

## NATIONAL SUPERVISORY AUTHORITY OF PORTUGAL

# NATIONAL PERFORMANCE PLAN FOR AIR NAVIGATION SERVICES FIRST REFERENCE PERIOD 2012 – 2014

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#### 1. Introduction

#### 1.1. The situation

The National Performance Plan for Portugal (Portuguese NPP), developed in order to comply with Commission Regulation (CE) no. 691/2010 (Reg. 691/2010), covers the "first reference period", which will run from January 2012 to the end of 2014 (RP1). The Portuguese NPP sets the proposed Portuguese performance targets for capacity and cost-efficiency consistent with the European wide performance targets established through Commission Decision 2011/121/EU.

This document was prepared by the National Supervisory Authority (NSA). It is a draft version which will be distributed to stakeholders for consultation and will be revised and updated following due consideration of the comments received.

The accountable entities covered by this performance plan are Instituto Nacional de Aviação Civil, INAC, I.P. (INAC), Instituto de Meteorologia, I.P. (IM) and NAV Portugal, E.P.E. (NAV):

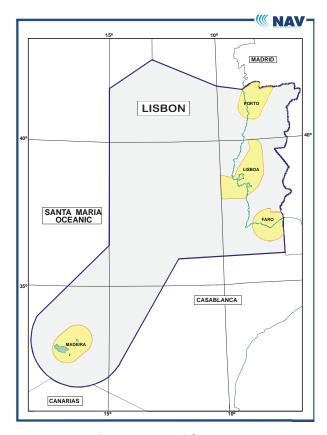
- INAC is the National Aviation Authority, established in 1998, which also acts as NSA, this latter role having been made explicit in 2007, by means of a change to its constitutive act;
- IM is the Portuguese Authority for Aeronautical Meteorology and acts also as provider of MET in all the airspace under the responsibility of Portugal. The functions as authority and MET provider have been functionally separated;
- NAV is certified by INAC for the provision of ATS, AIS and CNS, and has been designated by the Minister of Public Works, Transports and Communications as ATS provider in the airspace described in Portugal's Aeronautical Information Publication.

Providers of AFIS, as well as providers of signal of local radio-aids (Locators), although certified in accordance with SES regulations, are not within the scope of this NPP.

The Portuguese NPP covers the services provided in the en route airspace controlled by NAV, which corresponds to the Lisbon FIR/UIR limits.

The geographical scope of the Portuguese NPP is represented in Picture no.1.





Picture No. 1 Lisboa FIR

Spain and Portugal agreed that, for RP1, AESA will be the NSA that will provide to the Commission the agreed aggregated performance targets for the SW FAB as required in article 5 of Reg. 691/2010. These aggregated targets will be calculated taking into account that Santa Maria Oceanic FIR is included in the SW FAB but is not under the scope of Reg. 691/2010 and, thus, have not been set taking the established EU-wide targets as a reference.



#### 1.2. Overall assumptions for RP1

#### 1.2.1. Economic assumptions

For the purposes of this NPP, the main assumptions taken into account are related with the:

- National Gross Domestic Product (GDP) growth and its comparison with the expected GDP growth to the European Union, EURO Zone and the World.
- Inflation rate, as Index of Consumer Prices, due to its impact on the determined costs.
- Service Units, having in mind their impact on the determined cost and enroute unit rate.
- Financial assistance requested by the Portuguese Government to the European Union and International Monetary Fund (IMF).

#### National Gross Domestic Product

The latest economic forecast published by IMF - *World Economic Outlook* - points out to the recession of Portuguese economy in 2011 (-1.5%) and 2012 (-0.48%) followed by a recovery in 2013 (0.9%) and 2014 (1%).

Table 1 - Macroeconomic Scenario

	2009	2010	2011	2012	2013	2014
Gross Domestic Product (constant prices, 10 <sup>9</sup> €	160.067	162.305	159.852	159.091	160.523	162.128
Gross Domestic Product growth	-2.47%	1.4%	-1.51%	-0.48%	0.9%	1%
Inflation rate (in nominal terms)		1.4%	2.35%	1.42%	1.42%	1.44%

Source: GDP- IMF, April 2011

#### Inflation rate

According to IMF forecasts, the inflation rate remains, during RP1, around 1.4%.



#### Gross Domestic Product Growth in the European Union and in the World

Having in mind the globalization of international air transport and gradual liberalization of international air services, the economic general trend in the main economic areas and their respective impact on the traffic shall be considered.

Figure 1 shows the comparison of the GDP growth among Portugal, the Union European Union, the Euro Zone and the World.

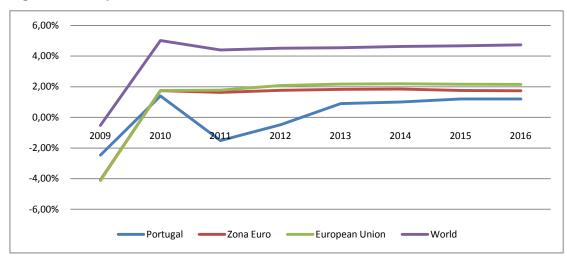


Figure 1 – Comparison of Gross Domestic Product Growth

Source: IMF, April 2011

In the forthcoming years, the average annual growth of the European Union and World GDP could reach 2% and 5%, respectively. Therefore, the impact of the Portuguese economic recession on the air navigation services provision could be, in some measure, mitigated, due to economic growth in these economic areas.

#### Contingency measures

Although the Portuguese Government has already requested financial assistance to the European Union and IMF, the contingency measures have not been defined yet.



#### 1.2.2. Traffic forecast

The STATFOR's forecast points out to the increase of 10% in the service units between 2010 and 2015.

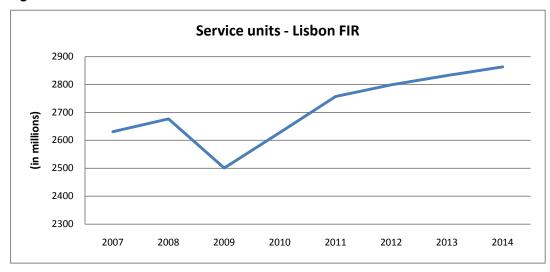
Table 2 - Medium -Term Forecast

Service Units - Lisbon FIR	2010	2011	2012	2013	2014	2015
Base scenario	2,624	2,747	2,799	2,832	2,863	2,891
%n/n-1	-1	4.7%	1.9%	1.2%	1.1%	1%

Source: STATFOR February, 2011

Considering the decrease of service units verified in 2009, it is important to note that the growth trend of traffic will return, exceeding, after 2011, the peak of 2008. However, it is expected for RP1 a moderate growth of the service units (1.1% to 1.9%).

Figure 2- Service units



#### 1.2.3. Status of aviation safety

Portugal is in the process of implementing a State Safety Programme (SSP), as required by ICAO Standards.

The formal approval of a SSP is still pending at the time of the drafting of this NPP, but fundamental parts have been implemented, namely an independent accident (and serious incidents) investigation board ("Gabinete de Prevenção e Investigação de Acidentes com Aeronaves" – GIPAA) established by the Decree-Law no. 318/1999, and the occurrence reporting system, established by the Decree-Law no. 218/2005.



A first State Safety Report was drafted, by INAC, for 2009, but has not been published as some indicators are still being clarified between the involved entities.

For the provision of Air Navigation Services (ANS) in Portugal, the occurrence reporting has reached a good level, as well as their analyses at ANSP level. Developments on the safety regulatory part of the system are planned, at NSA level, during the time frame of this NPP, in order to reach a good maturity of the system.

Besides the monitoring of safety performance indicators adopted and published by ICAO (namely the rate of fatal accidents) at national level, and in particular, for ANS, INAC assures that the service providers have developed a Safety Management System (SMS) and safety performance indicators in accordance with ICAO and European requirements. While performing its safety oversight function, INAC evaluates the quality of those indicators and reviews the safety performance of the service providers against the established indicators (the current indicators are "rate of incidents classified as A+B" and "rate of systems malfunctions with impact on safety").

#### 1.2.4. Institutional context for the provision of ANS in Portugal:

- At Government Level, the provision and oversight of ANS is under the responsibility of two Ministers: the Minister for Science, Technology and Higher Education (MCTES), who is responsible for MET, and the Minister for Public Works, Transport and Communications (MOPTC), who is responsible for ATM, AIS and CNS.
- INAC is a department of the public administration, under the tutelage of the MOPTC, through the Deputy Minister and Secretary of State for Public Works and Communications. INAC has the powers of a national regulatory authority covering all fields in aviation with the exception of MET (entrusted to the MCTES) and SAR. The authority on the electromagnetic spectrum is ANACOM, a state agency, also under the tutelage of the MCTES. Within ANS, INAC is also, formally, the NSA for ATM, AIS and CNS.
- IM is a department of the public administration, under the tutelage of the MCTES, but without regulatory power. IM is the national meteorological authority for aviation. IM has established one unit "Gabinete de Apoio à Autoridade Meteorológica para a Aeronáutica" functionally separated from the MET service providers (METSP) of IM which are under the responsibility of the "Divisão de Meteorologia Aeronáutica" and of the "Delegação Regional da Madeira". This separation has just been formally communicated to the Commission, and the certification of the METSP will take place still before the beginning of RP1. The designation of the METSP is also foreseen to take place before the beginning of RP1. IM and INAC will



assure their supervisory function in a coordinated way through conveniently updated arrangements.

- NAV is a 100% state-owned commercial company that provides ATM, AIS and CNS services in the Portuguese airports and in the airspace under the responsibility of Portugal (with the exception of services provided at military aerodromes where general air traffic is authorised).
- Search and Rescue is provided under the responsibility of the Ministry of National Defence (MDN). Air Search and Rescue is provided by the Portuguese Air Force. In case other means are required (Navy or other) the operations are coordinated by the Air Command of the Portuguese Air Force.

#### **1.3. Stakeholder consultation** (to be revisited after consultation)

The Portuguese NPP has been presented to stakeholders, together with the Spanish National Performance Plan, on the 30<sup>th</sup> of May, in Lisbon.

Drafted with the cooperation of the accountable entities and of the other national involved entities, this NPP has been presented to other stakeholders, namely airspace users and social partners, as well as airport operators.

Stakeholder consultation has taken place jointly with Spain, including a meeting on May 30<sup>th</sup>. The list of invitees, their attendance, issues raised and INAC, I.P. responses are attached as *Annex C* to this performance plan.



#### 2. National performance targets and alert thresholds

#### 2.1. Performance targets and alert thresholds

#### 2.1.1. Safety targets

The effectiveness of safety management as measured by the ATM Safety Maturity Survey Framework will be monitored, after eventual changes needed for consistency with the indicator currently being developed at EU-level.

Similarly, the current practice for the severity classification of incidents will be reviewed following the conclusion of the undergoing development of the Risk Analysis Tool (RAT) at EU-level, and the necessary changes made, for consistency. The "rate of occurrences classified as A or B" indicator will be maintained. Other indicators based on the occurrence reporting system that will be calculated and monitored at national level during RP1, and once the application of the RAT is clarified, are "airspace infringements", "level busts", "runway incursions" and "separation minima infringements".

The indicator for the measure of a just culture, also under development at EU-level, will be adopted, in accordance with Reg. 691/2010.

No formal targets are established for this set of indicators. The trend will be monitored and the effects of safety action plans evaluated.

During the time frame of this NPP, a SSP will be formally established in accordance with ICAO Standards (SARPs).

#### 2.1.2. Environment targets

For RP1, the EU-wide environment Key Performance Indicator (KPI), is the average en-route flight efficiency. An EU-wide target has been established, for this KPI. However, there is no requirement for a national environment KPI.

In May 2009, Portugal implemented free route airspace in Lisbon FIR/UIR, above FL245. Entry and exit points in the FIR/UIR were set, leaving to the aircraft operator full discretion in the choice of the route within Lisbon FIR/UIR.

Although there are projects with positive environmental effects in the part of the en-route trajectory below FL245 (refer to section 2.2.2.), a national environment KPI is not established for RP1.

#### 2.1.3. Capacity targets and threshold

The mandatory capacity KPI, "minutes of en route ATFM delay per flight" is "the difference (in minutes) between the take-off time requested by the aircraft



operator in the last filed flight plan and the calculated take-off time allocated by the central unit of ATFM".

In order to support the preparation of the national performance plans for RP1, the Directorate Network Management of EUROCONTROL has prepared a set of values representing, from the network perspective, the optimum share at local level of the European-wide target, and which constitute reference figures. Taking into account those figures, Portugal adopts the value of 0,15 minutes en route ATFM delay for the whole year of 2014 and for all causes and, as indicative intermediate values for 2012 and 2013, 0.25 and 0.20 respectively.

The alert threshold for the possible activation of the alert mechanism referred to in regulation Reg. 671/2010 is defined in the same way as the EU-wide threshold: a deviation over a calendar year by at least 10% of the actual traffic recorded by the Performance Review Body (PRB) versus the EU-wide traffic forecasts adopted as reference.

The adopted values are shown in the following table:

Table 3 – Minutes of en route ATFM delay per flight

National targets		s	National threshold
2012	2013	2014	A deviation over a calendar year by at least 10% of the
0.25	0.20	0.15	actual traffic recorded by the Performance Review Body (PRB) versus the EU-wide traffic forecasts

#### 2.1.4. Cost-efficiency targets and threshold

According to the provisions of number 4, Section 2, Annex I of Reg. 691, for RP1, the national cost-efficiency KPI "...shall be the national determined unit rate for en route air navigation services, defined as follows:

- (a) the indicator is the result of the ratio between the determined costs and the forecast traffic contained in the performance plans...
- (b) the indicator is expressed in national currency and in real terms;
- c) the indicator is provided for each year of the reference period.

According to the provisions in the same number of the said Annex, "In addition, States shall report their terminal air navigation services costs and unit rates in accordance with Regulation (EC) No 1794/2006 and shall justify to the Commission any deviation from the forecasts."

Table 4 bellow shows the determined cost and services units considered for the RP1 and the respective cost-efficiency targets.



Table 4 – Cost-efficiency targets

KPA	2012	2013	2014	
Determined costs Real terms (in € 2009)	118.334.726	118.204.834	118.190.502	
Service Units	2.799.403 2.832.436		2.863.310	
Cost efficiency target (in €2009)	42,27	41,73	41,28	

**Determined costs** (to be expanded and reviewed according to real costs of 2010, forecasts for inflation rate and EUROCONTROL costs for RP1)

Table 5 shows the forecast relating to the total determined costs by nature, in nominal terms, as well as the total determined costs, in real terms, at 2009 prices.

Table 5 - Determined costs by nature

						(in €)
	2009 A	2010 F	2011 F	2012 F	2013 F	2014 F
Staff	89 302 063	85 052 059	90 337 807	89 712 188	91 372 386	93 448 436
% n/n-1		-5%	6%	-1%	2%	2%
Other operating costs	23 685 061	23 582 923	21 716 771	22 605 038	22 063 274	22 378 809
% n/n-1		-18%	22%	-3%	7%	9%
Depreciation	7 945 149	8 026 471	7 936 705	9 062 642	10 296 006	10 603 193
% n/n-1		-1%	-23%	11%	-6%	3%
Cost of capital	2 288 045	3 421 595	3 748 572	3 951 781	3 966 292	3 805 686
% n/n-1		4%	-3%	30%	31%	8%
Exceptional items						
% n/n-1						
Total ANS en-route costs (in nominal terms)	123 220 318	120 083 048	123 739 855	125 331 649	127 697 958	130 236 124
% n/n-1		-3%	3%	1%	2%	2%
Inflation rate		2,00%	1,90%	1,90%	2,00%	2,00%
Inflation index (100 in 2009)	100,00	102,00	103,94	105,91	108,03	110,19
Total costs in real terms (in 2009)	123.220.318	117.728.478	119.051.603	118.334.728	118.204.835	118.190.503
% n/n-1		-4%	1%	-1%	0%	0%

During RP1, the total determined cost, will, in real terms, decrease 1% in 2012, and will remain constant in 2013 and 2014.

As mentioned before in point 1.2.2, it is expected, for RP1, a moderated growth of the services unit (1.1% to 1.9%).

The National costs for the period 2012/4 reflect:

- Staff costs evolution, which takes into account the salary review and the progression in the different professional careers;
- Operating costs evolution, which takes into account the estimated inflation rates;
- Capital costs evolution according to the five-year investment plan.



Table 6 shows the main investments included in the five-year investment plan that contribute to the performance targets.

The table at annex II (Additional Information Annex-II) provides high level information on the main items within planned investments. The major projects are linked with improvements of ATM systems, in line with ATM Master Plan (i.e. iTEC & eFDP), and CNS infrastructure.

Table 6 - Investment plan

Investment areas	2010	2011	2012	2013	2014	2015	Total
TOTAL	14.000	13.230	12.387	10.689	12.298	11.064	73.669
ATM SYSTEM	10.511	8.474	7.788	7.495	7.576	7.936	49.780
COMMUNICATIONS	495	656	1.016	362	966	144	3.640
NAV AIDS	207	171	457	750	862		2488
SURVEILLANCE	100	394	1469	855	1.516	1.397	5.731
МЕТЕО	753	4					757
BUILDINGS	1.231	2.422	816	394	544	754	6.161
OTHER	703	1.109	841	833	833	833	5.152

Table 7 shows the determined costs by entities. More detailed information will be provided on Chapter 3.

Table 7 – Determined costs by entities in real terms (at 2009 prices)

	2009 A	2010	2011	2012	2013	2014
ANSP	108 289 953	102 510 176	105 885 369	104 561 673	105 435 910	105 586 030
% n/n-1		-5%	3%	-1%	1%	0%
MET	5 284 667	5 273 307	4 958 335	4 824 507	4 710 080	4 620 405
% n/n-1		0%	-6%	-3%	-2%	-2%
CAA/NSA(*)	9 645 697	9 944 996	8 207 899	8 948 546	8 058 843	7 984 067
% n/n-1		3%	-17%	9%	-10%	-1%
Total	123 220 317	117 728 479	119 051 603	118 334 726	118 204 833	118 190 502

(\*) Include EUROCONTROL costs

#### Threshold

For the cost-efficiency target, the alert threshold will be consistent with threshold adopted pursuant to Article 9(3) of Reg. 691/2010 and Article 2 of Commission Decision (2011/121/EU) of 21 February, setting the European Union-wide performance targets and alert thresholds.

In this context, the alert threshold shall be active in following circumstances:



- "...a deviation over a calendar year by at least 10% of the actual traffic recorded by the Performance Review Body versus the traffic forecasts...";
- "...a deviation over a calendar year by at least 10% of the actual cost at European Union-wide level recorded by the Performance Review Body versus the reference determined costs...".

#### **Terminal ANS Costs**

According to the performance scheme, for RP1 no targets are required to be set for terminal costs. However, Member States shall provide an overview of determined costs for terminal services. This information is provided in table 8 and will be subject to review on July and November this year.

Table 8 - Terminal ANS costs

	2010 F	2011 F	2012 F	2013 F	2014 F
Staff	24,7	25,7	25,5	26,0	26,6
% n/n-1		4%	-1%	2%	2%
Other operating costs	1,7	1,8	1,8	1,8	1,8
% n/n-1		6%	0%	0%	0%
Depreciation	3,1	3,2	2,9	3,0	3,4
% n/n-1		3%	0%	0%	0%
Cost of capital	0,80	0,70	0,70	0,70	0,70
% n/n-1		13%	-43%	14%	57%
Exceptional items					
% n/n-1					
Total ANS en-route costs (in nominal terms)	30,3	31,4	30,9	31,5	32,5
% n/n-1		4%	-2%	2%	3%
Inflation rate	2,00%	1,90%	1,90%	2,00%	2,00%
Total costs real terms	29,7	30,8	30,4	30,4	30,7
% n/n-1		3,7%	-1,3%	0,0%	1,0%

#### 2.2. Consistency with EU-wide targets

#### 2.2.1. Safety

As, in this NPP, Portugal has not set targets for national safety indicators and as, for RP1, there are no EU-wide safety targets, the evaluation of consistency between targets is not applicable.

#### 2.2.2. Environment

The implementation, in May 2009, of FRAL, free route airspace in all Lisbon FIR/UIR, above FL245 (se also section 2.1.2) has removed structural airspace restrictions (route network) to the attainment of optimum trajectories from the



environment viewpoint (at those Flight Levels), thus facilitating the European network management function.

Some projects for further reduction of restrictions to the trajectory that the aircraft operator wants to follow relate to flights with part of the trajectory below FL 245 (departing, or arriving, from national airports) and are:

- Continuous descent operation;
- AIRE (Atlantic Interoperability to Reduce Emissions).

#### 2.2.3. Capacity

The capacity of the Portuguese ATM system was satisfactory in 2009 and 2010, when the en route ATFM delay per flight was, respectively, 0.02 and 0.12 minutes per flight, throughout the year.

The value for 2014 adopted for this NPP, as well as the reference figures adopted for 2012 and 2013, are lower than the reference values provided by CFMU which represent, from the network perspective, the optimum share at local level of the European-wide target.

In conclusion, we consider that the adopted value is consistent with the EU target.

Lower values than the ones provided as reference raise concerns on the increases in costs in a context of increasing traffic and of extended periods for the effectiveness of corrective measures, without a clear beneficial effect in the EU network target.

Nevertheless, some projects and actions are planned to ensure that capacity is enough to contribute to the network capacity increase and compensate for the increase in traffic:

- New ACC sectors put in place, if necessary, depending on traffic evolution;
- Improvement of staff planning and rostering procedures for timely availability of ATCO in accordance with operational needs;
- Automated support for conflict detection and conformance monitoring;
- Airport Collaborative Decision Making.



#### 2.2.4. Cost-efficiency

According to article 1 (c) of the Commission on Decision (2011/121/EU) of 21 February 2011, setting the European Union-wide performance targets and alert thresholds for the provision of years 2012 to 2014, the cost efficiency European Union target shall reach "... a reduction of the average European Union-wide determined unit rate for en route air navigation services from 59,97 EUR in 2011 to 53,92 EUR in 2014 (expressed in real terms, EUR 2009), with intermediate annual values of 57,88 EUR in 2012 and 55,87 EUR in 2013."

The definition of this target is based on the following assumptions:

- "Traffic forecasted at European Union-wide level, expressed in en route service units: 108 776 000 in 2012, 111 605 000 in 2013 and 114 610 000 in 2014.
- Reference to determined costs forecasted at European Union-wide level (expressed in real terms, EUR 2009) 6 296 000 000 in 2012, 6 234 000 000 in 2013 and 6 179 000 000 in 2014."

According to these assumptions, the average increase of traffic forecasted at European Union-wide level will be 2, 6% per year, while the average decrease of the determined cost will be 1% per year. Therefore, a reduction of the European Union-wide determined unit rate for en route air navigation services by 3.5% per year could be achieved.

Regarding national cost-efficiency targets proposed for RP1, it is important to note that the Lisbon FIR en route unit rate is already bellow the average EU-wide determined unit rate for en route air navigation services.

The National cost efficiency target is based on the following assumptions:

- A moderate growth of the services unit: 1, 9% in 2012; 1,2% in 2013 and 1,1% in 2014.
- A decrease of determined costs in 1% in 2012, followed by the stabilization of costs in 2013 and 2014.
- An annual average decrease of determined unit rate in 3.5% (2014/2009).

Table 9 - Consistency with EU-wide targets

(in 2009 euros)

Cost-efficiency target	2009 2010		2011	2012	2013	2014	% average annual	
EU – wide			59,97	57,88	55,87	53,92	-3,50%	
National	49,26	44,78	<i>'</i>	42,27	,	,	,	
%n/n-1		-9,1%	-3,6%	-2,1%	-1,3%	-1,1%		



#### 2.2.5 Interrelations and trade-offs (to be added)

#### 2.3. Carry-overs from the years before RP1

The following table provides an overview of carry-overs from the years before RP1 that are relevant to the period covered by RP1.

Table 10 - Carry overs from the years before RP1

Carry over from	To 2009	To 2010	To 2011	To 2012	To 2013	To 2014	To 2015	To RP2
2007	-2.613							
2008		-8.709						
2009			-6.927					
2010				?				
2011								
Total	-2.613	-8.709	-6.927	?				

(Table to be completed with the costs to be recovered in 2012)

#### 2.4. Parameters for risk sharing and incentives

#### 2.4.1. Safety, environment and capacity

No incentives are established, in the Portuguese NPP for RP1, for safety, environment and capacity performance areas.

#### 2.4.2. Cost-efficiency

In accordance with article 11 of Regulation No. 1191/2010, the "cost-efficiency" will be subject to the following incentives:

#### Traffic risk-sharing

- a. Where, over a given year the actual number of total service units is not higher or lower by more than 2% than the forecast established at the beginning of the reference period, the additional revenue or loss in revenue of NAV, E.P.E will not be carried over;
- b. Where, over a given year, the actual number of services units exceeds the forecast established at the beginning of the reference period by more than 2%, 70% of additional revenue obtained by NAV in excess of 2% of the difference between the actual service units and the forecast with regard to



determined costs shall be returned to airspace users no later than in year n+2.

- c. Where, over a given year, the actual number of services units falls below the forecast established at the beginning of the reference period by more than 2%, 70% of the loss in revenue incurred by NAV in excess of 2% of the difference between the actual service units and the forecast with regard to determined costs shall be borne by the airspace users no later than in year n+2.
- d. Where, over a given year, the actual number amount of total service units is lower than 90% of the forecast established at the beginning of the reference period, the full amount of the loss incurred by NAV in excess of the 10% of the difference between the actual total service units and the forecast in respect of determined costs shall be borne by airspace users no later than in year n+2.
- e. Where, over a given year, the actual amount of total service units is higher than 110% of the forecast established at the beginning of the reference period, the full amount of the additional revenue obtained by NAV in excess of the 10% of the difference between the actual total service units and the forecast in respect of determined costs shall be returned to airspace users no later than in year n+2.

The determined costs established in relation to:

- The costs of relevant national authorities, and
- The determined cost of meteorological services

are not subject to traffic risk-sharing and may be recovered regardless of the level of traffic.

#### Cost-risk sharing

The cost risk-sharing mechanism establishes that costs in excess of the determined cost shall be borne by the entity concerned and that if costs fall short of the determined costs, the entity may retain the shortfall. The entity concerned must, therefore, bear all the cost risk.

However, certain exceptions to this principle will be applied in relation to:

- Unforeseen charges in national pensions regulations and pension accounting regulations;
- Unforeseen changes in national taxation law;



- Unforeseen and new costs items not covered in the national performance plan but required by law;
- Unforeseen changes in costs or revenues stemming from international agreements;
- Significant changes in interest rates on loans.

Changes in such items may be carried over and taken into account in the next Reference Period.



#### 3. Contribution of each accountable entity

#### 3.1. NAV

#### 3.1.1. Safety

No safety targets are set for RP1 in this NPP

#### 3.1.2. Environment

No environment targets are set for RP1 in this NPP

#### 3.1.3. Capacity

NAV will be the only entity accountable for meeting the en-route capacity targets.

#### 3.1.4. Cost-efficiency

According to the table below the evolution of ANSP total costs in the Lisbon FIR reflects:

- Staff costs evolution, which takes into account the salary review and the progression in the different professional careers;
- Operating costs evolution, which takes into account the estimated inflation rates:
- Capital costs evolution according to the five-year investment plan.

Table 11 – Determined costs by nature (in nominal terms)

(in 000 000 €)

	2010	2011F	2012F	2013F	2014F
Staff	82,1	87,1	86,6	88,4	90,6
Other operating costs	12,2	12	11,9	12,2	12,4
Depreciation	7	7,3	8,3	9,5	9,6
Cost of capital	3,2	3,7	3,9	3,9	3,7
Exceptional items					
Total en route costs	104,5	110,1	110,7	114,0	116,3
Total % n/n-1		5,4%	0,5%	3,0%	2,0%
Staff %n/n-1		6,1%	-0,6%	2,1%	2,5%
Other op. %n/n-1		-1,6%	-0,8%	2,5%	1,6%



The main investments to be made within the next 5 years are described in point 2.1.4 (table 6).

The costs of capital are calculated in accordance with the WACC method, which was capped at 6.76%. It reflects a return on equity of 7.6% and an average interest on debts of 1.9%.

Table 12 - Costs of capital

	2010	2011F	2012F	2013F	2014F
Return on equity	6.80%	7.6%	7.6%	7.6%	7.6%
Average interest on debts	2.2%	1.9%	1.9%	1.9%	1.9%
Cost of capital pre tax rate	6.01%	6.76%	6.7680%	6.76%	6.76%

According to article 6 of Commission Regulation (EU) no.1191/2010 amending Regulation (EC) no.1794/2006 laying down a common charging scheme for air navigation services, "the return on equity shall be based on the actual financial risk incurred by the air navigation service provider".

For this purpose, it has been taken into account:

- A risk-free rate of return of 5.31%, which corresponds to Portuguese government bond rates (yield on 10-years), dated of August 2010. The current Portuguese government bond rate is much higher than 5.31%
- A equity risk premium of 2.25%
- A levered beta of 1%

The average interest of debts (1.9%) reflects the financial conditions which were applied to NAV in 2009

#### Investments

The main investments are described on point 2.1.4 (table 6).

#### Incentive mechanisms to be applied

No incentive mechanisms will be applied to NAV in relation to safety and environment, since no targets have been set. No specific incentives have been established for capacity. The only incentive mechanism applied to NAV is the one for the cost-efficiency target, which comprises the risk-sharing mechanisms defined in the Common Charging Regulation and described in Section 2.4.1.



#### 3.2. IM

IM is considered to be accountable only for the cost-efficiency target.

IM's costs are established according to the ratio (Xr) between the costs of those facilities and services intended exclusively for aeronautical requirements and the costs of those intended exclusively for non-aeronautical requirements.

This ratio is applied to core costs in order to estimate the aeronautical portion of these costs.

MET aviation costs reflect 100% of direct costs allocated to the aviation activity and 30% of core costs.

MET costs resulting from the calculations above are allocated 75% to Lisbon FIR and 25% to Santa Maria FIR.

Table 13 shows the determined MET cost by nature allocated to Lisbon FIR.

Table 13 - Determined costs by nature

(in 000 000 €)

•				•	
	2010	2011F	2012F	2013F	2014F
Staff	2,6	2,8	2,6	2,5	2,4
Other operating costs	1,6	1,7	1,7	1,7	1,7
Depreciation	1	0,6	0,7	0,8	1
Cost of capital	0,2	0,1	0,1	0,1	0,1
Exceptional items					
Total en route costs	5,4	5,2	5,1	5,1	5,2
Tota en route costs %n/n-1		-3,7%	-1,9%	0,0%	2,0%
Staff %n/n-1		7,7%	<b>-7,1%</b>	-3,8%	-4,0%
Operating costs %n/n-1		6,2%	0,0%	0,0%	0,0%

The cost of capital reflects an interest rate of 4% - which is substantially below of actual National rate bonds – applied on net book value of the assets in operation in each year. It is not included any allowance for the return on equity.

*Investments* (to be expanded)



#### Incentive mechanisms to be applied on IM

No traffic risk sharing will be applied to IM.

No incentive mechanisms will be applied to IM in relation to safety and environment, since no targets have been set. No specific incentives have been applied in relation to capacity.

IM costs are not subject to traffic risk sharing.

The only incentive mechanism applied to IM is the one for the cost-efficiency target, which comprises the cost risk-sharing mechanisms defined in the Common Charging Regulation and described in Section 2.4.1.

#### 3.3. INAC

#### 3.3.1. Safety

Although there are no safety targets set in this NPP, INAC is responsible for the certification and supervision of the provision of ANS, as well as for producing an annual safety report on its activities.

INAC will also develop the safety analysis of the occurrence reporting system, at regulatory level, by fully implementing systematic analysis and review procedures aiming at safety improvement regulatory measures.

#### 3.3.2. Capacity and environment

INAC has no direct responsibility for the provision of capacity or for environmental performance of the provision of ANS

#### 3.3.3. Cost-efficiency

Table 14 below provides detailed information on NSA determined costs by nature. (EUROCONTROL costs do be included)



Table 14 - Determined costs by nature

(in 000 000 €)

					(111 000 000 0)
	2010	2011F	2012F	2013F	2014F
Staff	0,3	0,478	0,485	0,493	0,500
Other operating costs	0,078	0,07	0,071	0,072	0,073
Depreciation	0,0	0,0	0,0	0,0	0,0
Cost of capital	0,0	0,0	0,0	0,0	0,0
Exceptional items					
Total en route costs	0,383	0,551	0,559	0,568	0,576
Tota en route costs %n/n-1		43,9%	1,5%	1,6%	1,4%
Staff %n/n-1		59,3%	1,5%	1,6%	1,4%
Operating costs %n/n-1		-10,3%	1,4%	1,4%	1,4%

NSA determined costs reflect mainly the direct costs with staff (salaries, training and external representation at EUROCONTROL, European Commission and others) dedicated to carry out regulation, supervision and auditing tasks.

The cost of capital reflects an interest rate of 4% - which is substantially below actual National rate bonds — applied on net book value of the assets in operation in each year. No allowance for the return on equity is included.

#### Incentive mechanisms to be applied on INAC

No incentive mechanisms will be applied to INAC, I.P. in relation to safety and environment, since no targets have been set. No specific incentives have been applied in relation to capacity.

INAC, I.P.'s costs are not subject to traffic risk sharing.

The only incentive mechanism applied to the NSA is that for the cost-efficiency target, which comprises the cost risk-sharing mechanisms defined in the Common Charging Regulation and described in Section 2.4.1.



#### 4. Civil-military dimension of the plan

Military aviation in Portugal is under the responsibility of the Portuguese Air Force. The Portuguese Air Force provides ANS within airspace under military responsibility, namely TWR and APP services at military aerodromes where civil traffic is authorised, as well as FIS for traffic in class G airspace below FL55, between sunrise and sunset.

The Ministry of Defence is responsible for the provision of SAR. Within the Ministry of Defence, the Portuguese Air Force is responsible for the provision of Air SAR and, in case other means are necessary, for the overall coordination.

For the purpose of this NPP, the Portuguese Air Force, as a provider of ANS, is involved in the areas of safety and of capacity.

#### 4.1. Safety

The Portuguese Air Force is not certified as an ANSP in spite of providing Air Traffic Services to general air traffic. In 2010, the Portuguese Air Force and INAC signed an agreement establishing arrangements for ensuring the maximum compliance with the "Common Requirements" in the provision of ANS.

#### 4.2. Capacity

Contribution of the military for the capacity of the airspace is made through the full involvement in the implementation of the Flexible Use of Airspace (FUA) concept, as follows:

#### • Strategic level (level 1)

The functions at the strategic level are assigned to the Joint National High Level Policy Body (INFANAV), which gathers high representatives from INAC, the Portuguese Air Force and NAV. INFANAV ensures the effective sharing and efficient use of airspace by civil and military users stemming from the application of the FUA Concept.

The INFANAV is supported by a permanent executive body (OCEA), with a representative of each of the three INFANAV entities (that can call for experts on specialised subjects), and with a full-time coordinator.

INFANAV and OCEA correspond to the implementation of FUA level 1.



#### Pre-tactical level (level 2)

A joint civil-military Airspace Management Cell (AMC) is operating since 1996 with civil and military representatives. This AMC collects and analyses all airspace requests and decides the daily airspace allocation taking into account the user requirements, available capacity and the effects on the network. Ad hoc special requests for airspace usage on a short-term basis will be dealt with, within the tactical environment.

The AMC corresponds to the implementation of FUA level 2.

#### • Tactical level (level 3)

FUA level 3 coordination is made at supervisor level (military Supervisor and civil OPS Room Supervisor, both physically located at Lisbon ACC) and facilitates real-time activation, de-activation or modification of the airspace allocated at pre-tactical level, according to actual traffic and capacity versus military airspace needs.

A close working relationship was established over the years between civil and military air traffic controllers and civil and military ATM staff, which is the result of a long practice of an integrated approach to the provision of ATM and is facilitated by the co-location of civil and military controllers at the Lisbon ACC, by the use of the same displays and of the extensive share of information. This relationship facilitates the effectiveness of the application of FUA in the Airspace Management tasks.

The agreement that constitutes the basis for the operation of INFANAV and the Operating Procedures of the AMC are being detailed and updated, in order to clarify, in a formal and explicit way the functions and tasks of all the actors, taking into close consideration Commission Regulation 2150/2005 and EUROCONTROL specification for the application of FUA (SPEC-0112).



#### 5. Analysis of sensitivity and comparison with previous performance plans

#### 5.1. Sensitivity to external assumptions

The ANS system in Portugal has, currently, enough capacity. Following the downturn in traffic in 2009, some recovery has been experienced in 2010 and continues in 2011. Cost containment measures have been made, and as a result, it is not expected that significant further cost savings could be made in the event of traffic being lower than expected.

It is expected that a traffic growth higher than the forecasts - but not enough to justify the activation of the alert mechanism - can be handled through some compromise between extra costs and delays, without affecting the targets.

#### 5.2. Comparison with previous performance plan

As this is the first Performance Plan for ANS provided in Portugal, this comparison is not possible.



#### 6. Implementation of the performance plan

The monitoring of the performance of the accountable entities in 2012, 2013 and 2014, will take place as follows:

#### 6.1. NAV

NAV is certified by INAC in accordance with the Common Requirements. The ongoing oversight system put in place is described in the report of the Single European Sky Implementation for 2010 (paragraphs 14.4 and 14.6). Under this system, non-conformities imply corrective actions, closely monitored. The system in place includes procedures for the verification of declarations of verification of changes to functional systems. Projects aiming at the improvement of performance and specifically referred to in this NPP are verified within the system in place.

The verification of the implementation of processes implied by KPIs (namely the implementation of the RAT) takes place after the first six months of 2012. The verification of their continuity is included in the ongoing oversight system.

Further to the ongoing oversight system, the monitoring of the targets of this NPP is made every six months. INAC monitors, in particular, the actual external assumptions and external factors, the actual values of the uncontrollable costs and the reaching of the alert thresholds.

For the production of the annual report to the Commission on this NPP NAV, will, by April 2013, 2014 and 2015, report to INAC the actual performance in the previous year including explanations of any deviations from the expected performance and, when applicable (in 2013 and 2014) the revised plans for the remaining part of RP1.

#### 6.2. IM

The verification of the implementation of processes implied by KPIs (cost-efficiency targets) is included in the oversight system.

Further to this verification, the monitoring of the targets is done every six months through the presentation by the METSP of a dedicated report to the MET authority, which seeks explanations and clarifications on any deviations, validates it and submits the annual report to INAC for inclusion in the Annual National Progress Report.

#### 6.3. INAC

Further to the safety oversight and monitoring of NAV, INAC reviews the information provided by NAV and seeks explanations and clarifications from those entities on any deviations. INAC monitors, in particular, the actual



external assumptions and external factors, the actual values of the uncontrollable costs and the reaching of the alert thresholds and decides whether the alert mechanism should be invoked.

INAC receives from IM the information for the annual report, prepares the Annual National Progress Report and submits it to the Government, via the MOPTC.

The approved Annual Progress Report is sent to the Performance Review Body by INAC.



### NPP-ANS RP1

#### Annex A

Reporting tables as per article 8 of the common charging scheme regulation

Charging zone name Portugal Lisboa Period of reference: 2012-2014 Consolidation - all entities **Determined costs Actual costs** Cost details 2010 2011 2012 2013 2014 2010 2011 2012 2013 2014 Detail by nature (in nominal terms) 1.1 Staff 85,1 89,7 91,4 90,3 93,4 1.2 Other operating costs 23,6 21,7 22,6 22,1 22,4 10,6 1.3 Depreciation 8,0 7,9 9,1 10,3 1.4 Cost of capital 3,4 3,7 4.0 4,0 3,8 1.5 Exceptional items 0.0 0,0 0,0 0,0 0,0 1.6 Total costs 120,1 125,3 127,7 130,2 123.7 Total % n/n-1 3,0% 1,3% 1,9% 2,0% Staff % n/n-1 6,2% -0,7% 1,9% 2,3% Other op. % n/n-1 -7,9% 4,1% -2,4% 1,4% 2. Detail by service (in nominal terms) 2.1 Air Traffic Management 69,4 74,2 74,6 76,7 78,2 2.2 Communication 10,3 10,3 10,6 11,2 11,6 2.3 Navigation 7,3 7,4 7,3 7,6 7,6 2.4 Surveillance 6,5 6,8 6,8 6,7 7,1 2.5 Search and rescue 3,8 3,9 3,9 4,0 4,1 2.6 Aeronautical Information 6,5 6,3 6,3 6,3 6,6 2.7 Meteorological services 6,4 6,3 6,2 6,2 6,3 0,4 2.8 Supervision costs 0.6 0,6 0,6 0,6 2.9 Other State costs 8,2 9,8 8,0 8,9 8.1 2.10 Total costs 130,2 120,1 123.7 125,3 127.7 Total % n/n-1 3,0% 1,3% 1,9% 2,0% ATM % n/n-1 7,0% 0,5% 2,8% 1,9% **CNS** % n/n-1 3,0% 3. Cost of capital - Cost of common projects (in nominal terms) Average asset base 3.1 Net book val. fixed assets 38,9 37,1 38,9 38,9 36,3 3.2 Adjustments total assets 0,0 0,0 0,0 0,0 0,0 3.3 Net current assets 19,5 19,0 20,3 20,6 21,0 3.4 Total asset base 58,4 56,1 59,2 59,5 57,2 Cost of capital % 3.5 Cost of capital pre tax rate 5,9% 6,7% 6,7% 6,7% 6,6% 3.6 Return on equity

#### 4. Inflation - Total costs in real terms

3.7 Average interest on debts

Cost of common projects

3.8 Common Project 1

illiation Total tosts in Teal term										
4.1 Inflation % (1)	2,0%	1,9%	1,9%	2,0%	2,0%	2,0%	1,9%	1,9%	2,0%	2,0%
4.2 Total costs real terms (2)	117,7	121,4	123,0	122,9	122,8					
Total % n/n-1		3,1%	1,3%	-0,1%	0,0%				i	

0,0

0,0

0,0

#### 5. Deduction of costs allocated to exempted VFR flights (in nominal terms)

	•			=	
5.1 Total costs	120,1	123,7	125,3	127,7	130,2
5.2 Costs for exempted VFR flights	0,0	0,0	0,0	0,0	0,0
5.3 Total costs after deduction (3)	120,1	123,7	125,3	127,7	130,2

Costs and asset base items in '000 000 national currency - Service units in '000 000

 $(1) \ \ \textit{Forecast inflation used for establishing the determined costs in nominal terms-actual inflation recorded by \textit{EUROSTAT} and \textit{Continuous actual inflation to the determined costs} and \textit{Continuous actual inflation to the determined costs}. \\$ 

0,0

- (2) Determined costs (performance plan) in real terms actual costs in real terms
- (3) Determined costs (after deduction of VFR costs) reported at Annex II (in nominal terms)

0,0

Charging zone name	Portugal Lisb	oa					Period of reference : 2012-2014			
ANSP Name	NAV Portuga	l								
		Det	ermined cos	ts			Α	ctual cost	s	
Cost details	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
Detail by nature (in nominal term	ns)									
1.1 Staff	82,1	87,1	86,6	88,4	90,6					
1.2 Other operating costs	12,2	12,0	11,9	12,2	12,4					
1.3 Depreciation	7,0	7,3	8,3	9,5	9,6					
1.4 Cost of capital	3,2	3,7	3,9	3,9	3,7					
1.5 Exceptional items										
1.6 Total costs	104,6	110,1	110,7	113,9	116,3					
Total % n/n-1		5,3%	0,6%	2,9%	2,1%					
Staff % n/n-1		6,0%	-0,6%	2,1%	2,5%					
Other op. % n/n-1		-1,8%	-0,4%	2,1%	2,0%					
2. Detail by service (in nominal terr	ms)									
2.1 Air Traffic Management	69,4	74,2	74,6	76,7	78,2					
2.2 Communication	10,3	10,3	10,6	11,2	11,6					
2.3 Navigation	7,3	7,4	7,3	7,6	7,6					
2.4 Surveillance	6,5	6,8	6,8	6,7	7,1					
2.5 Search and rescue	3,8	3,9	3,9	4,0	4,1					
2.6 Aeronautical Information	6,3	6,3	6,3	6,5	6,6					
2.7 Meteorological services	1,0	1,2	1,2	1,2	1,2					
2.8 Supervision costs		·								
2.9 Other State costs										
2.10 Total costs	104,6	110,1	110,7	113,9	116,3					
Total % n/n-1		5,3%	0,6%	2,9%	2,1%					
ATM % n/n-1		7,0%	0,5%	2,8%	1,9%					
CNS % n/n-1		2,0%	0,6%	3,5%	3,0%					
3. Cost of capital - Cost of common p	projects (in nomir	nal terms)								
Average asset base	<del>ini -</del>									
3.1 Net book val. fixed assets	34,6	35,5	37,1	36,8	33,9					
3.2 Adjustments total assets	0,0	0,0	0,0	0,0	0,0					
3.3 Net current assets	19,5	19,0	20,3	20,6	21,0					
3.4 Total asset base	54,1	54,5	57,4	57,5	54,9					
Cost of capital %					,					
3.5 Cost of capital pre tax rate	6,01%	6,76%	6,76%	6,76%	6,76%					
3.6 Return on equity	6,8%	7,6%	7,6%	7,6%	7,6%					
3.7 Average interest on debts	2,2%	1,9%	1,9%	1,9%	1,9%					
Cost of common projects		,	,	,	,					
3.8 Common Project 1										
4. Inflation - Total costs in real terms	•									
		1 00/	1 00/	2.00/	2.00/	2.00/	1 00/	1 00/	2.00/	2 00/
4.1 Inflation % (1)	2,0%	1,9%	1,9%	2,0%	2,0%	2,0%	1,9%	1,9%	2,0%	2,0%
4.2 Total costs real terms (2)  Total % n/n-1	102,5	108,0 5,4%	108,7 0,6%	109,6 0,8%	109,7 0,1%					
					,					
5. Deduction of costs allocated to ex	<u>:</u>	<u> </u>		442.0	446.01		П		<u> </u>	
5.1 Total costs	104,6	110,1	110,7	113,9	116,3					
5.2 Costs for exempted VFR flights	4046	4404	440 -	442.0	446.0					
5.3 Total costs after deduction (3)	104,6	110,1	110,7	113,9	116,3					

Costs and asset base items in '000 000 national currency - Service units in '000 000  $\,$ 

- (1) Forecast inflation used for establishing the determined costs in nominal terms actual inflation recorded by EUROSTAT
- (2) Determined costs (performance plan) in real terms actual costs in real terms
- (3) Determined costs (after deduction of VFR costs) reported at Annex II (in nominal terms)

Period of reference : 2012-2014 Charging zone name Portugal Lisboa MET Service provider name

		D.1.		-1-				-414-	_	1
		Dete	rmined co	sts			A	ctual costs	<u> </u>	
Cost details	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
1 Patail hornature (in marrinal ta										
1. Detail by nature (in nominal te		2.0	2.0	2.5	2.4					
1.1 Staff	2,6	2,8	2,6	2,5	2,4					
1.2 Other operating costs	1,6	1,7	1,7	1,7	1,7					
1.3 Depreciation	1,0	0,6	0,7	0,8	1,0					
<ul><li>1.4 Cost of capital</li><li>1.5 Exceptional items</li></ul>	0,2	0,1	0,1	0,1	0,1					
1.6 Total costs	5,4	5,2	5,1	5,1	5,1					
Total % n/n-1	3,4	-4,2%	-0,9%	-0,4%	0,1%					
Staff % n/n-1		6,0%	-5,0%	-5,0%	-5,0%					
Other op. % n/n-1		9,6%	-0,5%	-0,5%	-0,5%					
Other op. % 11/11-1	1	9,0%	-0,5%	-0,5%	-0,5%					
2. Detail by service (in nominal te	rms)									
2.1 Air Traffic Management										
2.2 Communication										
2.3 Navigation										
2.4 Surveillance										
2.5 Search and rescue										
2.6 Aeronautical Information										
2.7 Meteorological services	5,4	5,2	5,1	5,1	5,1					
2.8 Supervision costs										
2.9 Other State costs										
2.10 Total costs	5,4	5,2	5,1	5,1	5,1					
Total % n/n-1		-4,2%	-0,9%	-0,4%	0,1%					
ATM % n/n-1										
CNS % n/n-1										
3. Cost of capital - Cost of common	nroiects (in	nominal te	erms)							
Average asset base	]	1011111111111								
3.1 Net book val. fixed assets	4,3	1,5	1,8	2,0	2,3					
3.2 Adjustments total assets	,-	,-	,-	,-	,-					
3.3 Net current assets										
3.4 Total asset base	4,3	1,5	1,8	2,0	2,3					
Cost of capital %		,	,	,	,					
3.5 Cost of capital pre tax rate	4,0%	4,0%	4,0%	4,0%	4,0%					
3.6 Return on equity		,	,	,	,					
3.7 Average interest on debts										
Cost of common projects										
3.8 Common Project 1										
A Inflation Tabel costs to us 11										
<ul><li>4. Inflation - Total costs in real terr</li><li>4.1 Inflation % (1)</li></ul>	ns   2,0%	1,9%	1,9%	2,0%	2,0%	2,0%	1,9%	1,9%	2,0%	2,0%
4.2 Total costs real terms (2)	5,3	5,1	5,0	4,9	4,8	2,070	1,5/0	1,3/0	2,070	2,070
Total % n/n-1	3,3	-4,1%	-0,9%	-2,4%	-1,9%					
10tai /011/11-1	]	~ <del>4</del> ,1 <i>7</i> 0	-0,570	-2,470	-1,570					
5. Deduction of costs allocated to	exempted V	FR flights (	in nominal	terms)						
5.1 Total costs	5,4	5,2	5,1	5,1	5,1					
5.2 Costs for exempted VFR flights										
5.3 Total costs after deduction (3)	5,4	5,2	5,1	5,1	5,1					

Costs and asset base items in '000 000 national currency - Service units in '000 000

(1) Forecast inflation used for establishing the determined costs in nominal terms - actual inflation recorded by EUROSTAT

- (2) Determined costs (performance plan) in real terms actual costs in real terms
- (3) Determined costs (after deduction of VFR costs) reported at Annex II (in nominal terms)

Charging zone name Portugal Lisboa Period of reference : 2012-2014
State - NSA INAC

					-					
		Dete	rmined co	sts			A	ctual costs	5	
Cost details	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
4 Data Harrison Communication										
1. Detail by nature (in nominal te		0.5	0.5	0.5	0.5					
1.1 Staff	0,3	0,5	0,5	0,5	0,5					
1.2 Other operating costs	9,8	8,1	9,0	8,2	8,3					
<ul><li>1.3 Depreciation</li><li>1.4 Cost of capital</li></ul>	0,0	0,0	0,0	0,0	0,0					
1.5 Exceptional items	0,0	0,0	0,0	0,0	0,0					
1.6 Total costs	10,1	8,5	9,5	8,7	8,8					
Total % n/n-1	10,1	-15,9%	11,1%	-8,1%	1,1%					
Staff % n/n-1		59,5%	1,5%	1,5%	1,5%					
Other op. % n/n-1		-18,2%	11,7%	-8,7%	1,0%					
,	<b>-</b>		, ,	· · · · · · ·	· · · · · ·	<u> </u>	- 11	11.	11.	
2. Detail by service (in nominal to	erms)									
2.1 Air Traffic Management										
2.2 Communication										
2.3 Navigation										
<ul><li>2.4 Surveillance</li><li>2.5 Search and rescue</li></ul>										
2.6 Aeronautical Information										
2.7 Meteorological services										
2.8 Supervision costs	0,4	0,6	0,6	0,6	0,6					
2.9 Other State costs	9,8	8,0	8,9	8,1	8,2					
2.10 Total costs	10,1	8,5	9,5	8,7	8,8					
Total % n/n-1	10,1	-15,9%	11,1%	-8,1%	1,1%					
ATM % n/n-1		13,370	11,170	0,170	1,170					
CNS % n/n-1										
			_							
3. Cost of capital - Cost of common	n projects (in	nominal te	erms)							
Average asset base	0.004	0.004	0.004	0.004	0.005					
3.1 Net book val. fixed assets	0,004	0,004	0,004	0,004	0,005					
3.2 Adjustments total assets										
<ul><li>3.3 Net current assets</li><li>3.4 Total asset base</li></ul>	0,004	0,004	0,004	0,004	0,005					
Cost of capital %	0,004	0,004	0,004	0,004	0,003					
3.5 Cost of capital pre tax rate	4,2%	4,0%	4,0%	4,0%	4,0%					
3.6 Return on equity	4,270	4,070	4,070	4,070	4,070					
3.7 Average interest on debts										
Cost of common projects										
3.8 Common Project 1										
4. Inflation - Total costs in real term	_	4.00/	1.00/	2.00/	2.00/	2.00/	1.00/	4.00/	2.00/	2.00/
4.1 Inflation % (1)	2,0%	1,9%	1,9%	2,0%	2,0%	2,0%	1,9%	1,9%	2,0%	2,0%
4.2 Total costs real terms (2)	9,9	8,4	9,3	8,4	8,3					
Total % n/n-1	1	-15,8%	11,1%	-9,9%	-0,9%					
5. Deduction of costs allocated to	exempted V	FR flights (	in nominal	terms)						
5.1 Total costs	10,1	8,5	9,5	8,7	8,8					
5.2 Costs for exempted VFR flights		•		,						
5.3 Total costs after deduction (3)	10,1	8,5	9,5	8,7	8,8					
		L.						l.		

Costs and asset base items in '000 000 national currency - Service units in '000 000

- (1) Forecast inflation used for establishing the determined costs in nominal terms actual inflation recorded by EUROSTAT
- (2) Determined costs (performance plan) in real terms actual costs in real terms
- (3) Determined costs (after deduction of VFR costs) reported at Annex II (in nominal terms)

**Portugal Lisboa** 

Period of reference: 2012-14

1.Description of the methodology used for allocating costs of facilities or services between different air navigation services based on the list of facilities and services listed in ICAO Regional Air Navigation Plan, (Doc 7754) and a description of the methodology used for allocating those costs between different charging zones;

NAV Portugal, E.P.E.'s cost accounting is tailored to the activity. Cost-centres are defined in accordance with its organizational structure and cover all the activities. Cost allocation criterion is based on the final service provided by each cost-centre and using dedicated software (SAP/R3 and META4).

2. Description and explanation of the method adopted for the calculation of depreciation costs: historic costs or current costs. When current cost accounting is adopted, provision of comparable historic cost data;

Depreciation costs are calculated using the straight-line method applied to historic costs over the expected useful lives of the different assets.

3. Justification for the cost of capital, including the components of the asset base, the possible adjustments to total assets and the return on equity;

#### 3.1. NAV Portugal, E.P.E.

The interest rate applied is calculated in accordance with the WACC method (Weighted Average Cost of Capital method), which was capped at 6,76 %.

### 3.2. INAC, I.P.

The interest rate of 4 % is applied on net book value of the assets in operation in each year.

### 3.3. IM, IP

The interest rate of 4% is applied on net book value of the assets in operation in each year

**Portugal Lisboa** 

Period of reference: 2012-14

4. Breakdown of the MET costs between direct costs and MET core costs defined as the costs of supporting meteorological facilities and services that also serve meteorological requirements in general. These include general analysis and forecasting, weather radar and satellite observation, surface and upper-air observation networks, meteorological communication systems, data-processing centres and supporting core research, training and administration:

In accordance with the Decree-law nº 220/97, of 20<sup>th</sup> August, every year in May (Preliminary Estimates) and in October (Definitive Estimates):

- IM, IP (Instituto de Meteorologia) provides to NAV Portugal, E.P.E. the forecast costaccounting data related to aeronautical activities in respect of Lisboa and Santa Maria Charging Zones, which are included in the respective cost basis for the calculation of the national unit rate and,
- NAV Portugal, E.P.E. reimburses IM, I.P., annually, for its costs recovered through route charges system.

The IM direct costs are related to the following services provided to IFR Traffic, being allocated to the activity directly:

- Flight Documentation (WAFS products, SIGWX charts/forecasts for low-level flights and required OPMET)
- Provision of information to meteorological information systems and local operators (including the use of remote briefing/consultation systems)
- TAFs
- METARs
- SPECIs
- Provision of information for ATS and AIS units
- Provision of information for SAR units
- SIGMETS
- Landing forecasts (including TREND) and forecasts for take-off
- Meteorological Watch Offices (MWO)
- Aerodrome meteorological offices (MO)
- Aeronautical meteorological stations
- Telecommunications for aeronautical meteorological purposes, including VSAT stations to receive WAFS products and OPMET data
- Specific aeronautical meteorological research
- Specific aeronautical meteorological training

The core costs are linked to the following shared facilities and products:

- General analysis and forecast offices
- Meteorological data processing (including maintenance of climatological data base)
- Commonly used meteorological telecommunications facilities and services
- Surface observation stations (making synoptic and climatological observations)
- Upper-air observation stations
- Weather radar
- Meteorological satellite reception
- Core training
- Core research
- Core technical support (including administration)

**Portugal Lisboa** 

Period of reference: 2012-14

# 5. Description of the methodology used for allocating total MET costs and MET core costs to civil aviation and between en route charging zones;

The IM, I.P.'s accounting software and system as implemented in 2008 is based on the double-entry bookkeeping system and analytical accountancy.

IM, I.P.'s approach is to establish the **ratio** (*Xr*) between the costs of those facilities and services intended exclusively for aeronautical requirements and the costs of those intended exclusively for non-aeronautical requirements.

This **ratio** is applied to core costs in order to estimate the aeronautical portion of these costs. For calculation of IFR MET Costs, the next steps are followed:

Step 1: Distribution of costs by categories according to Cost Centres

- Staff
- Infrastructure
- Operating costs
- International contributions
- Investments

Step 2: MET Aviation Costs Analyses

- Direct costs (100%)
- Core costs (30%)

Step 3: Cost Verification and Analysis for each centre

Step 4: Application of ratio (Xr) to the cost centres not exclusively aeronautical

$$XR = \frac{Cost\ exclusively\ aeronautical}{Costs\ exclusively\ aeronautical + Costs\ exclusively\ not\ aeronautical} = 30,27\%$$

### Distribution of Costs by charging zone:

- LISBOA 70% (2008); 72,5% (2009), 75% (2010/2015)
- SANTA MARIA 30% (2008); 27,5% (2009), 25% (2010/2015)

#### 6. Description of the reported forecast costs and traffic;

The National costs for the period 2012/14 reflect:

- Staff cost's evolution, which takes into account the salary review and the progression in the different professional careers;
- Operating cost's evolution, which takes into account the estimated inflation rate and,
- Capital cost's evolution according to the five-year investment plan.

For the calculation of the unit rate it is considered the Forecast of the service units for 2012-2014, as established by Eurocontrol/STATFOR Doc424, dated 11 Februrary 2011 Update.

**Portugal Lisboa** 

Period of reference: 2012-14

# LISBOA EN ROUTE CHARGING ZONE

# EN ROUTE AIR NAVIGATION INVESTMENT EXPENDITURES ANSP - NAV PORTUGAL

(10<sup>3</sup> EUR)

								(10° EUR)
PROJECT	2010	2011	2012	2013	2014	2015	TOTAL	Becoming Operational on (Semester/Year)
TOTAL	14.000	13.230	12.387	10.689	12.298	11.064	73.669	
ATM SYSTEM	10.511	8.474	7.788	7.495	7.576	7.936	49.780	
■ Lisbon ATM System Development	1.203	1.717	861	557	124		4.462	
■ TWRATM	584	190	75	8			857	
■ SDT ATM	1.368	1.071	387	230	230	230	3.516	
■ iTEC-eFDP	6.529	5.186	6.265	6.700	7.196	7.679	39.555	
■ Other	827	310	200		27	27	1.390	
COMMUNICATIONS	495	656	1.016	362	966	144	3.640	
■ VGS (data-link)	96	101	3	80	10		290	11;13
■ Tape recorders	27	122	910	202	10	2	1.274	12
■ Communications Enhancements	20	157	103	53	53	50	435	
■ VCS	179	85		27	744	18	1.053	
Upgrade ATIS/Volmet	147	143	1				291	11
■ Other	26	46			150	75	297	
NAV AIDS	207	171	457	750	862		2.448	
Replacements of VOR's, TACAN and DME's			72	16	846		934	11;12;13
DME's for PRNAV to TMA's	207	171	385	734	16		1.514	10;14
SURVEILLANCE	100	394	1.469	855	1.516	1.397	5.731	
■ North Radar Enhancements	43	205	645	606			1.500	13
■ SSR Mode S			3	249	1.516	1.397	3.165	15
■ WAM/ADS-B Madeira	57	189	821				1.067	12
METEO	753	4					757	10
BUILDINGS	1.231	2.422	816	394	544	754	6.161	
OTHER	703	1.109	841	833	833	833	5.152	

Charging zone name: Portugal Lisboa

Consolidation - all entities

Period of reference : 2012-2014

Unit rate calculation	2010	2011	2012	2013	2014
					1
1. Determined costs in nominal terms and inflation uprate					
1.1 Determined costs in nominal terms - VFR excl. (Annex II)	120,1	123,7	125,3	127,7	130,2
1.2 Actual inflation rate recorded by EUROSTAT - Annex II	2,0%	1,9%	1,9%	2,0%	2,0%
1.3 Forecast inflation rate - Annex II	2,0%	1,9%	1,9%	2,0%	2,0%
1.4 Inflation uprate - Article 6-1a : year n amount to be carried over	0,0	0,0	0,0	0,0	0,0
2. Forecast and actual total service units					
2.1 Forecast total service units (performance plan)	2,6	2,8	2,8	2,8	2,9
2.2 Actual total service units	2,6	2,8	2,8	2,8	2,9
2.3 Actual / forecast total service units (in %)	100,0%	100,0%	100,0%	100,0%	100,0%
3. Costs subject to traffic risk sharing (ANSP)					
3.1 Determined costs in nominal terms - VFR excl. (Annex II)	104,6	110,1	110,7	113,9	116,3
3.2 Inflation uprate - Article 6-1a : amount carried over to year n	0,0	0,0	0,0	0,0	0,0
3.3 Traffic - Article 11a-1(a): amounts carried over to year n	0,0	0,0	0,0	0,0	0,0
3.4 Traffic risk sharing - Article 11a-1: add. revenue carried over to year n	0,0	0,0	0,0	0,0	0,0
3.5 Traffic risk sharing - Article 11a-1: revenues losses carried over to year n	0,0	0,0	0,0	0,0	0,0
3.6 Uncontrollable costs - Article 11a-2(c) : amounts carried over to year n	0,0	0,0	0,0	0,0	0,0
3.7 Bonus (+) or penalty (-) for performance - Article 12-2	0,0	0,0	0,0	0,0	0,0
3.8 Over(-) or under(+) recoveries (1): amounts carried over to year n	8,7	6,2	0,0	0,0	0,0
3.9 Total for the calculation of year n unit rate	113,3	116,3	110,7	113,9	116,3
3.10 Traffic risk sharing - Article 11a-1 : add. rev. year n to be carried-over	0,0	0,0	0,0	0,0	0,0
3.11 Traffic risk sharing - Article 11a-1 : rev. loss year n to be carried-over	0,0	0,0	0,0	0,0	0,0
Parameters for traffic risk sharing					
3.12 % additional revenue returned to users in year n+2 - Article 11a-1(c)	70%	70%	70%	70%	70%
3.13 % loss of revenue borne by airspace users - Article 11a-1(d)	70%	70%	70%	70%	70%
4. Costs not subject to traffic risk sharing - Article 11a-1(a)					
4.1 Determined costs in nominal terms - VFR excl. (Annex II)	15,5	13,7	14,6	13,8	13,9
4.2 Inflation uprate - Article 6-1a : amount carried over to year n	0,0	0,0	0,0	0,0	0,0
4.3 Traffic - Article 11a-1(a): amounts carried over to year n	0,0	0,0	0,0	0,0	0,0
4.4 Uncontrollable costs - Article 11a-2(c) : amounts carried over to year n	0,0	0,0	0,0	0,0	0,0
4.5 Over(-) or under(+) recoveries (1) : amounts carried over to year n	0,0	0,7	0,0	0,0	0,0
4.6 Total for the calculation of year n unit rate	15,5	14,4	14,6	13,8	13,9
5. Other revenues - applied unit rate (in national currency)					
5.1 Revenues from other sources - Article 3	0,0	0,0	0,0	0,0	0,0
5.2 Grand total for the calculation of year n unit rate	128,8	130,7	125,3	127,7	130,2
5.3 Year n unit rate (in national currency)	48,99	47,39	44,77	45,08	45,48
5.4 ANSP component of the unit rate	43,08	42,17	39,56	40,21	40,63
5.5 MET component of the unit rate	2,13	2,08	1,83	1,80	1,78
5.6 NSA-State component of the unit rate	3,78	3,14	3,39	3,07	3,07
5.7 Year n unit rate that would have applied without other revenues	48,99	47,39	44,77	45,08	45,48

 $<sup>(1) \</sup> Annex\ IV-V\ \ 2.\ (vi) - over/under\ recoveries\ up\ to\ the\ year\ of\ entry\ into\ force\ of\ the\ amended\ Commission\ Regulation\ N°1794/2006$ 

Period of reference : 2012-2014 Charging zone name: Portugal Lisboa

ANSP name NAV Portugal

	Unit rate calculation	2010	2011	2012	2013	2014
	1. Determined costs in nominal terms and inflation uprate					
	Determined costs in nominal terms - VFR excl. (Annex II)	104,6	110,1	110,7	113,9	116,3
	Actual inflation rate recorded by EUROSTAT - Annex II	2,0%	1,9%	1,9%	2,0%	2,0%
	Forecast inflation rate - Annex II	2,0%	1,9%	1,9%	2,0%	2,0%
1.4	Inflation uprate - Article 6-1a : year n amount to be carried over	0,0	0,0	0,0	0,0	0,0
	2. Forecast and actual total service units					
2.1	Forecast total service units (performance plan)	2,6	2,8	2,8	2,8	2,9
2.2	Actual total service units	2,6	2,8	2,8	2,8	2,9
2.3	Actual / forecast total service units (in %)	100,0%	100,0%	100,0%	100,0%	100,0%
	3. Costs subject to traffic risk sharing (ANSP)					
3.1	Determined costs in nominal terms - VFR excl. (Annex II)	104,6	110,1	110,7	113,9	116,3
3.2	Inflation uprate - Article 6-1a : amount carried over to year n	0,0	0,0	0,0	0,0	0,0
3.3	Traffic - Article 11a-1(a): amounts carried over to year n	0,0	0,0	0,0	0,0	0,0
	Traffic risk sharing - Article 11a-1: add. revenue carried over to year n	0,0	0,0	0,0	0,0	0,0
3.5	Traffic risk sharing - Article 11a-1: revenues losses carried over to year n	0,0	0,0	0,0	0,0	0,0
	Uncontrollable costs - Article 11a-2(c): amounts carried over to year n	0,0	0,0	0,0	0,0	0,0
	Bonus (+) or penalty (-) for performance - Article 12-2	0,0	0,0	0,0	0,0	0,0
	Over(-) or under(+) recoveries (1) : amounts carried over to year n	8,7	6,2	0,0	0,0	0,0
3.9	Total for the calculation of year n unit rate	113,3	116,3	110,7	113,9	116,3
3.10	Traffic risk sharing - Article 11a-1: add. rev. year n to be carried-over	0,0	0,0	0,0	0,0	0,0
3.11	Traffic risk sharing - Article 11a-1 : rev. loss year n to be carried-over	0,0	0,0	0,0	0,0	0,0
	Parameters for traffic risk sharing					
3.12	% additional revenue returned to users in year n+2 - Article 11a-1(c)	70%	70%	70%	70%	70%
3.13	% loss of revenue borne by airspace users - Article 11a-1(d)	70%	70%	70%	70%	70%
	4. Costs not subject to traffic risk sharing - Article 11a-1(a)					
4.1	Determined costs in nominal terms - VFR excl. (Annex II)					
4.2	Inflation uprate - Article 6-1a : amount carried over to year n					
	Traffic - Article 11a-1(a): amounts carried over to year n					
	Uncontrollable costs - Article 11a-2(c): amounts carried over to year n					
	Over(-) or under(+) recoveries (1): amounts carried over to year n					
4.6	Total for the calculation of year n unit rate					
	5. Other revenues - applied unit rate (in national currency)					
	Revenues from other sources - Article 3					
5.2	Grand total for the calculation of year n unit rate	113,3	116,3	110,7	113,9	116,3
5.3	Year n unit rate (in national currency)	43,08	42,17	39,56	40,21	40,63
	ANSP component of the unit rate					
5.5	MET component of the unit rate					
5.6	NSA-State component of the unit rate					
5.7	Year n unit rate that would have applied without other revenues	43,08	42,17	39,56	40,21	40,63
5.7	real in unit rate that would have applied without other revenues	43,08	42,17	35,30	40,21	40,0

Costs, revenues and other amounts in '000 000 national currency - Service units in '000 000  $\,$ (1) Annex IV-V 2. (vi) - over/under recoveries up to the year of entry into force of the amended Commission Regulation N°1794/2006 Charging zone name: Portugal Lisboa

MET Service provider name IM

Period of reference : 2012-2014

1 Determined costs in naminal terms and inflation consts					
Determined costs in nominal terms and inflation uprate					
1.1 Determined costs in nominal terms - VFR excl. (Annex II)	5,4	5,2	5,1	5,1	5,1
1.2 Actual inflation rate recorded by EUROSTAT - Annex II	2,0%	1,9%	1,9%	2,0%	2,0%
1.3 Forecast inflation rate - Annex II	2,0%	1,9%	1,9%	2,0%	2,0%
1.4 Inflation uprate - Article 6-1a : year n amount to be carried over	0,0	0,0	0,0	0,0	0,0
2. Forecast and actual total service units					
2.1 Forecast total service units (performance plan)	2,6	2,8	2,8	2,8	2,9
2.2 Actual total service units	2,6	2,8	2,8	2,8	2,9
2.3 Actual / forecast total service units (in %)	100,0%	100,0%	100,0%	100,0%	100,0%
3. Costs subject to traffic risk sharing (ANSP)					
3.1 Determined costs in nominal terms - VFR excl. (Annex II)					
3.2 Inflation uprate - Article 6-1a : amount carried over to year n					
3.3 Traffic - Article 11a-1(a): amounts carried over to year n					
3.4 Traffic risk sharing - Article 11a-1: add. revenue carried over to year n					
3.5 Traffic risk sharing - Article 11a-1: revenues losses carried over to year n					
3.6 Uncontrollable costs - Article 11a-2(c) : amounts carried over to year n					
3.7 Bonus (+) or penalty (-) for performance - Article 12-2					
3.8 Over(-) or under(+) recoveries (1): amounts carried over to year n					
3.9 Total for the calculation of year n unit rate					
3.10 Traffic risk sharing - Article 11a-1: add. rev. year n to be carried-over					
3.11 Traffic risk sharing - Article 11a-1: rev. loss year n to be carried-over					
Parameters for traffic risk sharing					
3.12 % additional revenue returned to users in year n+2 - Article 11a-1(c)					
3.13 % loss of revenue borne by airspace users - Article 11a-1(d)					
4. Costs not subject to traffic risk sharing - Article 11a-1(a)					
4.1 Determined costs in nominal terms - VFR excl. (Annex II)	5,4	5,2	5,1	5,1	5,1
4.2 Inflation uprate - Article 6-1a : amount carried over to year n	0,0	0,0	0,0	0,0	0,0
4.3 Traffic - Article 11a-1(a): amounts carried over to year n			0,0	0,0	0,0
4.4 Uncontrollable costs - Article 11a-2(c) : amounts carried over to year n					
4.5 Over(-) or under(+) recoveries (1): amounts carried over to year n	0,2	0,6			
4.6 Total for the calculation of year n unit rate	5,6	5,7	5,1	5,1	5,1
5. Other revenues - applied unit rate (in national currency)					
5.1 Revenues from other sources - Article 3	0,0	0,0	0,0	0,0	0,0
5.2 Grand total for the calculation of year n unit rate	5,6	5,7	5,1	5,1	5,1
5.3 Year n unit rate (in national currency)	2,13	2,08	1,83	1,80	1,78
5.4 ANSP component of the unit rate		,	,	,	, ]
5.5 MET component of the unit rate					
5.6 NSA-State component of the unit rate					
5.7 Year n unit rate that would have applied without other revenues	2,13	2,08	1,83	1,80	1,78

<sup>(1)</sup> Annex IV-V 2. (vi) - over/under recoveries up to the year of entry into force of the amended Commission Regulation N°1794/2006

Charging zone name: Portugal Lisboa

State - NSA INAC

Period of reference : 2012-2014

Unit rate calculation	2010	2011	2012	2013	2014
Determined costs in nominal terms and inflation uprate					
1.1 Determined costs in nominal terms - VFR excl. (Annex II)	10,1	8,5	9,5	8,7	8,8
1.2 Actual inflation rate recorded by EUROSTAT - Annex II	2,0%	1,9%	1,9%	2,0%	2,0%
1.3 Forecast inflation rate - Annex II	2,0%	1,9%	1,9%	2,0%	2,0%
1.4 Inflation uprate - Article 6-1a : year n amount to be carried over	0,0	0,0	0,0	0,0	0,0
2. Forecast and actual total service units					
2.1 Forecast total service units (performance plan)	2,6	2,8	2,8	2,8	2,9
2.2 Actual total service units	2,6	2,8	2,8	2,8	2,9
2.3 Actual / forecast total service units (in %)	100,0%	100,0%	100,0%	100,0%	100,0%
3. Costs subject to traffic risk sharing (ANSP)					
3.1 Determined costs in nominal terms - VFR excl. (Annex II)					
3.2 Inflation uprate - Article 6-1a : amount carried over to year n					
3.3 Traffic - Article 11a-1(a): amounts carried over to year n					
3.4 Traffic risk sharing - Article 11a-1: add. revenue carried over to year n					
3.5 Traffic risk sharing - Article 11a-1: revenues losses carried over to year n					
3.6 Uncontrollable costs - Article 11a-2(c) : amounts carried over to year n					
3.7 Bonus (+) or penalty (-) for performance - Article 12-2					
3.8 Over(-) or under(+) recoveries (1): amounts carried over to year n					
3.9 Total for the calculation of year n unit rate					
3.10 Traffic risk sharing - Article 11a-1 : add. rev. year n to be carried-over 3.11 Traffic risk sharing - Article 11a-1 : rev. loss year n to be carried-over					
Parameters for traffic risk sharing					
3.12 % additional revenue returned to users in year n+2 - Article 11a-1(c)					
3.13 % loss of revenue borne by airspace users - Article 11a-1(d)					
4. Costs not subject to traffic risk sharing - Article 11a-1(a)					
4.1 Determined costs in nominal terms - VFR excl. (Annex II)	10,1	8,5	9,5	8,7	8,8
4.2 Inflation uprate - Article 6-1a : amount carried over to year n	0,0	0,0	0,0	0,0	0,0
4.3 Traffic - Article 11a-1(a): amounts carried over to year n		·	0,0	0,0	0,0
4.4 Uncontrollable costs - Article 11a-2(c) : amounts carried over to year n					
4.5 Over(-) or under(+) recoveries (1): amounts carried over to year n	-0,2	0,1			
4.6 Total for the calculation of year n unit rate	9,9	8,7	9,5	8,7	8,8
5. Other revenues - applied unit rate (in national currency)					
5.1 Revenues from other sources - Article 3					
5.2 Grand total for the calculation of year n unit rate	9,9	8,7	9,5	8,7	8,8
5.3 Year n unit rate (in national currency)	3,78	3,14	3,39	3,07	3,07
5.4 ANSP component of the unit rate		,	, -	·	
5.5 MET component of the unit rate					
5.6 NSA-State component of the unit rate					
5.7 Year n unit rate that would have applied without other revenues	3,78	3,14	3,39	3,07	3,07

<sup>(1)</sup> Annex IV-V 2. (vi) - over/under recoveries up to the year of entry into force of the amended Commission Regulation N°1794/2006

**Portugal Lisboa** 

Period of reference: 2012-14

# 1.Description and rationale for the establishment of the different en route charging zones;

The Lisboa en-route Charging Zone corresponds to Lisboa Upper Flight Information Region and Lisboa Flight Information Region, as referred to in the Conditions of Application of the Route Charges System and Conditions of Payment.

# 2.Description and explanation on the calculation of the forecast chargeable service units;

For the calculation of the unit rate it is considered the Forecast of the service units for 2012-2014, as established by Eurocontrol/STATFOR Doc424, dated 11 Februrary 2011 Update.

LISBOA	2012 P	2013 P	2014 P
CHARGEABLE SERVICE UNITS	2 745	2 777	2 807
% n/n-1	1,9%	1,2%	1,1%

# 3.Description of the policy on exemptions and a description of the financing means to cover the related costs;

In addition to the mandatory exemptions as described in the Conditions of Application of the Route Charges System and Conditions of Payment, Portugal exempts the following flights from en-route charges:

- Portuguese Military Flights
- Military flights of other States on a bilateral basis (reciprocity)
- Flights performed exclusively for the purpose of the instruction or testing of flight crew
- Flights performed exclusively for the checking or testing of equipment used or intended to be used as ground aids to air navigation
- · Circular flights
- Authorised Humanitarian Flights
- VFR flights
- Customs and police flights

In view of the accomplishment of the Article 9.4 of the Commission Regulation (EC)  $N^{\circ}$  1794/2006, the Government of Portugal, in coordination with all national competent entities involved in this matter, maintain in course the necessary actions to ensure to NAV Portugal the reimbursement of costs incurred for exempted flights, which, naturally, are not taken into account for the calculation of the national unit rate.

# 4.Description of the carry-overs of over or under recoveries incurred by Member States up to the year 2011;

The adjustment mechanism is applied in the traditional way (n+2).

**Portugal Lisboa** 

None.

Period of reference: 2012-14

5.Description of the other revenues when they exist;

None

6.Description and explanation of incentives applied on users of en route services;

Charging zone name Portugal TNC Period of reference: 2012-2014 Consolidation - all entities **Determined costs Actual costs** Cost details 2010 2011 2012 2013 2014 2010 2011 2012 2013 2014 Detail by nature (in nominal terms) 1.1 Staff 25,7 25,5 26,0 24,7 26,6 1.2 Other operating costs 1,7 1,8 1,8 1,8 1,8 2,9 1.3 Depreciation 3,1 3,2 3,0 3,4 1.4 Cost of capital 0.8 0,7 0.7 0.7 0,7 1.5 Exceptional items 0,0 0,0 0,0 0,0 0,0 1.6 Total costs 30,3 31,4 31,0 31,6 32,5 Total % n/n-1 3,5% -1,4% 2,1% 2,9% Staff % n/n-1 4,1% -0,8% 2,1% 2,2% Other op. % n/n-1 7,5% -2,5% 2,0% 2,0% 2. Detail by service (in nominal terms) 2.1 Air Traffic Management 23,2 24,2 23,9 24,3 25,0 2.2 Communication 2,3 2,3 2,3 2,3 2,4 2.3 Navigation 2,8 2,8 2,7 2,8 2,9 2.4 Surveillance 1,0 1,0 1,0 1,1 1,1 2.5 Search and rescue 0,0 0,0 0,0 0,0 0,0 2.6 Aeronautical Information 0,8 0.8 0,8 0.8 0,9 0,3 2.7 Meteorological services 0.2 0,3 0,3 0,3 2.8 Supervision costs 0,0 0,0 0,0 0,0 0,0 2.9 Other State costs 0,0 0.0 0,0 0,0 0.0 2.10 Total costs 31,0 32,5 30,3 31.4 31,6 Total % n/n-1 3,4% -1,3% 2,1% 2,9% ATM % n/n-1 4,3% -1,3% 2,0% 2,9% **CNS** % n/n-1 0,0% -1,4% 2,1% 2,8% 3. Cost of capital - Cost of common projects (in nominal terms) Average asset base 10,9 3.1 Net book val. fixed assets 10,4 10,4 14,1 9,8 0,0 3.2 Adjustments total assets 0,0 0,0 0,0 0,0 3.3 Net current assets 0,0 0,0 0,0 0,0 0,0 3.4 Total asset base 10,9 14,1 10,4 10,4 9,8 Cost of capital % 3.5 Cost of capital pre tax rate 6,0% 6,8% 6,8% 6,8% 6,8% 3.6 Return on equity 6,8% 7,6% 7,6% 7,6% 7,6% 3.7 Average interest on debts 1,9% 1,9% 1.9% 1,9% 2,2% Cost of common projects 3.8 Common Project 1 0,0 0,0 0,0 0,0 0,0 4. Inflation - Total costs in real terms

5.3 Total costs after deduction (3) 30,3 31,4 31,0 31,6

Costs and asset base items in '000 000 national currency - Service units in '000 000

5. Deduction of costs allocated to exempted VFR flights (in nominal terms)

(1) Forecast inflation used for establishing the determined costs in nominal terms - actual inflation recorded by EUROSTAT

1,9%

30,8

3,5%

31,4

0,0

1,9%

30,4

-1,3%

31,0

0,0

2,0%

30,4

0,0%

31,6

0,0

2,0%

30,7

0,9%

32,5

0,0

32,5

2,0%

1,9%

1,9%

2,0%

2,0%

- (2) Determined costs (performance plan) in real terms actual costs in real terms
- (3) Determined costs (after deduction of VFR costs) reported at Annex II (in nominal terms)

2,0%

29,7

30,3

0,0

4.1 Inflation % (1)

Total

5.1 Total costs

4.2 Total costs real terms (2)

% n/n-1

5.2 Costs for exempted VFR flights

	3	2013  5,5 26,0 1,8 1,8 2,9 3,0 0,7 0,7  1,0 31,6 4% 2,1% 8% 2,1% 5% 2,0%  3,9 24,3 2,3 2,3 2,3 2,3 2,7 2,8 1,0 1,1 0,8 0,8 0,3 0,3 1,0 31,6	26,6 1,8 3,4 0,7 32,5 2,9% 2,0% 25,0 24 2,9 1,1	2010	2011	2012	2013	2014
2011  4,7	2012  7	2013  5,5 26,0 1,8 1,8 2,9 3,0 0,7 0,7  1,0 31,6 4% 2,1% 8% 2,1% 5% 2,0%  3,9 24,3 2,3 2,3 2,3 2,3 2,7 2,8 1,0 1,1 0,8 0,8 0,3 0,3 1,0 31,6	26,6 1,8 3,4 0,7 32,5 2,9% 2,2% 2,0% 25,00 2,4 2,9 1,1					2014
4,7 25,7 1,7 1,8 3,1 3,2 0,8 0,7 0,3 31,4 3,5% 4,1% 7,5% 3,2 24,2 2,3 2,8 2,8 1,0 1,0 0,8 0,8 0,2 0,3 31,4 3,4% 4,3% 0,0%	25,5 3 1,8 2 2,9 0,7 4 31,0 6 -1,4% 6 -0,8% 6 -2,5% 2 23,9 3 2,7 1,0 3 0,8 3 0,3 4 31,0 6 -1,3% 6 -1,3% 6 -1,3% 6 -1,3% 6 -1,4%	5,5 26,0 1,8 1,8 2,9 3,0 0,7 0,7 1,0 31,6 4% 2,1% 8% 2,1% 5% 2,0% 3,9 24,3 2,3 2,3 2,3 2,3 2,7 2,8 1,0 1,1 0,8 0,8 0,3 0,3	26,6 1,8 3,4 0,7 32,5 2,9% 2,2% 2,0% 25,00 2,4 2,9 1,1		2011	2012	2013	2014
1,7	3	1,8     1,8       2,9     3,0       0,7     0,7       1,0     31,6       4%     2,1%       5%     2,0%       3,9     24,3       2,3     2,3       2,7     2,8       1,0     1,1       0,8     0,3       1,0     31,6	1,8 3,4 0,7 32,5 2,9% 2,2% 2,0% 25,0 2,4 2,9 1,1					
1,7	3	1,8     1,8       2,9     3,0       0,7     0,7       1,0     31,6       4%     2,1%       5%     2,0%       3,9     24,3       2,3     2,3       2,7     2,8       1,0     1,1       0,8     0,3       1,0     31,6	1,8 3,4 0,7 32,5 2,9% 2,2% 2,0% 25,0 2,4 2,9 1,1					
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31,4 3,5% 4,1% 7,5% 3,2 24,2 2,3 2,8 2,8 1,0 1,0 0,8 0,2 0,3 0,3 31,4 3,4% 4,3% 0,0%	31,0 -1,4% -0,8% -0,8% -2,5% 2 23,9 3 2,3 3 2,7 1,0 3 0,8 3 0,3 4 31,0 -1,3% -1,3% -1,3% -1,4%	1,0 31,6 4% 2,1% 8% 2,1% 5% 2,0% 3,9 24,3 2,3 2,3 2,7 2,8 1,0 1,1 0,8 0,8 0,3 0,3 1,0 31,6	32,5 2,9% 2,2% 2,0% 25,0 2,4 2,9 1,1					
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	1 10,9 6 6,76% 7,6%	6% 6,76% 6% 7,6%	7,6% 1,9%					1
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Costs and asset base items in '000 000 national currency - Service units in '000 000  $\,$ 

- (1) Forecast inflation used for establishing the determined costs in nominal terms actual inflation recorded by EUROSTAT
- (2) Determined costs (performance plan) in real terms actual costs in real terms
- (3) Determined costs (after deduction of VFR costs) reported at Annex II (in nominal terms)

Portugal - Terminal
Period of reference: 2012-14

1.Description of the methodology used for allocating costs of facilities or services between different air navigation services based on the list of facilities and services listed in ICAO Regional Air Navigation Plan, (Doc 7754) and a description of the methodology used for allocating those costs between different charging zones;

NAV Portugal, E.P.E.'s cost accounting is tailored to the activity. Cost-centres are defined in accordance with its organizational structure and cover all the activities. Cost allocation criterion is based on the final service provided by each cost-centre and using dedicated software (SAP/R3 and META4).

2. Description and explanation of the method adopted for the calculation of depreciation costs: historic costs or current costs. When current cost accounting is adopted, provision of comparable historic cost data;

Depreciation costs are calculated using the straight-line method applied to historic costs over the expected useful lives of the different assets.

3. Justification for the cost of capital, including the components of the asset base, the possible adjustments to total assets and the return on equity;

The interest rate applied is calculated in accordance with the WACC method (Weighted Average Cost of Capital method), which was capped at 6,76 %.

4. Breakdown of the MET costs between direct costs and MET core costs defined as the costs of supporting meteorological facilities and services that also serve meteorological requirements in general. These include general analysis and forecasting, weather radar and satellite observation, surface and upper-air observation networks, meteorological communication systems, data-processing centres and supporting core research, training and administration;

Not applicable

5. Description of the methodology used for allocating total MET costs and MET core costs to civil aviation and between en route charging zones;

Not applicable

**Portugal - Terminal** 

Period of reference: 2012-14

### 6. Description of the reported forecast costs and traffic;

The National costs for the period 2012/14 reflect:

- Staff cost's evolution, which takes into account the salary review and the progression in the different professional careers;
- Operating cost's evolution, which takes into account the estimated inflation rate and,
- Capital cost's evolution according to the five-year investment plan.

For the calculation of the unit rate it is considered the traffic data forecast, taking into account the weight factor to the power of 0,7.

2

**Portugal-Terminal** 

Period of reference: 2012-14

**Annex-1** 

# **TERMINAL NAVIGATION INVESTMENT EXPENDITURES**

### **PORTUGAL - TERMINAL CHARGING ZONE**

(ALL Airports served by NAV Portugal, EPE)

(10<sup>3</sup> EUR)

							(10 LON)
PROJECT	2010	2011	2012	2013	2014	TOTAL	Becoming Operational on (Semester/Year)
TOTAL	4.037	3.861	3.596	1.076	1.504	19.184	
ATM SYSTEM	1.198	383	92	507	628	3.607	
Lisbon ATM System Development	59	103	71	7		256	
■ TWRATM	597	261		482	622	2.312	
■ Surv. Data Proc. & Airc. Fac. F. (SDPS)							
Tests and Development Facilities							
■ A-SMGCS							
■ Other	542	18	21	19	6	1.039	
COMMUNICATIONS	592	235	533	19	359	2.500	
Upgrade ATIS/Volmet	267	10				277	10
Optical fibre ring in Faro and Lisboa	17	33				120	10;11
■ VCS	201	13	314	19	309	1.042	10;12
■ Tape recorders	69	172	219			460	10;12
■ Replacements Em / Rec. VHF						409	09
■ Other	38	7			50	193	
NAV AIDS	245	1.562	852	476	375	3.645	
■ Precision App. Sistem Lisboa and Faro	14	1.395	495	8		1.913	11;12
■ DME's for PRNAV to TMA's	118	163	324	468	4	1.077	09;13
■ Other	113	4	33		370	656	11
SURVEILLANCE	4	1.352	1.752	7		5.136	
Multilateration (MLAT) in Lisboa						1.141	09
■ Replacement Lisboa Radar	4	1.352	1.752	7		3.115	12
■ Ground Radar Oporto						880	09
METEO	1.165	4				2.248	09;10
BUILDINGS	832	325	367	68	141	2.029	
OTHER						19	

Charging zone name: Portugal TNC

Consolidation - all entities

Period of reference : 2012-2014

Unit rate calculation	2010	2011	2012	2013	2014
Determined costs in nominal terms and inflation uprate					
1.1 Determined costs in nominal terms - VFR excl. (Annex II)	30,3	31,4	31,0	31,6	32,5
1.2 Actual inflation rate recorded by EUROSTAT - Annex II	2,0%	1,9%	1,9%	2,0%	2,0%
1.3 Forecast inflation rate - Annex II	2,0%	1,9%	1,9%	2,0%	2,0%
1.4 Inflation uprate - Article 6-1a : year n amount to be carried over	0,0	0,0	0,0	0,0	0,0
2. Forecast and actual total service units					
2.1 Forecast total service units (performance plan)	0,2	0,2	0,2	0,2	0,2
2.2 Actual total service units	0,2	0,2	0,2	0,2	0,2
2.3 Actual / forecast total service units (in %)	100,0%	100,0%	100,0%	100,0%	100,0%
3. Costs subject to traffic risk sharing (ANSP)					
3.1 Determined costs in nominal terms - VFR excl. (Annex II)	30,3	31,4	31,0	31,6	32,5
3.2 Inflation uprate - Article 6-1a : amount carried over to year n	0,0	0,0	0,0	0,0	0,0
3.3 Traffic - Article 11a-1(a) : amounts carried over to year n	0,0	0,0	0,0	0,0	0,0
3.4 Traffic risk sharing - Article 11a-1: add. revenue carried over to year n	0,0	0,0	0,0	0,0	0,0
3.5 Traffic risk sharing - Article 11a-1: revenues losses carried over to year n	0,0	0,0	0,0	0,0	0,0
3.6 Uncontrollable costs - Article 11a-2(c) : amounts carried over to year n	0,0	0,0	0,0	0,0	0,0
3.7 Bonus (+) or penalty (-) for performance - Article 12-2	0,0	0,0	0,0	0,0	0,0
3.8 Over(-) or under(+) recoveries (1) : amounts carried over to year n	0,0	0,0	0,0	0,0	0,0
3.9 Total for the calculation of year n unit rate	30,3	31,4	31,0	31,6	32,5
3.10 Traffic risk sharing - Article 11a-1 : add. rev. year n to be carried-over	0,0	0,0	0,0	0,0	0,0
3.11 Traffic risk sharing - Article 11a-1 : rev. loss year n to be carried-over	0,0	0,0	0,0	0,0	0,0
Parameters for traffic risk sharing					
3.12 % additional revenue returned to users in year n+2 - Article 11a-1(c)	70%	70%	70%	70%	70%
3.13 % loss of revenue borne by airspace users - Article 11a-1(d)	70%	70%	70%	70%	70%
4. Costs not subject to traffic risk sharing - Article 11a-1(a)					
4.1 Determined costs in nominal terms - VFR excl. (Annex II)	0,0	0,0	0,0	0,0	0,0
4.2 Inflation uprate - Article 6-1a : amount carried over to year n	0,0	0,0	0,0	0,0	0,0
4.3 Traffic - Article 11a-1(a) : amounts carried over to year n	0,0	0,0	0,0	0,0	0,0
4.4 Uncontrollable costs - Article 11a-2(c) : amounts carried over to year n	0,0	0,0	0,0	0,0	0,0
4.5 Over(-) or under(+) recoveries (1) : amounts carried over to year n	0,0	0,0	0,0	0,0	0,0
4.6 Total for the calculation of year n unit rate	0,0	0,0	0,0	0,0	0,0
5. Other revenues - applied unit rate (in national currency)					
5.1 Revenues from other sources - Article 3	0,0	0,0	0,0	0,0	0,0
5.2 Grand total for the calculation of year n unit rate	30,3	31,4	31,0	31,6	32,5
5.3 Year n unit rate (in national currency)	168,52	173,12	165,01	164,48	164,99
5.4 ANSP component of the unit rate	168,52	173,12	165,01	164,48	164,99
5.5 MET component of the unit rate	0,00	0,00	0,00	0,00	0,00
5.6 NSA-State component of the unit rate	0,00	0,00	0,00	0,00	0,00
5.7 Year n unit rate that would have applied without other revenues	168,52	173,12	165,01	164,48	164,99

<sup>(1)</sup> Annex IV-V 2. (vi) - over/under recoveries up to the year of entry into force of the amended Commission Regulation N°1794/2006

Charging zone name: Portugal TNC
ANSP name NAV Portugal

Period of reference : 2012-2014

Unit rate calculation	2010	2011	2012	2013	2014
Determined costs in nominal terms and inflation uprate					
1.1 Determined costs in nominal terms - VFR excl. (Annex II)	30,3	31,4	31,0	31,6	32,5
1.2 Actual inflation rate recorded by EUROSTAT - Annex II	2,0%	1,9%	1,9%	2,0%	2,0%
1.3 Forecast inflation rate - Annex II	2,0%	1,9%	1,9%	2,0%	2,0%
1.4 Inflation uprate - Article 6-1a : year n amount to be carried over	0,0	0,0	0,0	0,0	0,0
2. Forecast and actual total service units					
2.1 Forecast total service units (performance plan)	0,2	0,2	0,2	0,2	0,2
2.2 Actual total service units	0,2	0,2	0,2	0,2	0,2
2.3 Actual / forecast total service units (in %)	100,0%	100,0%	100,0%	100,0%	100,0%
3. Costs subject to traffic risk sharing (ANSP)					
3.1 Determined costs in nominal terms - VFR excl. (Annex II)	30,3	31,4	31,0	31,6	32,5
3.2 Inflation uprate - Article 6-1a : amount carried over to year n	0,0	0,0	0,0	0,0	0,0
3.3 Traffic - Article 11a-1(a) : amounts carried over to year n	0,0	0,0	0,0	0,0	0,0
3.4 Traffic risk sharing - Article 11a-1: add. revenue carried over to year n	0,0	0,0	0,0	0,0	0,0
3.5 Traffic risk sharing - Article 11a-1: revenues losses carried over to year n	0,0	0,0	0,0	0,0	0,0
3.6 Uncontrollable costs - Article 11a-2(c) : amounts carried over to year n	0,0	0,0	0,0	0,0	0,0
3.7 Bonus (+) or penalty (-) for performance - Article 12-2	0,0	0,0	0,0	0,0	0,0
3.8 Over(-) or under(+) recoveries (1): amounts carried over to year n	20.2	24.4	0,0	0,0	0,0
3.9 Total for the calculation of year n unit rate	30,3	31,4	31,0	31,6	32,5
3.10 Traffic risk sharing - Article 11a-1 : add. rev. year n to be carried-over	0,0	0,0	0,0	0,0	0,0
3.11 Traffic risk sharing - Article 11a-1 : rev. loss year n to be carried-over	0,0	0,0	0,0	0,0	0,0
Parameters for traffic risk sharing					
3.12 % additional revenue returned to users in year n+2 - Article 11a-1(c)	70%	70%	70%	70%	70%
3.13 % loss of revenue borne by airspace users - Article 11a-1(d)	70%	70%	70%	70%	70%
4. Costs not subject to traffic risk sharing - Article 11a-1(a)					
4.1 Determined costs in nominal terms - VFR excl. (Annex II)					
4.2 Inflation uprate - Article 6-1a : amount carried over to year n					
4.3 Traffic - Article 11a-1(a): amounts carried over to year n					
4.4 Uncontrollable costs - Article 11a-2(c) : amounts carried over to year n					
4.5 Over(-) or under(+) recoveries (1) : amounts carried over to year n					
4.6 Total for the calculation of year n unit rate					
5. Other revenues - applied unit rate (in national currency)					
5.1 Revenues from other sources - Article 3					
5.2 Grand total for the calculation of year n unit rate	30,3	31,4	31,0	31,6	32,5
5.3 Year n unit rate (in national currency)	168,52	173,12	165,01	164,48	164,99
5.4 ANSP component of the unit rate	100,02	,	_00,01	_5 ., .6	_0 .,55
5.5 MET component of the unit rate					
5.6 NSA-State component of the unit rate					
5.7 Year n unit rate that would have applied without other revenues	168,52	173,12	165,01	164,48	164,99

Costs, revenues and other amounts in '000 000 national currency - Service units in '000 000 (1) Annex IV-V 2. (vi) - over/under recoveries up to the year of entry into force of the amended Commission Regulation N°1794/2006

**Portugal Terminal** 

Period of reference: 2012-14

1.Description and rationale for the establishment of the different en route charging zones, in particular with regard to terminal charging zones and potential cross-subsidies between airports;

Portugal Terminal Charging Zone corresponds to all airports served by NAV Portugal, EPE (Lisboa, Porto, Faro, Madeira, Porto Santo, Ponta Delgada, Santa Maria, Horta and Flores).

# 2.Description and explanation on the calculation of the forecast chargeable service units;

For the calculation of the unit rate it is considered the following traffic data forecast, taking into account the weight factor to the power of 0,7.

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PORTUGAL TCZ	2012 P	2013 P	2014 P
CHARGEABLE SERVICE UNITS	185,6	190,1	194,9
% n/n-1	2,1%	2,4%	2,5%

# 3.Description of the policy on exemptions and a description of the financing means to cover the related costs;

In addition to the mandatory exemptions as described in the Conditions of Application of the Route Charges System and Conditions of Payment, Portugal exempts the following flights from en-route charges:

- Portuguese Military Flights
- Military flights of other States on a bilateral basis (reciprocity)
- Flights performed exclusively for the purpose of the instruction or testing of flight crew
- Flights performed exclusively for the checking or testing of equipment used or intended to be used as ground aids to air navigation
- Circular flights
- Authorised Humanitarian Flights
- VFR flights
- · Customs and police flights

In view of the accomplishment of the Article 9.4 of the Commission Regulation (EC)  $N^{\circ}$  1794/2006, the Government of Portugal, in coordination with all national competent entities involved in this matter, maintain in course the necessary actions to ensure to NAV Portugal the reimbursement of costs incurred for exempted flights, which, naturally, are not taken into account for the calculation of the national unit rate.

4.Description of the carry-overs of over or under recoveries incurred by Member States up to the year 2011;

The adjustment mechanism is applied in the traditional way (n+2).

Portugal - Terminal

None.

Period of reference: 2012-14

5.Description of the other revenues when they exist;

None

6.Description and explanation of incentives applied on users of en route services;