
PI # 20	Wind direction	No data	99%	≥90%
	Wind speed	No data	99%	≥90%
	Wind gusts (in stable conditions)	No data	90%	≥90%
TAF verification accuracy	Visibility	No data	41%	≥30 %
	Present weather	No data	36%	≥30 %
	Ceiling	No data	44%	≥30 %

Notes: ANA MET follows and updates external and internal Service Level Agreements (SLAs) regularly and runs customers polls. The feedback from users is generally positive; further improvements of customer surveys have been realised for the survey in January 2014.

The Q1/2014 results are a continuation of the 2012 – 2013 trends and very much in line with targets and close to 2013 results.

2.7   Electro – technical Service (ELE)

The electro-technical service department provides essential services to ANS of ANA and is involved and responsible for a number of safety critical equipment.

To this effect ELE is supervised in accordance with applicable standards, processes and procedures.

The main task of the ELE service is to install, maintain (and improve) the electrical infrastructure of the aerodrome:

−   the airport lighting system (Runway (RWY), Taxiway (TWY), Approach (APP), stop bars, signs);

−   the primary aerodrome power supply to all critical ANA infrastructure including power provision in case of outage or failure and in case of contingency through auxiliary power units and or secondary power supply.

ELE also maintains the integrity, validity and reliability of a geographical information system (*Système d´Information Géographique*, SIG) of the infrastructure (e.g. maps of electrical and fibre optic cabling and wiring; infrastructure maps; geographical info and telephone system).

This information and data is an important input and enabler to the planning and implementation of nearly all infrastructure projects as, for example the RWY and TWY refurbishment works, the A-SMGCS project, power supply projects and all construction and building projects.

In 2013 ELE developed and updated its OPS (Operations) Manual.

2.7.1   Performance of safety critical equipment

Aerodrome lighting: In 2013 the main project was to finish and put into operations the Airport Lighting Control and Monitoring System (ALCMS).

The plan, established in 2012, aiming to go operational about mid-2013 was achieved and proved the effectiveness of the PMO project planning and monitoring approach.

The system has been in full operational use since August 2013 (following a test period).

Power supply projects 2013: After a 2012 safety survey of the aerodrome power supply plans were developed to overcome identified risks or problem areas.

ANA as the ANSP (CNS, ATC, MET) in 2013 planned the implementation of a dual (independent) power supply infrastructure and started:

−   **Project ´Station Hamm`** - Installation of an auxiliary power supply and of an auxiliary telecommunication connection for CNS equipment to resolve the risks related to the existence of a single point of failure and in the old cabling.

−   **Project `Main Power Station South`** - A new power station supplied by a second external source for regular electric power supply by an Emergency Power Unit (i.e. Uninterruptable Power Supply (UPS)) from which electrical power can be obtained upon failure of the prime power source in a nominal 15-seconds changeover time for visual aids. This infrastructure will ensure a continuous power supply in case of power failure and increase flexibility in case of maintenance especially for ANA as the ANSP

Safety - ATM technical effects: In line with the above, the protection of the aerodrome / ATM system from effects or failures of the safety critical electro-technical system is in the focus of regular and preventive maintenance and the 24hr service intervention.

The PI for the (technical) effects on ATM Services is the *´Maximal tolerable number of ELE direct contribution to severity classes AA – E`* incidents; the target values and 2013 results are given in Table 11. The most striking figure is the 95% availability rate of the ALCMS, a very good result.

The 2013 figures show that in the severity classes AA (inability to provide ATM services) to class B (partial effected ATM service) no incidents occurred. In classes C (degraded ATM service while still able to function fully) less incidents happened in 2013 as targeted. Class E effects have no safety impacts and the number of occurrences was within the targeted level.

In three areas (PI#27, 28 and 30) targets were set but no practical measurement procedure or means were adopted.

This was identified as an area for improvement during the KPI review in June 2014.

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Table 11 – Availability of ANA electro-technical services and safety critical equipment – results 2013 against targets

ELE SERVICE - KPI # 11 - Availability of Safety Critical Equipment - Assessment / Achievement 2012 - 2013				
KPI # 11	Conformity/reliability of safety critical CNS services	2012	2013	2013 Target
PI # 26	Availability of safety critical equipment - ALCMS	achieved	95%	75 - 95%
PI # 27	Availability of safety critical equipment - secondary power supply	NA	NA	< 1sec
PI # 28	Availability of safety critical equipment - all lightning systems	NA	NA	< 15 sec
PI # 29	Maximum tolerable ATM SE incidents (AA)	NA	0	0
Levels	Maximal tolerable ATM SE incidents (A)	NA	0	0
	Maximal tolerable ATM SE incidents (B)	NA	0	2
	Maximal tolerable ATM SE incidents (C)	NA	13	10
	Maximal tolerable ATM SE incidents (E)	24	4	20
PI # 30	Average of service response time	NA	NA	< 2 hrs

Note: During 2012 the performance figures were recorded in occurrence reports (Form C) and stored in SMU.

One specific issue for the RWY06/24 lighting is the photometric measurement of the RWY lights using a specific measuring equipment. Although ICAO does not specify the number of times the photometric properties of the lights are to be checked, ELE does this twice the year. The Table below relates to the KPI above and gives the measured results since 2011 – 2014 (first half) measures.

The 2014 results indicate very good results (percentage of lamps meeting the photometric requirements) as one performance indicator for the PI#26.

Year	Percentage of lamps meeting the photometric requirements		Identified problems
	RW24 lights	RWY 06 lights	
2011	41%	56%	NA
2012/1	No measurement	29%	Problem with RWY de-icing product
2012/2	83%	No measurement	NA
2014/1	96%	89%	None

Note: ELE is working on a procedure for photometrical measurement which will be included in the ELE Operations Manual during the next update.

2.8 Aeronautical Information Service (AIS)

The AIS service is in charge of the ATS Reporting Office (ARO) function. It is also responsible for the invoicing, the collection of the ATC user charges and issuing the flight planning before the departure of a flight.

The principal tasks of AIS are the issue of the Pre-flight Information Bulletin (PIB), which contains the NOTAMs, Air Traffic Flow Management (ATFM) information and SNOWTAM messages plus information relevant for personnel in charge of flight operations.

2.8.1 2013 – 2014 activities and plans

Since mid-2012 and throughout 2013, AIS was involved in three main projects

– AIS was the project leader for the launch, implementation and integration into practice of the project for the implementation of new ATS Message Handling System (AMHS) in line with SES and SESAR requirements (ESSIP Objective COM10);

– support of the implementation of the FDP Offline messages (done after implementation of the new FDPS in 2013) for extracting various information and data (for monitoring and statistics) and passing the system through the steady state phase and finally into operations in 2014;

– preparation and launch of a Call for Tender (CfT) and for acquisition of electronic Terrain and Obstacle Data (eTOD) for the airport, the entire country and attached TMAs served by ANA ATS.

The AMHS and FDPS systems are now in operations after successful resolution of issues and problems.

AIS was involved in the AMHS Factory Acceptance Test (FAT) and Site Acceptance Tests (SAT).

eTOD: The last bullet above concerns a major item of importance for Luxembourg aviation and ANA in particular: the availability of 3-dimensional aeronautical terrain and obstacle data.

The data shall be handled in line with the quality requirements of the Aeronautical Data Quality (ADQ) regulation and ICAO Annex 15 and is essential for the implementation of ATC procedures (e.g. CDO), infrastructure projects on the airport (e.g. buildings, masts, navigation aids) or its vicinity (e.g. power lines, high buildings) or in the country (e.g. windmills).

Cooperations: AIS held, in 2013 and 2014, meetings with Belgocontrol (as the publisher of Luxembourg aeronautical information) to discuss the impacts and changes due to the coming into force of the EU Regulation 73/2010 (ADQ regulation).

The items under discussion are the

– publication of a corrected and revised AIP (Aeronautical Information Publication) for Luxembourg which is still due (see further down);

– eTOD related issues; and

– issues related to the cooperation agreement between Belgocontrol and ANA AIS as the AIS providers for Belgium and Luxembourg respectively.

The publication of a corrected and completed AIP for Luxembourg is ongoing; the publication of the AIP will be done by Belgocontrol based on a Memorandum of Understanding (MoU).

AIS participated in meetings of AROC, the Winter Operations Cell, and Airport User Committee (AUC) plus in external groups (Eurocontrol, FABEC).

AIS will be actively involved in AER responsibilities in 2014.

2.8.2 Performance 2014

AIS started in 2014 to apply the PI developed and agreed in 2013.

Table 12 below lists them together with the status of achievement in May 2014.

Table 12 – AIS performance results 2014

PI#	Performance	Achievement	Target
1	Maintain/develop competence of staff	AIS/ARO staff followed 16 AIS job related courses (AMHS, QMS, SMS)	In line with applicable standards
2	Regular consultation with internal stakeholders	AIS participated in all project coordination meetings (14)	No target established
3	Regular consultation with external stakeholders	AIS participated in 24 meetings covering all stakeholders / users	No target established
21	SLA completion with external data provider	None concluded so far in 2014	No target established
22	Integrity of LU aeronautical data published by Belgocontrol	AIS checked all published data and detected differences in 5% of the cases	0
23	Integrity of LU aeronautical data transmitted by AIS to Belgocontrol	AIS had no differences detected	0

2.8.3 ESSIP achievements in 2013 - 2014

Table 13 on next page shows the relevant ESSIP Objective for 2013 as reported in the Luxembourg 2013 LSSIP report falling under the auspices of CNS.

The table indicates that ANA has an immediate gap in the achievement of the current ESSIP in regard to two AIS related Objectives:

- Integrated briefing level 5;
- ADQ implementation (EC 73/2010).

Table 13 - ESSIP Objective AIS – Results in the 2013 reporting cycle

ESSIP OBJ	2013 Results	Measures to address performance gap
AIS/MET Briefing **INF04 - Implement integrated briefing**	This objective applies to both AIS and MET ANA is late in implementing Level 5 integrated (AIS/MET) briefing The establishment of Level 5 briefing facilities at the airport proves difficult and costly. The estimated investment costs are to be justified.	The project is on hold An effective, cost efficient alternative solution (e.g. web-based briefing facilities) shall be investigated and proposed by AIS and MET.
Aeronautical Data **ITY-ADQ - Ensure quality of aeronautical data and aeronautical information**	ANA is late in implementing ADQ requirements ANA AIS issues data to Belgocontrol as the next intended user and publisher of information. Formal arrangements are in place and documented in IMS. ANA AIS lacks inputs and instructions from a competent authority on aeronautical data handling, management and maintenance in line with EC 73/2010 ADQ requirements, and in particular of eTOD. Note: eTOD is required in a number of projects (CDO, PANS OPS, AER projects)	The project is ongoing (CfT to be issued) ANA escalated the issue to regulatory / supervisory level for clarification and decision.

2.9 Aerodrome Services (AER)

The main tasks of the AER service are

- project-managing, contracting, coordinating and monitoring of maintenance of RWY and TWY's with the main contractor PCH;
- coordinating and overseeing that works are performed in compliance with safety requirements (together with the safety management unit (SMU));
- specifying and contracting of specific aerodrome studies (e.g. RWY marking, TWY resistance; buildings and obstacles in the vicinity of the airport);
- wildlife management (ornithological observation, scaring off of birds, wildlife report[14]);
- winter service – participating in the so called – Winter Operations Cell responsible for the coordination and implantation of actions during conditions of snow and ice; AER is looking after the storage of liquid used for the decontamination of RWY during certain icy conditions;
- RWY inspection (e.g. FOD, signals) in coordination with ATC, MET, SIS as appropriate.

2.9.1 Activities

RWY / TWY maintenance: AER had several re-surfacing of RWY/TWY projects and other construction works to manage in close cooperation with the services from *Ponts et Chaussés* (PCH) in two implementation periods in spring and in autumn 2013 during which the airport had to be closed during nights (00:00 – 06:00hrs) but had to remain open at all other times. This was achieved with limited restrictions to traffic.

RWY treatment fluid reservoir: A new reservoir for RWY treatment during icy conditions (200kL) was put in operations during 2013 and is available for the forthcoming winter period.

Aerodrome certification: The work on the Aerodrome Certification started in late 2012 and continuing during 2013 (in line with the Réglement Grand Ducal (RGD) transposing ICAO Annex 14 requirements into national law) identified gaps that are and will be addressed.

The publication of the new airport regulation, EU 139/2014, sets requirements that replace national law, and is now the basis for this activity towards certification.

Aerodrome Manual: ANA AER and other departments continued to work on the Aerodrome Manual that will integrate other existing documents (e.g. PTO[15]) and will describe the processes, procedures and arrangements around the airport as an integrated process.

The involvement and active participation of all airport stakeholders (e.g. lux-Airport, AUC) and ANA departments (e.g. AIS, SIS, SMU, ATC to name but some) has to be ensured.

This is an area for improvement identified and notified by ANA to stakeholders. The full integration of AIS into AER and partly also ATC with certain activities is another step to ensure a coherent and integrated management of all aerodrome related activities.

The current arrangements with stakeholders are often isolated, incomplete and / or too narrowly defined technical procedures that is, lack integration. ANA AER will take the lead in defining an integrated and coordinated approach which will enable also an information flow and feedback for improvement.

2.9.2 Performance

AER had since 2013 no KPI / PI defined and agreed for its services. Work has started in Q2 2014 with QM to define PIs and set in place targets for the forthcoming reporting period.

The KPI / PIs need to be coordinate in line with the new tasks and responsibilities of ANA as the aerodrome operator that are to be identified in the remainder of 2014 and in line with the new Airport Regulation EU 139/2014.

2.9.3 Training

Given the new role and responsibilities to ANA as the aerodrome operator for implementing EU 139/2014 it became obvious in the last month of this reporting period that staff competence in AER and on all relevant aerodrome matters is a key requirement.

AER personnel has undergone in total six training modules on aerodrome safety, on wildlife management and other subjects.

Involvement of further personnel (including AIS) in training activities and other activities designed to improve competence on aerodrome matters is considered to be a matter of urgency and great efforts will be put into its organisation.

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[14] ELLX Wild Life Management Annual Report 2013. Luxembourg, ANA.

[15] Consigne d´Exploitation de PTO – Procèdures Technique et Opèrationelles (Aerodrome). ANA : Luxembourg.

2.10 Fire brigade and rescue service (SIS)

The main tasks of SIS are the

- intervention in case of aircraft incidents/accidents
- support to persons (first aid) in critical conditions.

However, SIS is also tasked with

- interventions in case of fuel spills and acting in accordance with the Dangerous Goods Regulations;
- daily inspections of the RWY and the TWY´s and collection of FOD and remains after bird strikes; and
- wildlife / bird strike management.

During winter operations SIS

- performs regular friction tests with a (newly acquired in 2013) friction tester specialist vehicle.

2.10.1 SIS Activities

The friction test task is triggered by a MET report regarding weather conditions.

The process that starts is closely coordinated with ATC and AIS and PCH. To this effect SIS establishes the friction test results in a standard format.

SIS provides the validated report of the results to ATC, AIS and PCH for their follow up and action as appropriate.

SIS is also represented in the airport Winter Operations Cell.

Finally SIS is responsible for the maintenance of about 120 vehicles of ANA and PCH.

2.10.2 SIS Performance

SIS has agreed and signed KPI and PIs in place with clear targets.

Table 14 provides an overview in the PI achievements until Q2/2014.

SIS demonstrated its capability in keeping in line with the target set for intervention time, a major target also in regard to ICAO requirements.

Service level alignment: The service level requirements (i.e. aircraft category) for SIS operations as indicated in the KPI form are related to training needs of SIS personnel as stated but also to the availability of trained personnel during shifts and in standby.

These, and related measures for a more operationally requirements driven work schedule and operations are still pending stakeholder and user consultations as part of the ongoing ANA contingency plan (includes SIS), investigations of the operating needs with airlines, and ICAO requirements.

These activities are ongoing.

Table 14 - SIS – Performance Assessment / Achievement 2012 – 2013 against KPI and local PI´s (KPI#16)

KPI# 16 - Conformity / realiability of airport SIS safety critical services and equipment		Year		
		2013	2014	Target
PI#	PI / Task	Unit		
PI 37	Emergency response time	Min		02 min 42 s*	< 3 min
PI 38	Maintain and develop competence of staff: fire fighting and rescue competence development	%			Training plan completed for all staff (100%) ...
	Action: Establish and agree level of security and operational need			Not done	
	Action: Ensure conformity of the SIS competence scheme and training plan with the agreed level of security and operational need			No done	
PI 39	Maintain regular internal services interfaces				
	Action: Define relevant interfaces identified between SIS procedures and AIS, MET, PCH and ATC in addition to interfaces as defined in current PTO			Not done	All relevant interfaces identified, defined and coordinated with respective other units and integrated in PTO / Airport Manual
PI 40	External services interface				All actions defined, coordinated and resolved with external parties as appropriate
	Action: Define / record including actions taken with external parties				
	Action: Keep central records of FDO and fuel spill reports and report received from other parties for quarterly / annual reports				

2.10.3 Staff training

The core PI for SIS is the rapidity of intervention in case of accidents and rescuing passengers and crew in distress, danger or injured as soon as is possible.

Regular

– training of SIS staff in accordance with the fire fighting and rescue training plan and

– exercises of the staff under various conditions of fire fighting and rescue

are key for the proper functioning of the service. ANA puts a high priority on training of SIS personnel with substantial investments in working and training facilities on site and for external and on-site training.

In 2013 / 2014 SIS personnel achieved the training and rescue exercise plan again with good results:

– 109 practical exercises were held on-site;

– 20 firemen were trained in specific training facilities abroad (RISC training, other);

– 4 new staff were trained as firemen in formal national training courses;

– 19 firemen received practical training in the national training centre in Luxembourg.

In 2013, SIS was called for interventions in total 246 times:

– 85 first aid interventions;

– 32 fire alarms / interventions (incl 19 false alarms);

– 43 aircraft related alarms / interventions;

– 86 technical interventions fuelling related or DGR (Dangerous Goods Regulations).

One upcoming issue in 2014 is the identification of the operational requirements with reference to the a/c CAT assigned. The next step is the better alignment of the operational rosters for SIS fire fighters agreed with users and in line with the requirements with working time legislation for shift-working staff.

3 PROJECT DEVELOPMENTS IN OPERATIONS & INFRASTRUCTURE

3.1 Progress in Project Management

The Programme Management Office (PMO), established in 2012, continued and advanced in 2013 and 2014 with the implementation of PM tools and procedures, internal project reviews and direct and indirect project support.

The PMO is in charge of managing the portfolio of projects and ensure progress according to schedule and in line with budget and resources. To achieve it in practice of the projects has been a challenge. ANA project leaders had to adapt to the new working practices and schedules as had the supplier companies involved.

A particular new item now and common subject in nearly all developments and implementation projects are the safety WP´s and tasks and the testing and transition period following implementation. The efforts required during these phases are often underestimated. A reset after serious bugs or failures easily can delay projects as it did in some instances.

The safety case work in projects – especially when Interoperability and SSAS were involved – requires specific competence in the project team that had to be acquired or be provided by external experts, at supplier level and, last but not least, at NSA level. This limited competence is identified as a major area for improvement, requiring further efforts in training and human resources.

Despite these challenges 2013 / 2014 saw a number of finished projects, many changes implemented and endorsed.

The following chapters provide an overview of the 2013 achievements.

3.2 Program management processes

Project leaders are getting used to fill the Project Change Request Template (PCRT) and are getting more precise in their estimations of resource and KPI`s and PI`s to be observed.

Successful Processed Change Notifications

Figure 4 – Project change notifications successfully processed

– The revisions or drafting of CONOPS and Functional Hazard Analysis (FHA) steps need improvement through coaching and guidelines. It is realised that a CONOPS template needs to be created: An FHA template in use already.

– Nine (9) Projects of the strategic Project Management Plan (PMP) were finalized in 2013 including two major projects. This gives an average of nearly 1 (0,8) projects / month (excluding the holiday periods).

The following is a list of program and project management achievements in 2013 - 2014:

– Quarterly meetings of all project leaders to improve PM processes and procedures.

– Dedicated meetings with Project Leaders to improve prioritization of projects and resource allocation.

– Organization of dedicated sessions to enhance the use of PMTalk, the PM internal web application. In future, project leaders will be asked to fill the status of their respective projects on PMTalk using the flagging feature available in the tool.

– Use of the PLC cockpit in the SMT to monitor project progress, to take corrective actions and increase efficiency. The project cockpit is a way for project leaders to highlight and escalate the problems they encounter in their projects. The SMT uses the Project cockpit during the Strategic team meeting to focus, discuss and try to find solutions to problems.

– Improved cost tracking process and procedures for each project (Modification of the "Bon de Commande").

– Change notification process is in place.

The following are areas for improvement in PMO:

– The Introduction of PMO related PI's into the ANA Performance Plan is an important next step for the remainder of 2014.

– Strengthen the link between KPI's/ Business Plan/ LSSIP/ FABEC Performance Plan.

– SSAS documentation is currently not mandatory as part of the process to implement a new system. The revised and amended Safety Management Manual (SMM) Chapter was not yet approved by the DAC.

– The quality control part of the documentation needs to be improved.

– Project costs and collateral cost monitoring and cost-efficiency measures need to be developed and applied.

3.2.1 Program management resource allocation

A total of 14 FTE (Full Time Equivalent) staff complement is estimated for project work in 2014-2015, this figure is an estimation based on the PCRT's. The actual FTE needed for projects is probably a lot higher as it was noted for several projects like "FDP upgrade" and "ADD update" to name but a few projects which required more

resources in the end due to extra work required to overcome problems during the transition phase into final operations.

It is essential in the very first steps of a project to take the time and estimate resources - human and financial - realistically and in collaboration with the impacted departments and involved people.

3.2.2 Internal Benchmarking

Some examples of internal best practices are given regarding the planning of project steps and of human resource allocation.

The PMO insists on the need for internal benchmarking and sharing of information within the project leader community to spread competence and increase the efficiency in the project management process.

Table 15 below gives an overview on the Status of finalised projects, projects ongoing, on hold or cancelled.

(Status: The table lists projects that started or were finished in 2013 until end June 2014 and were supported by PMO).

Table 15 – Status of projects started, ongoing or finished in the period 01 January 2013 – 30 June 2014

Project Status Category[16]	Project Name	Service	Project Status	End date	Scope	Reference to EU / ESSIP / ICAO / PI Reference KPI / KPA
Finalised	**AMHS** – ATS Message Handling System	AIS	Operational	01/06/2014	SES	COM10 / ITY-ADQ / ITY-FMTP / COM09 EC 73/2010 (ADQ) / EC 633/2007 / EC 283/2011 EUROCONTROL Specification 0136 COST EFFICIENCY
	AWOS / ATIS – Automatic Weather Observation System	MET	Operational – shadow phase	01/09/2014	ICAO	ICAO Annex 14 COST EFFICIENCY
	Emergency – Clear the Sky	ATC	Operational	02/05/2013	SES	GEN01 / EC 1035/2011 / ICAO Annex 11 SAFETY (Contingency)
	RMDCN connection with ECMWF	MET	Operational	17/01/2014	Internal ANA	WMO
	TAR2 Air-condition system	CNS	Operational	01/09/2013	Internal ANA	PI: Availability of safety critical equipment SAFETY
	Mindforest Tableau HR	ADM	Operational	31/12/2013	Internal ANA	COST EFFICIENCY
	ALCMS – Airport Lighting	ELE	Operational	01/08/2013	ICAO	ICAO Annex 14 / EUROCAE Doc ED 153 PI: Availability of safety critical equipment SAFETY
	Stop bar individualisation	ELE	Operational	01/05/2013	ICAO	ICAO Annex 14 SAFETY
	Station Hamm UPS	ELE	Operational	01/04/2014	ICAO	ICAO Annex 14 PI: Availability of safety critical equipment SAFETY (Contingency)
	Guidance signs RWY	ELE	Operational	30/09/2013	ICAO	ICAO Annex 14 SAFETY
	ILS UPS	ELE	Operational	15/02/2013	ICAO	ICAO Annex 14 PI: Availability of safety critical equipment
	ADD – Aerodrome Data Display SW Update	CNS	Operational			

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[16] Only major projects listed

Table 15 (cont´d):

Project Status Category[17]	Project Name	Service	Project Status	End date	Scope	Reference to EU / ESSIP / ICAO Related KPA / KPI
Ongoing	**A-SMGCS** – Advanced Surface Movement & Ground Control System	ATC	Definition / Implementation	01/06/2016 Phase I	SESAR	AOP04.1 / 04.2 / ATM MP RGD No9 – 18 Jan 2013 transposing ICAO Annex 14 SAFETY
	SSAS – SW Safety Assurance System	CNS	Deployment	31/12/2014	SES	EC 482/2008 (SSAS) SAFETY
	SDDS – SUR Data Distribution System	CNS	Deployment	01/06/2014	SURNET / SES	SURNET agreement / SAFETY (Contingency) EC 1207/2011 (IOP)
	IOP Gateway (digital IP / analogue gateway)	CNS	Deployment	01/06/2014	SES	EC 1207/2011 (IOP) SAFETY (Contingency)
	E-TEC new Server Building	CNS	Definition	31/12/2014	SES	CNS Contingency / Redundancy (SAFETY) Enabling implementation of other projects
	eTOD – electronic Obstacle & Terrain Data	AIS	Definition	31/12/2014	SES	EC 73/2010 (ADQ) / AIP BE LUX Core data enabling implementation projects SAFETY / ENVIRONMENT
	CDO – Continuous Descent Operation	ATC	Definition (pending eTOD)	Beginning 2015	SES / FABEC	EU 390/2014 (performance) FABEC Performance Plan (FPP) PI (ATC) : Implement CDO ENVIRONMENT
	Replacement NDB LE/WLU	CNS	Study	31/12/2014	Internal ANA	PI (CNS): Availability of safety critical equipment
	DFS Consoles – CWP TWR	CNS / ATC	Definition	01/09/2014	SESAR	HUM03.1 / Project related to A-SMGCS project SAFETY / COST-EFFICIENCY
	Aerodrome Certification	AER	Definition	TBD	SES / EASA	EU 139/2014 (airport) ICAO Annex 14 / Annex 15 SAFETY / COST EFFICIENCY / ENVIRONMENT / SECURITY / CAPACITY
	Support structures frangible masts 06	ELE	Definition	TBD	SES / ICAO	EU 139/2014 (airport) ICAO Annex 14 SAFETY
	RWY / TWY refurbishment	AER	Definition	TBD	Aerodrome ANA	Airport continuity of service SAFETY / CAPACITY / ENVIRONMENT
On hold	**TAR3** – Terminal Area Radar	CNS	On hold	TBD	NA	Final decision MDDI / DAC (accepting alternative measures)
	Full integrated briefing AIS MET	AIS / MET	On hold	TBD	SESAR	INF04 / ATM MP (alternative measures investigated)
	Replacement MET garden	MET	On hold	TBD	ICAO	Project related to AWOS / ATIS project
	D-ATIS	MET	On hold	TBD	Internal ANA	Projects related to AWOS / ATIS project
Cancelled	**Interface** AWOS / CLISYS	MET	Cancelled	--	Internal ANA	No reference
	Thies – Web-Module	MET	Cancelled	--	Internal ANA	No reference

Note: The table lists the major projects that started in 2012 - 2013 and Q1/Q2 2014 and were published in the Annual Plan (see: ANA, 2013, *ANA Annual Plan 2013.* Luxembourg, ANA).

The total investment volume of all projects finalised and ongoing (except AER RWY project) is about 12 M€ for the period start of project up to end 2016.

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[17] Only major investment projects are listed

4   QUALITY MANAGEMENT

ANA made a big step forward in improving its internal and external quality management system.

The efforts in 2013 concentrated on internal QM structures, quality trainings and regular QM meetings at working (departmental) and management level. Internal processes, procedures and structures were either created or revised and integrated into the Integrated Management System (IMS) and documented.

The following paragraphs provide a resume of the quality management activities and results in 2013 – 2014.

4.1   QM activities and results

4.1.1   User satisfaction survey:

A broad user satisfaction study was launched in September 2013. The first objective of the study was to assess user's satisfaction regarding all services (ANSP and AER) and all criteria (safety, quality, efficiency, operational).

The panel involved 219 users in 3 groups (airliners, corporate aviation and general aviation). The survey was managed with an electronic tool, which contains 58 questions with open- and close-ended questions.

Another objective was to know the future needs of users, the strengths of our airport and the possible obstacles to an activity development.

The results of the study were communicated internally in each department with the participation of the CEO and heads of department.

The results underline strengths and improvement area with a high level of satisfaction (see Figure 5 below): 87% of users are satisfied or very satisfied which is a good rating compared to similar organisations.

The main area of improvement confirms the decisions taken by the management team during the previous months. In addition, the strategic decisions included new items provided by the study.

The areas of improvement concern both ANA as the ANSP and as the aerodrome operator (AER):

−   the communication;

−   the coordination with other stakeholders;

−   runway works;

−   winter operation and
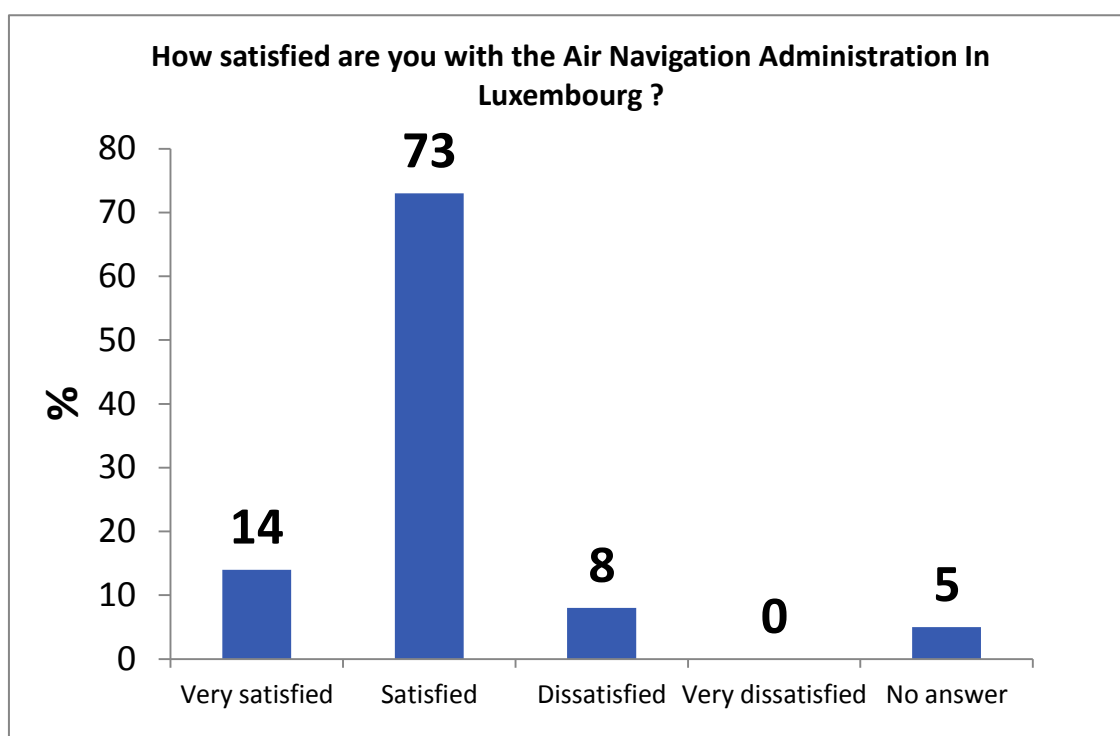
−   apron management.

Figure 5 – Results of the ANA 2013 User Satisfaction Survey

4.1.2 Processes and procedures

Internal processes and procedures were either newly created or were revised and integrated into the Integrated Management System (IMS) and documented.

Management processes were designed and formalized such as the external audit management, the strategic management, the performance management or competency management.

The new processes were communicated to all people concerned.

4.1.3 Quality training

All quality officers were trained on the quality basics and ISO 9001 requirements during two sessions in 2013 and one in 2014.

Additional trainings were given to departments about the quality documentation tool.

4.1.4 Certification ISO 9001:2008

Two external audits were held: one in July 2013 and one in March 2014. The audit of ISO 9001 recertification was done by the international body BSI.

No non-conformities were detected during these audits. The audit report concluded with the recertification of ANA until March 2017 and with a statement that the management system continues to demonstrate its ability to comply with legal, regulatory and contractual requirements.

Further work and efforts will be increased in the next reporting period to meet the updated standards.

4.1.5 Structures

The organisational chart was updated and communicated to all the staff in order to precise the responsibilities and the assigned functions of staff that hold official nominations (e.g. in quality, in safety, as training managers or as officers).

4.1.6 Meetings

Internal communication is strengthened through regular management reviews and clear frequency. Lead IMS meetings started in December 2013 in order to coordinate the actors of safety, quality, project, training and security.

Quality officers gather every two month for a meeting to follow-up on the corrective and preventive actions and share quality practices.

4.1.7 Management reviews

Two management reviews were organised during the reporting period: one in July 2013 and one in January 2014 with the CEO present and including all management staff.

The goal of the management review is to check the performance of the Quality Management System (QMS) and to review the main processes.

4.1.8 Internal audits

A new team of internal auditors was created in May 2013 in order to restart the internal audits. Subsequently a total 13 internal audits were organised in 2013, resulting in many findings which has allowed improvements in all aspects.

4.1.9 External audits management

The process for the management of external audits is clearly defined in the IMS manual.

This process aims to manage the findings from external audits and is therefore a real tool for driving improvement and corrective actions.

The management team started to have a better understanding of applicable regulations and standards and of the added value that these requirements can provide in collaboration with the NSA.

The main task of this process is the tracking of all non-conformities and observations.

The outcome of the efforts was:

- positive results in the follow up NSA audits in the beginning of 2014
- all non-conformities regarding common requirements regulation EC 1035/2011 (Annex I) could be closed.

Table 17 – Summary of performance assessment against performance indicators set for 2013, corrective actions in 2013 and remaining performance gaps for the next reporting period

Area	EU wide / FABEC / ANA KPI / PI and targets	ANA 2013 corrective actions planned in 2012	Performance achievement 2013	Corrective actions proposed	Gaps closed in 2013 or not?
SAFETY	**SES-PI 1**: Effectiveness of SMS (EoSMS) <u>Target</u>: No quantitative target defined in SES/FABEC or ANA	ANA has continued to improve the safety situation in 2013 inside ANA by: 1. implementing some key recommendations from the 2011 Safety Culture Survey in ATC and other safety critical services 2. train further safety practitioners in units and in the SMU 3. improve strategic management processes and procedures and project management to better take account of safety issues upcoming in all areas 4. change management procedure for information and communication of safety related changes with DAC	<u>Ad #1</u>: Identification of key recommendations for ATC related, action plan defined and implemented. <u>Ad # 2</u>: Appointment and training of safety officers for the units and in the SMU continued. <u>Ad # 3</u>: Strong improvement of management processes and structures in 2013 in the SMT, regular management process reviews; regular quality management meetings; internal audit processes; LEAD (regulatory) management meetings, Safety Committee meetings addressing safety as a prime issue . Ad # 4: Change management procedure developed, approved and implemented into practice in 2013.	EoSMS: Continued efforts and new targets / actions required in 2014 to advance further in SMS. A closer partnership and coordination with other airport partners is required to resolve safety issues at the airport. This includes the proper set-up and management of a collaborative airport safety management system.	Most identified items in safety management processes, procedures and structures at strategic, middle management and working level have been successfully achieved and existing gaps and non-conformities were closed in 2013. ANA will further invest efforts and resources to improve the effectiveness of the SMS.
SAFETY	**SES-PI 2**: Apply severity classification <u>ANA Target</u>: Apply severity classification to all SMIs and RI	ANA needs to apply the severity classification as laid down in the AMC of EASA	RAT is implemented and applied to all SMIs and RIs. (<u>Note</u>: ATM SE classification scheme revised)	For ATM ground occurrences the gap is closed.	ANA applies revised AMCs scheme to ATM SE as of 2014.
SAFETY	**SES-PI 3**: Reporting of Just Culture <u>Target</u>: No quantitative FABEC / ANA target defined	ANA should continue to improve the situation further internally and set according targets (e.g. based on recommendations from the Safety Culture Survey.	ANA has devised an approach and agreement on two actions in ATC: - Provisional inability of ATCOs; - Agreed practices after incidents.	**State regulator and justice system adaptation in accordance with Just Culture recommendations are not in the power of ANA.**	Gap is not fully closed State (juridical system) actions are still required
SAFETY	**SES** – Implement Contingency measures (in accordance with SES / ESSIP Plan) Part of Corrective Action Plan (CAP)	Agree and coordinate basic measures with Belgocontrol (´Clear the Sky Contingency´). Develop a Contingency Strategy and plan.	A draft contingency strategy and plans was developed, revised by all ANA.	Finalisation and agreement with stakeholders and users is required.	Gaps were not closed in 2013. Main actions were done in 2013 as part of the Corrective Action Plan for ANA.

Area	EU wide / FABEC / ANA KPI / PI and targets	ANA 2013 corrective actions planned in 2012	Performance achievement 2013 – 2014	Corrective actions proposed	Gaps closed in 2013 or not?
SAFETY	**SES – Requirement** on Software Safety Assurance System (SSAS) EC Regulation 482/2008	ANA to develop in 2013 a short – long-term plan and activities to increase competence and develop, with external support, a pilot case.	Pilot case developed and sent to DAC for approval / review. Training of staff in CNS and deployment of SSAS practice (see project list).	DAC proposed to delegate the work to neighbouring NSA in 2014.	Gap could still not be closed in 2013. Main actions will be done in 2014.
SAFETY	**ANA PI: CNS** maximal tolerable yearly number of CNS technical incidents	The old AWOS ATIS system causing the effects to be decommissioned / replaced. FDPS upgrade created technical failures will be resolved in 2013.	Performance targets were not met in 2013 – AWOS / ATIS system was implemented but could not be put into operation in 2013 due to continued SW bugs. FDP upgrade done, project closed.	Putting AWOS system into operation to be done in early 2014.	Gap could not be closed in 2013.
ENVIRONMENT	**SES PI (2)**: Establish CDO procedures at ELLX.	ANA to develop CDO procedures.	CDO procedures developed but could not be finished in 2013 due to non-availability of eTOD. (see project list in Table 15)	Acquire electronic Terrain and Obstacle Data (eTOD).	Gap could not be closed in 2013.
COST – EFFICIENCY	**SES PI**: En-route and terminal cost allocation and breakdown in line with EU regulation	Complete cost allocation En Route (ER) and Terminal (TNC) in accordance with EU regulation was performed.	Cost allocation achieved. En route DC and DUC for RP2 for FABEC, BE – LU common charging zone and DC / DUC for LU terminal airspace established.	Cost breakdown in line with EU regulation in preparation for RP2.	Gap was closed in 2013. Preparation for RP2 performance plans – gap closed in Q2/2014.
COST – EFFICIENCY	**SES PI:** En-route and terminal cost efficiency KPI and targets (national targets)	No corrective action defined in 2012.	TNC CEF projected over RP2 (-2%).	Analyse results / impacts from the cost allocation and DC exercise 2014 (input to action / process below).	Preparation of CEF for RP2 performance plans – gap closed in Q2/2014.
COST EFFICIENCY	**ANA PI:** Align investment and operations costs with budget available	No corrective action defined in 2012 / 2013.	No corrective action plan defined yet.	Establish cost tracking & control of project / collateral costs.	Gap existing; further CEF related activities to be planned.
QUALITY	**ANA PI: QM -** Quality management monitoring of compliance / adequacy of procedures for safe and efficient operational practices	Establishment of a quality management system with appointed quality representatives	Quality system processes and procedures defined and documented; quality officer group appointed and trained in all services; regular QM meetings held at all levels; all non-conformities identified, addressed in and resolved	Further improvement areas identified in User Survey and internal QM meetings to be followed up	No immediate gap existing; continuation of all quality management actions to improve processes and procedures

5 RESULTS IN OTHER ANA SERVICES

5.1 Administrative service (ADM)

ADM is the centralised service unit supporting other services of ANA in administrative tasks.

ADM consist of five sub-departments:

Finance (FIN) – responsible for establishing, managing and monitoring the budget and the financials of ANA projects.

The financial department is also responsible for cost accounting and calculation in line with European performance and charging regulation (see below) and the Central Route Charges Office (CRCO) (Eurocontrol) charging principles for En route charges.

A major step in 2013 – 2014 in the FIN department was the cost allocation in accordance with the SES requirements as laid down in EU regulations 390/2013 on performance and 391/2013 on air navigation charges.

The outcome of this exercise is the transparent and complete repartition of costs in the three cost areas:

− En-route (ER) Determined Costs (DC) and Determined Unit Costs (DUC);

− Terminal costs (TNC) (DC, DUC);

− Aerodrome related costs.

The ER and TNC cost breakdown was a major input to the FABEC Performance Plan (FPP), Belgium – Luxembourg PP (for ER services in the common charging zone, Brussels FIR) and the Luxembourg TNC cost base and performance plan for RP2.

This work required the restructuring of the financial accounting process to come in line with the principles in the EU regulation whilst maintaining the budget management processes and principles that continue to be applied in Luxembourg public service organisations.

It is acknowledged that the latter is a matter for improvement.

The CAPEX in technical and operational infrastructure projects is another area for further improvements. Further steps were made in 2013 to revise some rules and regulations and controls in the project purchasing process. The involvement of PMO and FIN together with Project Leaders was successful.

Further steps in project budgeting, tendering and purchasing are planned for the next reporting period.

ANA financial situation 2013: The following Chapter 6 gives the financial situation of ANA for the calendar year 2013 (and for the previous year(s) for the comparison) from the externally audited Annual Account 2013.

Human Resources (PER) – responsible for the coordination of personnel demand, recruitment, initial and the administrative part of the continuous general and specific job related training together with the State (ministerial) authorities involved and in close cooperation with the staff demanding units.

Areas for improvement are in a nutshell the alignment of the processes and procedures at State level that are to be respected whilst serving the specific competence requirements and needs of ANA technical and operational and other service areas.

The IMS captures the resource abilities.

IT (INF) – provides and maintains the IT infrastructure and auxiliaries (hard- and software) and the internet sites and services of ANA.

In 2013 – 2014 an electronic document handling system was installed and IT continued with the installation of virtual PC solutions that enables a flexible use of the available PC infrastructure, central SW and HW maintenance, reduces maintenance and upkeep costs and increases the availability of IT infrastructure.

Maintenance (ENT) – this service part maintains and refurbishes ANA buildings and rooms, is involved in the maintenance of green areas and provides driver service.

Secretariat (SEC) – this service part assists ANA in administrative and clerical tasks.

(See also Chapter 7, Human Resources Policy).

6 ANA FINANCIAL RESULTS 2013

6.1 Balance sheet after appropriation

Table 18 below gives the final balance sheet for the year 2013 (January to December) approved by external financial audit.

Table 18 – ANA Financial Balance sheet 2013 (ACTIVA)

ACTIF	Notes	31/12/2013 EUR	31/12/2012 EUR
A. Actif immobilisé			
I. Immobilisations corporelles	2.2.1 , 3		
Installations techniques et machines		217 257,76	235 273,83
Autres installations, outillages, mobilier et matériel roulants		388 432,53	385 547,65
Total Actif immobilisé		*605 690,29*	*620 821,48*
B. Actif circulant			
I. Stocks	2.2.2		
Matières premières et consommables		668 146,22	578 314,21
II. Créances	2.2.3 , 4		
Créances résultant de ventes et prestations de services			
a) dont la durée résiduelle est inférieure ou égale à un an		2 572 589,94	2 141 682,93
Autres créances			
a) dont la durée résiduelle est inférieure ou égale à un an		912 704,71	912 704,71
III. Avoirs en banques, avoirs en compte de chèques postaux, chèques et en caisse		12 623 812,45	12 936 954,99
Total Actif circulant		*16 777 253,32*	*16 569 656,84*
C. Compte de régularisation	2.2.7	64 835,85	46 849,68
TOTAL DE L'ACTIF :		**17 447 779,46**	**17 237 328,00**

Composition de l'Actif - 2013
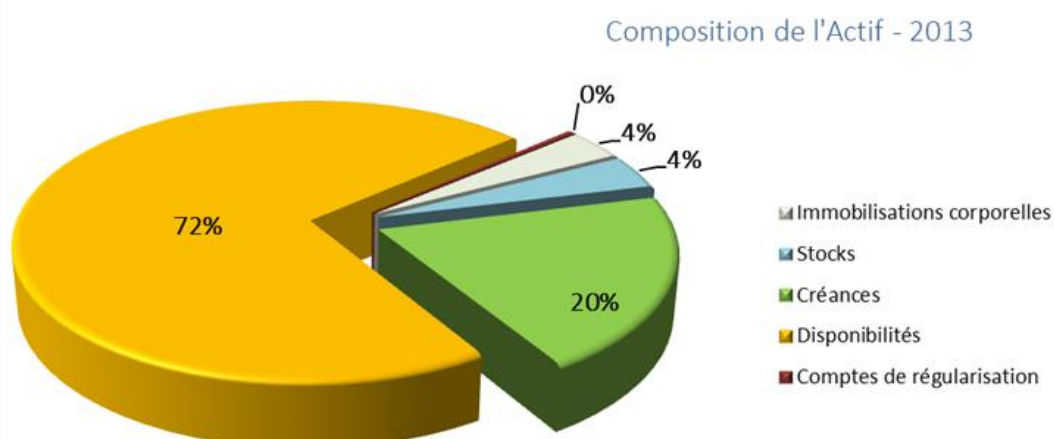
Table 18 (cont´d) (PASSIVA)

PASSIF		31/12/2013 EUR	31/12/2012 EUR
	Notes		
A. Capitaux propres	5		
I. Capital de dotation		5 550 087,48	5 550 087,48
II. Résultat reportés		11 061 406,33	11 682 473,54
III. Résultat de l'exercice		224 180,12	- 621 067,21
Total Capitaux propres		16 835 673,93	16 611 493,81
B. Dettes non subordonnées	6		
Dettes sur achats et prestations de services			
a) dont la durée résiduelle est inférieure ou égale à un an		510 733,22	447 570,66
Dettes fiscales et dettes au titre de la sécurité sociale			
a) dont la durée résiduelle est inférieure ou égale à un an		101 372,31	90 738,93
Autres dettes			
a) dont la durée résiduelle est inférieure ou égale à un an		-	87 524,60
Total Dettes non subordonnées		612 105,53	625 834,19
TOTAL DU PASSIF :		17 447 779,46	17 237 328,00

Composition du Passif - 2013

- Capital de dotation
- Résultat reportés
- Dettes sur achats et prestations de services
- Dettes fiscales et dettes au titre de la sécurité sociales
- Autres dettes
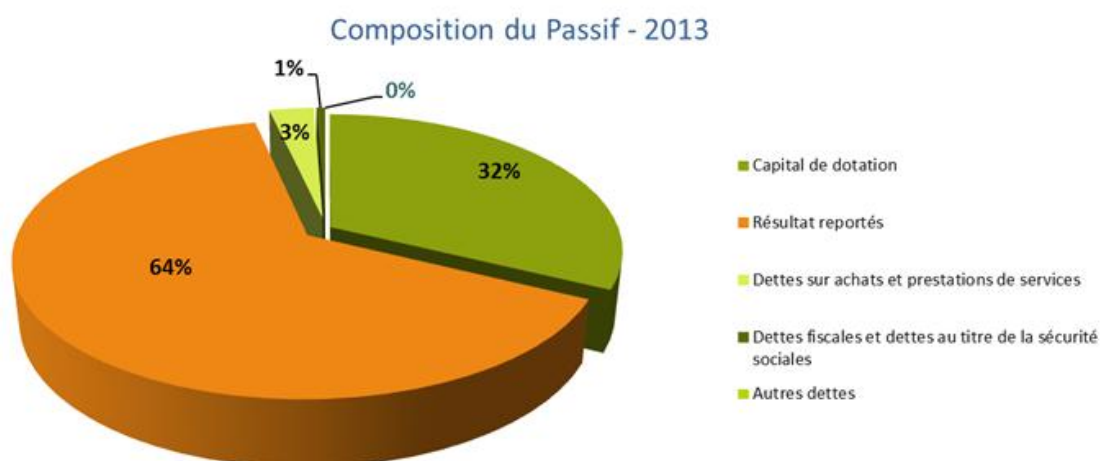
6.2 Profit and loss account

Table 19 below gives the final profit and loss sheet for the year 2013 (January to December) approved by external financial audit.

Table 19 - ANA Financial results (profit / loss) 2013 (and 2012 situation)

Compte de résultat	Notes	01/01-31/12/2013 EUR	01/01-31/12/2012 EUR
A. Comptes de charges			
Variation des stocks de produits finis et marchandises		18 035,21	-
Autres charges externes	8	3 758 100,09	3 982 556,08
Frais du personnel	7	10 966 720,05	10 508 571,48
Dotations aux corrections de valeur des éléments d'actifs		173 277,83	302 432,47
Dotations aux corrections de valeur sur immobilisations corporelles		*130 841,61*	*124 930,57*
Dotations aux corrections de valeur sur créances de l'actif circulant		*42 436,22*	*177 501,90*
Charges financières		-	3,88
Excédent de l'exercice	5, 10	224 180,12	
Total des comptes de charges		*15 140 313,30*	*14 793 563,91*
B. Comptes de produits			
Montant net du chiffre d'affaires	9	14 756 338,63	13 628 590,53
Variation des stocks de produits finis et marchandises		-	33 079,73
Reprise de correction de valeurs sur stocks		107 867,22	-
Autres produits d'exploitation	9	276 107,45	510 478,00
Produits financiers		-	348,44
Perte de l'exerice	5, 10	-	621 067,21
total des comptes de produits		*15 140 313,30*	*14 793 563,91*

Evolution du résultat de l'exercice sur la période 2011-2013
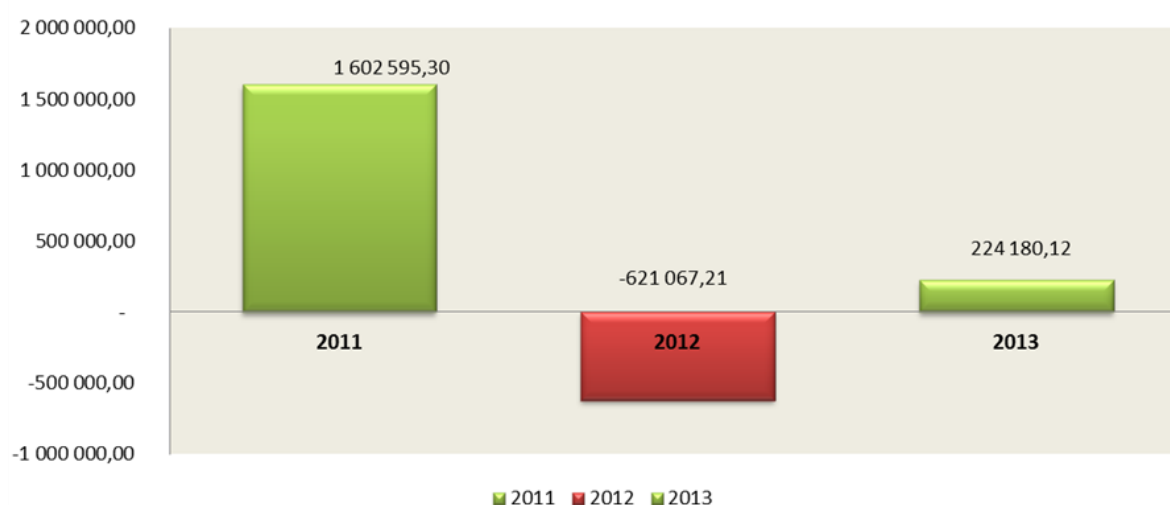
6.3   Strategic Developments

Under the leadership of the Director, ANA Management started in 2013 to gather its thoughts and needs towards the future of ANA and maintaining its marketplace as an ANSP and as the Aerodrome Operator.

The strategic initiative that emerged in early 2014 brought about issues in a number of subject areas across ANA business policy areas and services, from legislative and regulatory aspects to human resources that were shared and coordinated at high (ministerial) level and with all State stakeholders.

Major decisions taken at State level in the second quarter of 2014 enabled ANA, as the ANSP and as the now nominated Aerodrome Operator in Luxembourg, to establish a new strategic vision and roadmap.

These partly new responsibilities and tasks require a proper gap analysis and classification against legal, organisational, operational and technical issues and require the identification of resources – both financial and competence / staff related.

This new strategic vision needs formal endorsement by MDDI and is subject to stakeholder and user consultation and planning.

The new vision was developed with the contribution from the entire management chain with the scope objective to satisfy the performance requirements set up by the governmental programme and the performance objectives and targets of the SES regulation requirements for the RP2 period.

This is one main subject of the Annual Plan 2014/ 2015.

7 USER & STAKEHOLDER CONSULTATION 2013 - 2014

This chapter describes the user and stakeholder related activities and formal user consultation process used in 2013 by ANA to address users of its (certified) services and to consult them.

7.1 Consultation of users

7.1.1 User Consultation in 2013

Three user consultation and information meetings were held in 2013 with the Airport User Committee, representatives from airlines operating on Luxembourg airport, lux-Airport and ANA as aerodrome operators, the aerodrome regulator (*Institut Luxembourgeois de Régulation*, ILR), DAC and the MDDI.

ANA informed users and stakeholders in 2013 about business and performance planning, ongoing or planned infrastructure developments and terminal charges. Users were also informed about the cost allocation exercise and the application of a revised charging formula for TNC as of 2015 and the likely impacts this will have.

Furthermore, users were also informed by ANA in during one consultation meeting about the financial situation, ongoing and planned aerodrome infrastructure projects and the situation regarding airport charges and fees.

Formalities: Invitations and agendas for the subject meetings were sent out in advance of the meeting and users and stakeholders were invited to provide inputs before and during the meetings.

Formal minutes, capturing the results of the consultation meetings and actions, are circulated between participants for amendments and corrections before being finalised.

User consultation process: The user consultation forum agreed to a proposal from ANA to draft a formal user consultation process, rules of procedure and Terms of Reference (ToRs) for user consultations in line with applicable national and European legislation. The latter was subject to a CAP to establish a formal user consultation process.

The user consultation document and ToRs were agreed by MDDI and circulated to users for comments. The final version of the document is included in Annex 2.

7.1.2 User Consultation in 2014

Three user consultation meetings were held in May – June 2014 in the frame of the RP2 Performance Planning in which ANA assisted:

- FABEC Performance Plan (FPP) consultation meeting (23 May 2014);
- Belgium – Luxembourg En route Performance Plan (BE-LUX PP) consultation meeting (27 May 2014);
- Luxembourg (national) Terminal costs and charges consultation meeting (18 June 2014).

The last meeting concentrated on the determined costs and charges for terminal services (TNC) provided by ANA and the planned Capital Expenditures (CAPEX). Detailed information was given to users attending on the impacts of the different formula to be applied in line with EU 391/2013 and the possibilities for a modulation of the charges in accordance with Art 16 of this regulation.

Other airport users (e.g. flight school and flying clubs etc.) are also contacted regularly and informed as appropriate.

7.2 DAC – ANA mutual consultation

During the last reporting period, the exchange of information and consultation between DAC and ANA on safety regulatory and safety management matters took the format of regular meetings.

The aim of these meetings is to create a common understanding of subject matter issues and facilitate in time the preparation of documentation and audits.

Further improvements to the effectiveness of these meetings have been identified; one major issue being the lack of regular and consistent mutual information and exchange on all subjects and the timely provision of information and response to pending items. This will be addressed in coming meetings.

7.3 Other Stakeholder consultation

Throughout 2013 ANA maintained a close coordination with other stakeholders at State level (MDDI and other Ministries), with lux-Airport, surrounding communities and other institutions that have a vested interest in the ongoing developments and in the various services of ANA.

8   HUMAN RESOURCES POLICY

In this chapter the human resources situation and policy as applicable to ANA between January 2013 and June 2014 is described.

8.1   Human resources situation

8.1.1   Certified ANA Services

Description of the manpower situation in certified services on 31 March 2014:

- **ATC**: 47 ATC controllers worked for this department in 2014. Two controller students were undergoing initial training.
- **MET**: in 2014 a total of 20 staff worked for the MET department out of which four were hired as contractors, while two students were undergoing initial training (future full staff members for MET certified services).
- **CNS**: 19 staff were responsible for ANA's technical equipment.
- **AIS**: 14 people worked in the AIS department in 2014, out of which three were hired as contractors in 2014, while three students were undergoing initial training to become full staff members after examination.

8.1.2   Enablers and Support Services

Enablers for service provision:

- **Safety department**: A total of four staff, including the safety manager worked in the safety department in 2014. Each department provides a safety officer and a deputy safety officer assigned to this task as part of their normal responsibilities from within the departments who collaborate closely with the safety department.
- **Quality department**: ANA has one quality manager who is supported in his tasks by the quality officers and deputy quality officers assigned as part of their normal responsibilities from within the staff complement in each department.
- **Project Management Office (PMO)**: One program manager supervises the management of the different projects and is supported by a secretary. Project leaders and task leaders are assigned to projects from the respective departments involved in the projects on a part-time basis.
- **Administration (ADM)**: The administrative department is composed of five discrete units, i.e. Finance, IT, Human Resources (HR), Maintenance and Secretariat. In 2014 a total of 19 staff worked in the ADM department.

8.1.3   Aerodrome services

- **Fire brigade & Wildlife Services (SIS)**: 47 fire fighters worked in the SIS department, out of which 2 have been hired in 2014 as a plannedf increase of the staff complement.
- **Electro technical Services (ELE)**: 11 electricians work in this department, out of which two have started in 2013 and one in 2014 as a planned increase to the staff complement.
- **Aerodrome services (AER)**: In 2014 three people worked in that department.

8.2   Human resources policy

This sub-chapter describes the way in which ANA sets its policy and how it achieves to justify, recruit and finally acquires its human resources in accordance with operational, safety and other demands.

ANA's duties and responsibilities are constantly increasing, leading to a growing need in staff numbers and changes in staff competence. The exact recruitment needs are identified, defined and justified inside ANA. In 2012 a workload assessment was used as a basis for the creation of a document on the human resources needs.

ANA hires staff either as civil servants (public officials), employees (agents) or workers. Occasionally it also contracts consultants who assist with specific projects, provide specific competences or to overcome immediate staff shortages.

The following paragraph describes the hiring procedure, which is different for each staff group. ANA requires the approval of the Ministry of Sustainable Development and Infrastructure (MDDI) before recruiting. For civil servants, employees and workers it also needs the approval of the Government Council and of the *"Commission d'économies et de rationalisation (CER)"*.

8.2.1   Civil servants

When ANA has received the approval of the responsible authorities, it asks the *"Ministère de la Fonction Publique et de la Réforme Administrative"* to organise an exam. If the number of successful candidates exceeds the number of available jobs, the candidate(s) with the highest marks get the job(s).

If ANA wasn't the only public service administration to announce a job, the successful candidates and all the participating administrations get together to find a suitable matching between candidates and specific jobs on offer. In case of high-ranking positions, ANA can choose between all successful candidates.

For ATC, MET, AIS and SIS, successful candidates are sent on specialized training courses that take from 6 to up to 30 months, depending on the type of

training. Typically, these specialized training courses are delivered only in other countries (commonly France and Germany).

In all other departments successful candidates follow a two to 12 weeks training in a governmental institute in Luxembourg accompanied by On-the-Job training.

At the end of the initial training the candidates have to pass a second exam in order to be definitely appointed.

8.2.2 Employees and workers

If ANA has received the approval of the responsible authorities, it asks the *"Ministère de la Fonction Publique et de la Réforme Administrative"* to publish the job. All candidates send in their application via that Ministry and ANA then choses from the complete list of suitable candidates. All employees are trained on the job.

8.2.3 Consultants

If ANA detects a need for additional assistance in a specific domain, and for a limited time period it has to foresee the approximate amount in its budget proposition (if exceeding 55k€) for the following year.

The following year it proposes a candidate to the Ministry of Sustainable Development and Infrastructure. Having received written approval from the Minister, the director of ANA signs the contract with the consultant.

8.3 Attendance at external meetings

ANA maintains a list of staff members asked to attend external meetings at national, regional (i.e. FABEC) or international (e.g. Eurocontrol) level as part of their duties. This list contains information on the attendant, department, meeting or Working Group name and its regularity.

The list is available to heads of departments and is used to allow easier access to persons responsible for briefings and reports, and to improve communication and exchange between different areas.

The list was updated in Q2/2014; it is foreseen to improve the reporting and exchange process for the benefit of all relevant areas in ANA and decide on priorities based on clear criteria for resource and cost-efficiency reasons.

9   ANNEX 1 – ABBREVIATIONS

a/c	Aircraft
ADD	Aerodrome Data Display
ADM	ANA Administrative Department
ADQ	Aeronautical Data Quality
AER	ANA Aerodrome Department
AFTN	Aeronautical Fixed Telecommunication Network (legacy system)
AIS	Aeronautical Information Service
ALCMS	Airport Lighting Control and Management System
AMC	Accepted Means of Compliance
AMHS	ATS Message Handling System
ANSP	Air Navigation Service Provider
APP	Approach Control Service
AROC	Airline Representatives and Operators Committee (Luxembourg)
A-SMGCS	Advanced Surface Movement Guidance and Control System (ground radar)
ATFM	Air Traffic Flow Management
ATIS	Automatic Terminal Information System
ATM	Air Traffic Management
ATM MP	ATM Master Plan (SESAR)
ATM – SE	ATM specific (technical) event (occurrence)
AWOS	Automatic Weather Observation System
BE-LUX PP	Belgium – Luxembourg Performance Plan (En route)
CAP	Corrective Action Plan
CAPEX	Capital Expenditure
CDO	Continuous Descent Operation
CEF	KPA - Cost-Efficiency
CfT	Call for Tender
COM	Communication
CRCO	Central Route Charges Office, Eurocontrol
DAC	Direction de l´Aviation Civile
DoV	Document of Verification
DME	Distance Measuring Equipment
EC	European Commission
EU	European Union
ECMWF	European Center for Medium-Range Weather Forecasts
ELE	ANA Electro technical Service Department
ENV	KPI - Environment
EoSMS	Effectiveness of Safety Management System (Questionnaire)
ER	En Route
ESSIP	European Single Sky ImPlementation (Plan; Eurocontrol)
FABEC	Functional Airspace Block Europe Central (BE, CH, DE, FR, LU, NL + MUAC)
FDPS	Flight Data Processing System
FMTP	Flight Message Transfer Protocol
FOD	Foreign Object Debris
FPP	FABEC Performance Plan
FTE	Full Time Equivalent
GP	Glide Path
ICAO	International Civil Aviation Organisation
ILR	Institut Luxembourgois de Régulation
IMS	Integrated Management System (ANA)

IOP	Interoperability
IR	(EC) Implementing Regulation
KPI	Key Performance Indicator
LOC	Localiser
LSSIP	Local Single Sky ImPlementation (State ANSP and Regulator/ NSA Plan)
LVP	Low Visibility Procedure
MDDI	Ministre du développement durable et des infrastructures
MUAC	Maastricht Upper Area Control (Eurocontrol)
NA	Not Applicable
NAV	Navigation
NDB	Non Directional Beacon (a navigation aid)
NOTAM	Notice to Airmen
NSA	National Supervisory Authority
PANS	Procedures for Air Navigation Service
PI	Performance Indicator (local/ national)
PIB	Pre-flight Information Bulletin
PMO	ANA Programme Management Office
PPP	Portfolio-Program-Project structure
PTO	Procèdures Technique et Opèrationelles
QM	Quality Management
RAT	Risk Assessment Tool
RI	Runway Incursion
RP	(SES Performance Scheme) Reference Period (RP1 = 2012 - 2014; RP2 = 2015 - 2019)
RWY	Runway
SAF	KPI - Safety
SDDS	Surveillance Data Distribution System
SES	Single European Sky (EC)
SIG	Système d´Information Géographique
SIS	ANA Fire brigade and rescue service (Service Incendie et Sauvetage)
SMI	Separation Minima Infringement
SMS	Safety Management System
SMU	ANA Safety Management Unit
SNOWTAM	special series NOTAM indicating snow or slush conditions on airports
SPI	Surveillance Performance and Interoperability
SSAS	Software Safety Assurance System
SUR	Surveillance
TAF	Terminal Aerodrome Forecast (MET)
TAR	Terminal Radar
TMA	Terminal Control Area
TNC	Terminal Costs
TOR	Terms of Reference
TWR	Tower Service
TWY	Taxiway
UPS	Un-interruptible Power Supply
VoIP	Voice over Internet Protocol
WMO	World Meteorological Organisation
WP	Work Package

10   ANNEX 2 – TERMS OF REFERENCE USER CONSULTATION

Rational and Background & Terms of Reference

for

User consultation in the frame of Luxembourg Airport infrastructure management and operations and Air Navigation Services

Edition of February, 24th 2014

Overview

This document gives the background, rational and aim of the User Consultation process set up and agreed by the parties involved at Luxembourg Airport. It shall clarify the different roles and responsibilities of the participants in this process to and what deliverables can be expected.

This document is a means to manage the process of information sharing and exchange in a transparent, effective and efficient way and in accordance with the applicable European regulation and national law.

Background: EU Regulation and National Law

The following paragraphs are a summary of applicable legal requirements as laid down in Luxembourg national law for Luxembourg airport and in European Regulation for air navigation service provision.

Luxembourg Airport National Law

In the **law of 19 May 1999** having the purpose to "*a) de réglementer l'accès au marché de l'assistance en escale à l'aéroport de Luxembourg*". The article 4 states « *Il est créé un comité des usagers de l'aéroport composé de représentants des usagers ou des organisations représentatives de ces usagers. Tout usager a le droit de faire partie du comité ou, selon son choix, d'y être représenté par une organisation de cette mission. Indépendamment des attributions prévues par la présente loi, le ministre (…) peut le consulter sur d'autres sujets en relation avec l'aviation civile. La composition et les modalités de fonctionnement du comité des usagers sont fixées par règlement grand-ducal.* »

The **national regulation (RGD) of 1 August 2007** defines "*la composition et les modalités de fonctionnement du comité des usagers de l'aéroport de luxembourg*". Article 6 stipulates that the Airport User Committee (AUC) shall meet once a year. Article 3 states that the Committee must be consulted by the managing body of the airport or the provider of air navigation services each time that a legal or regulatory requirements make it necessary.

The **law of 23 May 2012** demands that the airport bodies –lux-Airport and ANA - shall organise regular consultation meetings, at least once per year, with the Airport User Committee (AUC) "… en ce qui concerne l'application du système de redevances aéroportuaires, le niveau des redevances aéroportuaires et, s'il y a lieu, la qualité du service fourni (…)".

EU Regulation on Air Navigation Services (Common Requirements Implementing Rule)

EU Regulation 1035/2011, on Common Requirements for the provision of air navigation services, states in Annex I (8) that air navigation service providers shall establish a formal consultation process with the users of their air navigation services on a regular basis, either individually or collectively, and at least once a year.

It is understood, that the process concerns in the first instance meetings to be held with users. Whilst the format of these meetings is not prescribed in European legislation, **the main objective is to inform users about the conditions of service provisions in a transparent and open manner as a minimum**.

EU Regulation on charging for air navigation services (Charging Regulation)

EU Regulation applicable during Reference Period 1 (2012-2014)

In addition to the conditions of air navigation service provision air navigation service providers are shall perform annual consultation of users in accordance with **EC Regulation 1794/2006**, the Charging Regulation for **Reference Period 1** (2012 – 2014 including) in regard to user charges levied.

Consultation on terminal charges until and including 2014

In the case of Luxembourg ANA consults users annually and informs them on **terminal charges** based on the reporting requirements laid down in EC 1794/2010 for airports with less than 150.000 movements[18].

Note regarding **en route** charges: Luxembourg and Belgium form one common **en route** charging zone and FIR users are consulted at CRCO level.

EU Regulation applicable during Reference Period 2 (2015-2019)

As of **Reference Period 2** (2015 – 2019) EU Regulation 391/2013 on Charging applies which stipulates that terminal related costs and (cost based) charges for **terminal services** in accordance with **EU Regulation 391/2013** (Charging Scheme Regulation) will be provided to the EC for information and users will be informed during consultations accordingly.

As foreseen in the EU Regulation ANA will assist the Ministry of Luxembourg in informing users during the consultation accordingly.

Consultation on terminal charges as of 2015

Officially, the cost based charging scheme as laid down in **EU regulation 391/2013** will come into force as of January 2015, the beginning of the Reference Period (RP) 2. Users will then be invited by the responsible Ministry of Luxembourg to a consultation meeting latest 7 month before start of RP2 (i.e. before June 2014) and will be assisted by ANA[19.]

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[18] According EC 1794/2006, Art. 1 (6): **Member States** may decide not to calculate terminal charges as stipulated in Article 11 of this regulation and not to set terminal unit rates as referred to in Article 13 of this Regulation in respect of air navigation services provided at aerodromes with less than 150 000 commercial air transport movements per year, regardless of the maximum take-off mass and the number of passenger seats, movements being counted as the sum of take-offs and landings and calculated as an average over the previous three years**.**

[19] According EU 391/2013, Art 9 (1): **Member States** shall, in a coordinated manner, at the latest seven months before the start of each reference period, invite the airspace users' representatives to a consultation on determined costs, planned investments, service unit forecasts, charging policy and resulting unit rates. They shall be **assisted by the air navigation service providers**.

Terms Of Reference for User Consultation

Based on the regulations and legal requirements as referenced in the foregoing part, the Terms Of Reference (TORs) shall define the format and the content of the users consultation process and meetings, the roles and responsibilities of the parties legislatively covered by the TORs, and the deliverables of the consultation.

In the context of legislative provisions mentioned above, the user consultation meetings take place in two distinctive and formally separated parts:

1. The consultation of users of ANA air navigation services in regard to common requirements and in regard to air navigation charges (terminal),
2. The consultation of airport users in regard to ANA as the provider of aerodrome technical and operational infrastructure and lux-Airport as airport provider in regard to aerodrome and airport related matters and including airport charges.

Important Note: In the current national law and in regard to bullet 2 above ANA and lux-Airport are both, in their respective capacities, subject to user consultation which is to be conducted by AUC.

As regards airport charges lux-Airport will be consulted on airport charges.

Aim

The aim of this Consultation Process is, to describe the way in which the air navigation service provider and the two airport bodies conduct this consultation and involvement of users and foster an open discussion and exchange on relevant items.

Invitation

For pragmatic reasons and in view of the complexity of the given legal conditions as described above it is proposed to proceed as follows:

After consultation and in collaboration with ANA and Lux-Airport, AUC sends an invitation with an agenda 5 days in advance. The agenda shall be divided into 2 parts: one part concerns (1) the consultation of users of ANA air navigation services and the other part concerns the (2) airport user consultation (see above).

A minimum of 1 meeting / year is to be held; users have the right to ask for additional meetings.

Meeting minutes

Meeting minutes are drafted by AUC, circulated for comments and finally agreed. The minutes shall reflect in particular the actions or decisions agreed. Actions and decisions will be followed up on and progress will be reported back to the user forum. The final minutes will be sent to the relevant authorities. The meeting minutes shall be divided into 2 parts for air navigation service user consultation and the airport user consultation.

(1) Air Navigation Service User Consultation part

ANA, as the provider of air navigation services is the party required to define the organisation of the consultation meeting in collaboration with AUC (according to national law (August, 20th 2007, article 6)).

Chairing of the consultation meetings

The meetings are chaired by the Director of ANA or his Delegate and by the AUC President.

Aim of air navigation service user consultation

ANA emphasises that consultation with Users shall

- Inform users about important decisions and projects that impact service provision, safety, security, environment and costs of air navigation services;
- involve users in the process of identifying and defining the needs and benefits of projects and activities that ANA is going to launch; and
- gather their needs and requirements regularly to improve service provision.

It is essential for an effective and performant service provision to do this in line with user requirements and with a view to provide its service safe, effective and cost efficient.

Content of consultation

ANA provides information on major projects provided in ANA's Business and Annual Plans and on results achieved in the Annual Reports.

The Business Plan and the Annual Plan documents provide information on the strategic objectives of ANA for the forthcoming period, the performance indicators established for ANAs service areas and the (infrastructure) plans and projects that ANA pursues to maintain or advance the service provision safety, quality, effectiveness etc.

The Annual Report provides the actual performance results achieved in the past year, assessed against performance indicators and targets set in the Annual Plan.

ANA will assist the responsible ministry in regard to user charges as follows: The information on costs for terminal services and user charges for users of the air navigation services in terminal airspace will be presented to users in a separate document which will include a cost breakdown according (a) to type of costs and (b) according to services and the calculated unit rate.

AUC are invited to express or present their needs and requirements regarding Air Navigation Services (ANS) provision during the consultation meetings.

Target groups

The primary parties to be involved are the users (AUC) of ANA air navigation services.

However, ANA also aims to involve its main stakeholders, the Ministry, as the Regulator, and DAC, as the National Supervisory Authority (NSA) of its certified services.

(2) Airport User Consultation part

ANA, lux-Airport and AUC are required to organise (and conduct) the airport consultation part at their convenience but at least once per year. However, the Airport supervisory authority ILR can also ask for additional meetings for this part if necessary and as appropriate.

Chairing of the consultation meetings

The meetings will be co-chaired by the Director of ANA, the Director of lux-Airport and the AUC President.

Aim of airport user consultation

The aim of the user consultation of users of **lux-Airport** on airport charges and service quality is to inform the AUC about the airport user charge system applied, the level of the charges and the quality of the services rendered to airport users.

ANA, in its capacity as the aerodrome technical and operational infrastructure manager, will provide information on the quality of service, on planned airport infrastructure projects and changes as well as on other improvements in the service level, and service delivery. These items will form part of the consultation meetings and users will be consulted accordingly.

Content of consultation

- lux-Aiport is obliged to report on service costs and charges levied (as applicable) from airport users;
- report on infrastructure maintenance / renewal projects planned and coordinated with PCH (and or other suppliers and partners) and take on board the advice and needs of users e.g. in regard to the planning and implementation times as appropriate;
- consultation and involvement of airport users in the process of other major airport infrastructure projects taking on board user views as appropriate;
- survey regularly (and in cooperation with the AUC) users on the service quality and report on findings during the consultation meetings.

General information on the ANA Business and Annual Plan and the Annual Report and relevant performance indicators and plans will also be provided to the AUC.

AUC should express their needs and requirements regarding airport management.

Note: On a different subject not directly related to user consultation and not necessarily a subject during airport consultation meetings: ANA is open to airport users and the airport managing body (lux-Airport as the Airport manager "entité gestionnaire de l'aéroport") to discuss and if appropriate conclude a service level agreement with regard to the level and quality of service provided.

Target groups

The primary party to be addressed and consulted are users (represented by the Airport User Committee, AUC) of ANA services or project deliverables for which ANA, in its capacity as the manager of the aerodrome technical and operational infrastructure, is responsible.

The ILR as the supervisory authority of the airport attends all consultation meetings.

Besides the two parties: AUC and the airport supervisory authority (ILR) as the main target groups for the consultation ANA suggests that the Ministry as well as representatives from the main support contractor Ponts et Chaussées (PCH) should be present at the consultation meetings.

Signed:

For and on behalf of Air Navigation Administration Luxembourg

For and on behalf of Lux-Airport

For and on behalf of Airport Users Committee Luxembourg

END