

# Performance Plan

## Sweden

Third Reference Period (2020-2024)

Status: Draft performance plan (Article 12)

Date of issue: 4,37E+04

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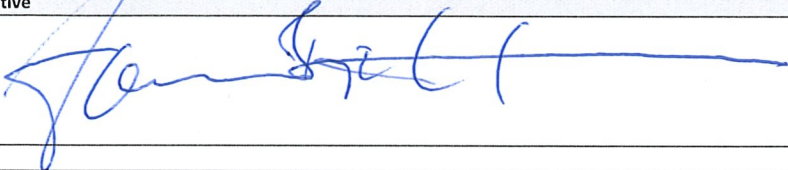
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*\* Only as per Article 15(6) of the Regulation*

## Signatories

Performance plan details	
State name	Sweden
Status of the Performance Plan	Draft performance plan (Article 12)
Date of issue	2019-10-01
Date of adoption of Draft Performance Plan	
Date of adoption of Final Performance Plan	

We hereby confirm that the present performance plan is consistent with the scope of Regulation (EU) No 2019/317 pursuant to Article 1 of Regulation (EU) No 2019/317 and Article 7 of Regulation (EC) No 549/2004.

Name, title and signature of representative	
Jonas Bjelfvenstam Director General Swedish Transport Agency	

Additional comments	
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Document change record		
Version	Date	Reason for change

## SECTION 1: INTRODUCTION

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### **1.1 The situation**

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## 1 - INTRODUCTION

### 1.1 - The situation

NSA(s) responsible for drawing up the Performance Plan	Transportstyrelsen, Swedish Transport Agency
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#### 1.1.1 - List of ANSPs and geographical coverage and services

Number of ANSPs	6
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ANSP name	Services	Geographical scope
LFV	ATS	SE FIR, Stockholm Terminal
SDATS	ATS	Approach
ACR	ATS	Approach
SMHI	MET	SE FIR
ARV - Arvidsjaur	ATS	Approach
Swedavia	CNS	SE FIR, Stockholm Terminal

#### Cross-border arrangements for the provision of ANS services

Number CB arrangements where ANSPs provide services in an other State	8
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ANSPs providing services in the FIR of another State	
ANSP Name	Description and scope of the cross-border arrangement
LFV	Naviair, Denmark. Exchange of services in each other respective FIR, described in the picture on the right hand side.
LFV	Avinor, Denmark. Described in the picture on the right hand side.
LFV	ANS Finland, Finland. Described in the picture on the right hand side.
LFV	PANSA, Poland. Described in the picture on the right hand side.
LFV	DFS, Germany. Described in the picture on the right hand side.
SMHI, MET	Synergies in cross border TAF production, Low Level Forecast production, contingency back-up, common tools, common MET portal
SMHI, MET	Finland SWC (significant weather chart)

Number CB arrangements where ANSPs from another State provide services in the State	6
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ANSPs established in another Member State providing services in one or more of the State's FIRs	
ANSP Name	Description and scope of the cross-border arrangement
Naviair, Denmark	Described in the picture on the right hand side.
ANS Finland, Finland	Described in the picture on the right hand side.
DK MET	TAF in southern parts of SE FIR
FIN MET	SWC (significant weather chart)

#### 1.1.2 - Other entities in the scope of the Performance and Charging Regulation as per Article 1(2) last para.

Number of other entities	1
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Entity name	Domain of activity	Rationale for inclusion in the Performance Plan
Swedish Maritime Administration	Search and Rescue	Provision of Search and Rescue facilities for the civil air traffic in the SE FIR

#### 1.1.3 - Charging zones (see also 1.4-List of Airports)

<b>En-route</b>	Number of en-route charging zones	1
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En-route charging zone 1	Sweden
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<b>Terminal</b>	Number of terminal charging zones	1
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Terminal charging zone	Sweden - TCZ
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#### 1.1.4 - Other general information relevant to the plan

A great part of the Swedish airports provides en route services due to the construction of large TMA:s that are far and between, hence making it cost-efficient to also allow for provision of en route/approach services.

Air Navigation Services (ANS) at several airports are provided under market conditions in Sweden since 2010. That is, the airport operator is free to choose provider, or to self-supply. As a consequence, the Air Navigation Service Provider (ANSP) at a specific airport can be changed during a reference period. This can impact the system for route charges as some of the costs for ANS provided at airports are allocated to the en route charging zone. The Swedish Transport Agency (STA), in its role as NSA, needs to ensure that each party in Sweden contributes towards the objective for cost-efficiency. To ensure this, the STA has decided on a breakdown of the Swedish cost efficiency objective for each party, i.e. for Luftfartsverket (LFV), ACR Aviation Capacity Resources AB, Saab Digital Air Traffic Solutions AB, Arvidsjaur Airport, Swedish Maritime Administration, Swedish Meteorological and Hydrological Institute (SMHI) and the STA. When an airport changes the ANSP, the NSA transfers the corresponding determined costs between the relevant ANSPs. Therefore, the amounts for determined costs at ANSP level can diverge from what was communicated as part of the performance plan, but the overall amount for Sweden will not change.

The airports costs for CNS infrastructure related to approach are included in the table for each ANSP designated at each specific airport. Hence the costs and calculations in table 1 and table 2 for both LFV, SDATS, Arvidsjaur and ACR also includes airport costs for CNS infrastructure. However, if deemed necessary, Sweden have the possibility to report the costs for each organisation as well.

Current traffic situation. Sweden have applied the STATFOR base from February. Current situation is that

Additional comments

## 1.2 - Traffic Forecasts

### 1.2.1 - En route

#### En route Charging zone 1

Sweden

#### En route traffic forecast

STATFOR Base forecast FEB 2019 (Flight Plan 2017-19, Actual Route 2020-2024)

STATFOR Base forecast FEB 2019 (Flight Plan 2017-19, Actual Route 2020-2024)	2017A	2018A	2019	2020	2021	2022	2023	2024	CAGR 2019-2024
IFR movements (thousands)	808	831	852	871	883	897	909	921	1,6%
IFR movements (yearly variation in %)		2,8%	2,5%	2,2%	1,4%	1,6%	1,4%	1,3%	
En route service units (thousands)	3 615	3 813	3 978	4 052	4 117	4 190	4 253	4 311	1,6%
En route service units (yearly variation in %)		5,5%	4,3%	1,8%	1,6%	1,8%	1,5%	1,4%	

### 1.2.2 - Terminal

#### Terminal Charging zone 1

Sweden - TCZ

#### Terminal traffic forecast

STATFOR Base forecast FEB 2019

STATFOR Base forecast FEB 2019	2017A	2018A	2019	2020	2021	2022	2023	2024	CAGR 2019-2024
IFR movements (thousands)	124,2	121,7	123,3	125,7	126,8	128,4	130,0	131,2	1,2%
IFR movements (yearly variation in %)		-2,0%	1,3%	1,9%	0,9%	1,3%	1,2%	0,9%	
Terminal service units (thousands)	154,1	155,3	156,3	159,5	161,2	163,1	165,0	166,3	1,3%
Terminal service units (yearly variation in %)		0,8%	0,6%	2,0%	1,1%	1,2%	1,1%	0,8%	



### 1.3 - Stakeholder consultation

#### 1.3.1 - Overall outcome of the consultation of stakeholders on the performance plan

Description of main points raised by stakeholders and explanation of how they were taken into account in developing the performance plan
<p>Dates for consultations (minutes of meetings 2, 3 and 4 enclosed in Annex C):</p> <ol style="list-style-type: none"> <li>1. 2018-05-22 Initial RP3 consultation</li> <li>2. 2018-10-10 Remote services</li> <li>3. 2019-06-18 Investments</li> <li>4. 2019-08-30 Final RP3 consultation notes not covered in this draft</li> </ol> <p>Beside these consultations there has also been meetings in a forum, the national RP3 council with representation from the largest providers, users and airport providers, where various topics have been subject for discussions. This forum have been meeting since 2017 on 14 occasions. Below are the main concerns being raised in consultations and RP3 council. Also find comments below, per stakeholder group.</p> <p>* One question of concern is LFVs pension scheme, which is raised on numerous occasions. The pension scheme has been changed for new employees, however this is still a major issue increasing cost for RP3. LFV replies on which action that has been undertaken. Except for changing the pension scheme for new employees born 1988 or later, it has been contemplated to redeem/cash in the pension debt but during these low interest rate circumstances this is not a financial beneficial solution. Users have turned to the NSA to urge them to bring up the issue with the government. The NSAs reply is that they have and the government officials are aware. Through the Single Sky Committee the NSA has also worked for, and been successful, to have the opportunity to recover uncontrollable pension costs over two reference periods. The proposal in this draft is to recover over two periods. LFV have had no objections to that if they are compensated. SE NSA has in this proposal agreed to compensation which is in the reported asset base for LFV. SE NSA consider this in line with regulation and in line with guidance on asset base calculations. One area of discussion was the late announcement from the Swedish Pension Board (SPV) that came to knowledge after the draft PP was distributed. SPV announces that they consider raising discount rate further but decisions will not be made until later this fall (after the submission of the PP to the Commission). It was consultation on which one of the discount rates to be used. Opinions differed among users.</p> <p>* Users have been demanding a presentation of the Business case for remote operations. The provider has not been possible referring to business confidentiality. The NSAs opinion is that there is no compulsory obligation for the provider to do so since they do not apply for restructuring costs, and therefore no mandate for the NSA to force a full disclosure. However the NSA have arranged for separate Remote operations consultations to meet the users requests.</p> <p>* Consultant reports, as the scrutiny by NSA, have been reporting of lack of Business cases provided by ANSPs. Users have been questioning whether NSA is in a position to approve on investments without Business cases. The NSA response is that Business cases cannot be a mandatory obligation and a criteria for having investments approved. In some instances investments relate to new regulation and what is actually required in practice is not all clear at this stage. Another aspect is the time frame of this plan, a business case for an investment taking place in for example three years will with a great uncertainty not be valid. The SE NSA is positive to the provision in article 28 where there is flexibility for investments and investment funds not used will be returned to users. SE NSA has organised a separate consultation on investments.</p> <p>* Users and ANSPs have mutual agreed that the mandatory Swedish language for ATCOs should be challenged and possibly revoked. The intention is to create a more flexible market and the possibility to hire foreign ATCOs for service at SE providers. The NSA do agree that this issue should be taken into consideration. However, due to lack of resources in legal department this is foreseen as possible to implement a pre study the fall 2019 at the earliest.</p> <p>* ATS providers plans for FTE development. Providers have been arguing that the no of FTEs need to increase in order to meet the capacity targets and the service level demanded by customers. This was a specific topic for the final RP3 consultation. The plans were challenged by users, questioning both productivity development and the alignment with customer concerns, needs and priorities. Recent observations show that capacity is well in the target ranges and not as poor as previously described. For 2019 the ANSPs projection now is that the target will be met. NSA has taken this into consideration.</p>

#### 1.3.2 - Specific consultation requirements of ANSPs and airspace users on the performance plan

Topic of consultation	Applicable	Results of consultation
Where applicable, decision to diverge from the STATFOR base forecast	No	
Charging policy	Yes	No objections
Maximum financial advantages and disadvantages for the mandatory incentive scheme on capacity	Yes	No objections
Where applicable, decision to modulate performance targets for the purpose of pivot values to be used for the mandatory incentive scheme on capacity	No	
Symmetric range ("dead band") for the purpose of the mandatory incentive scheme on capacity	Yes	Incentive scheme and the proposed asymmetrical model was supported by users (however not the targets for Capacity)

Establishment or modification of charging zones	No	Information that there is no change.
Establishment of determined costs included in the cost base for charges	Yes	
Where applicable, values of the modulated parameters for the traffic risk sharing mechanism	No	
Where applicable, decision to apply the simplified charging scheme	No	
New and existing investments, and in particular new major investments, including their expected benefits	Yes	Separate consultation was held. No specific objections were raised.

### 1.3.3 - Consultation of stakeholder groups on the performance plan

#1 - ANSPs	
Stakeholder group composition	
Dates of main meetings / correspondence	<p>2018-05-22 Initial RP3 consultation  2018-10-10 Remote services  2019-06-18 Investments  2019-08-30 Final RP3 consultation</p> <p>Beside these consultations there has also been meetings in a forum, the national RP3 council with representation from the largest providers, users and airport providers, where various topics have been up for discussions.</p>
Main issues discussed	<p>*ANSPs concern have been related the targets and the NSAs methodology to determine targets per provider in the SE cost base. ATS-providers has raised concerns about the interdependency , cost efficiency target and capacity.  * One concern from the main ANSP LFV has been the SE NSA proposal to recover uncontrollable costs over two reference periods which they consider would have significant financial impact. They have demanded compensation for such a construction.</p>
Actions agreed upon	<p>* NSA has not applied the top down approach for cost efficiency targets as in the preparation of previous reference periods, but have scrutinised each provider individually with assistance from consulting firms, and also considering reports from PRB and Network manager.  * NSA is of the opinion that recovering the uncontrollable pension costs over one period would impact charges more than necessary and charges increase on the operational environment is most difficult to predict. One way to mitigate is to make use of possibility to "smooth" it over two reference periods. NSA have analysed the possibility to not approve compensation to the ANSP LFV. The conclusion is that this is a liability eligible to include in the asset base. It is not very clear from the regulation, however guideline material is considered supporting this. (Reference to "Course Lex cost base").  * Return of Equity. NSA has launched a study for a maximum cap of Return on Equity with a specific focus on providers on the market subject to competition. SE NSA is of the opinion that providers otherwise should have a lower RoE. SE NSA is also of the opinion that gearing ratio and capital structure evaluation needs to be individually audited. This decision, this cap, does of course influence providers differently and objections on the assumptions were raised. The work was supported by users.</p>
Points of disagreement and reasons	
Final outcome of the consultation	
Additional comments	
For additional comments please see Annex C	

<b>#2 - Airspace Users</b>	
Stakeholder group composition	IATA, SFB, Airlines
Dates of main meetings / correspondence	<p>2018-05-22 Initial RP3 consultation  2018-10-10 Remote services  2018-06-18 Investments  2018-08-30 Final RP3 consultation</p> <p>Beside these consultations there has also been meetings in a forum, the national RP3 council with representation from the largest providers, users and airport providers, where various topics have been up for discussions. The user representative in RP3 council has been The Swedish Aviation Industry Group (Svenska flygbranschen).</p>
Main issues discussed	<p>* One question of concern is LfV's pension scheme, which is raised on numerous occasions. The pension scheme has been changed for new employees, however this is still a major issue increasing cost for RP3. LfV replies on which action that has been undertaken. Except for changing the pension scheme for new employees, it has been contemplated to redeem/cash in the pension debt but during these low interest rate circumstances this is not a financial beneficial solution. Users have turned to the NSA to urge them to bring up the issue with the government. The NSAs reply is that they have and the government officials are aware. Through the Single Sky Committee the NSA has also worked for, and been successful, to have the opportunity to recover uncontrollable pension costs over two reference periods. The applied discount rate to be used in the performance plan was discussed. The applied now is -0,7 percent. There are though anticipation that the Pension Board might in November decide to lower the rate to - 1,3 percent. Users differed in opinions on what to be used.</p> <p>* Users have been demanding a presentation of the Business case for remote operations. The provider has not been possible referring to business confidentiality. The NSAs opinion is that there is no compulsory obligation for the provider to do so since they do not apply for restructuring costs, and therefore no mandate for the NSA to force a full disclosure. However the NSA have arranged for separate Remote operations consultations to meet the users requests. The provider has presented their business case for the NSA.</p> <p>* Consultant reports, as the scrutiny by NSA, have been reporting of lack of Business cases provided by ANSPs. Users have been questioning whether NSA is in a position to approve on investments without Business cases. The NSA response is that Business cases cannot be a mandatory obligation and a criteria for having investments approved. In some instances investments relate to new regulation and what is actually required in practice is not all clear at this stage. Another aspect is the time frame of this plan, a business case for an investment taking place in for example three years will with a great uncertainty not be valid. The SE NSA is positive to the provision in article 28 where there is flexibility for investments and investment funds not used will be returned to users. SE NSA has organised a separate consultation on investments.</p> <p>* Users and ANSPs have mutual agreed that the mandatory Swedish language for ATCOs should be challenged and possibly revoked. The intention is to create a more flexible market and the possibility to hire foreign ATCOs for service at SE providers. The NSA do agree that this issue should be taken into consideration. However, due to lack of resources in legal department this is foreseen as possible to implement in the fall 2019 at the earliest.</p> <p>* Investments. Users have been urging a clear relationship between investments and KPA in the SE performance plan. Providers have been delivering clear relations in particular cases, however in some cases, for example regarding SWIM related investments, obvious benefits are not so much on SE FIR/AoR.</p> <p>* ATS providers plans for FTE development were challenged by the users.</p>
Actions agreed upon	<p>* Separate consultation on remote operations.</p> <p>* Investigate the possibility to abolish the mandatory SE language (phraseology) for ATCOs</p>
Points of disagreement and reasons	Users mean that the pension costs should be a government concern and not charged through the En route charges and further actions should be undertaken by LfV or the NSA to influence the government to change the regime.
Final outcome of the consultation	<p>All stakeholders agree that the situation is not good. The topic was agreed to be discussed on the next stakeholder meeting with the government (in Luftfartsrådet).</p> <p>Sweden decided to apply the discount rate of 0,7 percent for the entire RP3 period.</p>

Additional comments

For additional comments please see Annex C

**#3 - Professional staff representative bodies**

Stakeholder group composition	
Dates of main meetings / correspondence	
Main issues discussed	
Actions agreed upon	
Points of disagreement and reasons	
Final outcome of the consultation	

Additional comments

**#4 - Airport operators**

Stakeholder group composition	
Dates of main meetings / correspondence	<p>2018-05-22 Initial RP3 consultation                  2018-10-10 Remote services                  2018-06-18 Investments                  2018-08-30 Final RP3 consultation</p> <p>Beside these consultations there has also been meetings in a forum, the national RP3 council with representation from the largest providers, users and airport providers, where various topics have been up for discussions. The user representative in RP3 council has been The Swedish Aviation Industry Group (Svenska flygbranschen).</p>
Main issues discussed	<p>Airports have been participating in the process also in their role as CNS equipment owners, i.e. ANS providers</p> <p>*Concerns raised by airport operators have been related the targets and the NSAs methodology to determine targets per provider in the SE cost base.</p>
Actions agreed upon	<p>* NSA has not applied the top down approach for cost efficiency targets as in the preparation of previous reference periods, but have scrutinised each provider individually with assistance from consulting firms.</p>
Points of disagreement and reasons	
Final outcome of the consultation	

Additional comments

For additional comments please see Annex C

**#5 - Airport coordinator**

Stakeholder group composition	
Dates of main meetings / correspondence	
Main issues discussed	
Actions agreed upon	
Points of disagreement and reasons	
Final outcome of the consultation	

Additional comments

<b>#6 - Other (specify)</b>	
Stakeholder group composition	
Dates of main meetings / correspondence	
Main issues discussed	
Actions agreed upon	
Points of disagreement and reasons	
Final outcome of the consultation	

Additional comments

#### 1.4 - List of airports subject to the performance and charging Regulation

##### 1.4.1 - Airports as per Article 1(3) (IFR movements $\geq 80\,000$ )

ICAO code	Airport name	Charging Zone	IFR air transport movements			
			2016	2017	2018	Average
ESSA	Stockholm/Arlanda	Sweden - TCZ	234 286	248 416	243 478	242 060

##### 1.4.2 Other airports added on a voluntary basis as per Article 1(4)

Number of airports	1		
ICAO code	ESSA	Charging Zone	Additional information
		Click to select	

Additional comments

## 1.5 - Services under market conditions

Number of services under market conditions	Click to select
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Services	Charging zone	Geographical scope of the services	State decision and assessment report	Reference to the agreement of the European Commission
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Additional comments
<p>A great part of the Swedish airports provides en route services due to the construction of large TMA:s that are far and between, hence making it cost-efficient to also allow for provision of en route services.</p> <p>Adding on, is that the market for airports, not being owned by the government, is subject to competition through tendering processes. The concerned suppliers at the time for this preparation are ACR, SDATS and LFV, but other providers have showing their interest to participate in tenders in SE. Since these providers are part of the En route charging zone no market conditions as according to the regulation has been applied.</p>

1.6 - Process followed to develop and adopt a FAB Performance Plan

Description of the process
Not applicable



### 1.7 - Establishment and application of a simplified charging scheme

Is the State intending to establish and apply a simplified charging scheme for any charging zone/ANSP?	No
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## SECTION 2: INVESTMENTS

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### **2.1 - Investments - LFV**

[2.1.1 - Summary of investments](#)

[2.1.2 - Detail of new major investments](#)

[2.1.3 - Other new and existing investments](#)

#### **#REFERENS!**

[2.2.1 - Summary of investments](#)

[2.2.2 - Detail of new major investments](#)

[2.2.3 - Other new and existing investments](#)

#### **#REFERENS!**

[2.3.1 - Summary of investments](#)

[2.3.2 - Detail of new major investments](#)

[2.3.3 - Other new and existing investments](#)

#### **#REFERENS!**

[2.4.1 - Summary of investments](#)

[2.4.2 - Detail of new major investments](#)

[2.4.3 - Other new and existing investments](#)

#### **#REFERENS!**

[2.5.1 - Summary of investments](#)

[2.5.2 - Detail of new major investments](#)

[2.5.3 - Other new and existing investments](#)

### **2.6 - Investments - Swedavia**

[2.6.1 - Summary of investments](#)

[2.6.2 - Detail of new major investments](#)

[2.6.3 - Other new and existing investments](#)

### **Annexes of relevance to this section**

ANNEX E. INVESTMENTS

NOTE: The requirements as per Annex II, 2.2.(c) are addressed in item 4.1.2

## 2.1 - Investments - LFV

### 2.1.1 - Summary of investments

Number of new major investments	3
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#	Name of new major investment (i.e. above 5 M€)	Total value of the asset (capex or contractual leasing value)	Value of the assets allocated to ANS in the scope of the PP	Determined costs of investment (i.e. depreciation, cost of capital and cost of leasing) (in national currency)					Lifecycle (Amortisation period in years)	Allocation (%)*		Planned date of entry into operation
				2020	2021	2022	2023	2024		Enroute	Terminal	
1	COOPANS	50 912 074	50 912 074	10 067 813	12 830 208	14 190 104	16 033 854	16 523 438	12	100%		
2	SWIM	6 990 856	6 990 856	0	0	0	5 400 000	5 300 000	12-15	100%		
3	Other development	14 067 932	14 067 932	265 533	258 360	251 669	245 641	241 120	5-12	98%		Starting during 2020 but mostly after RP3
Sub-total of <b>new major investments</b> above (1)		57 902 930	57 902 930	10 067 813	12 830 208	14 190 104	21 433 854	21 823 438				
Sub-total <b>other new investments</b> (2)		51 493 724	51 493 724	13 358 962	15 835 251	17 974 067	30 345 371	32 905 250				
Sub-total <b>existing investments</b> (3)				157 646 225	141 712 541	141 275 829	141 430 775	138 692 313				
<b>Total new and existing investments</b> (1) + (2) + (3)		109 396 654	109 396 654	181 073 000	170 378 000	173 440 000	193 210 000	193 421 000				

\* The total % enroute+terminal should be equal to 100%.

### 2.1.2 - Detail of new major investments

NOTE: Section 1.3 (Stakeholder Consultation) should include details on the consultation with airspace users' representatives on new major investments.

<b>Name of new major investment 1</b>	<b>COOPANS</b>	Total value of the asset	<b>50 912 074 €</b>
Description of the asset	COOPANS TopSky ATM systems operated in Stockholm and Malmö ATCC with connected ATS units. Please observe that in table 2.1.1 = total value for the RP3 period		
The investment is mandated by a SES Regulation (i.e. PCP/Interoperability)? Ref. to the Regulation and, if funded through Union assistance programmes, ref. to the relevant grant agreement.)	Yes	COOPANS is in the process of planning for the next generation systems, which will replace our existing FDP and HMI to increase system capacity as well as meeting new European regulatory requirements such as PCP/Interoperability (2017_066_AF5 + 2017_066_AF6 ). This will require significant investment over the next decade from all the COOPANS partners and will deliver incremental improvements of efficiency and capacity.	
Benefits for airspace users and results of the consultation of airspace users' representatives	Operational efficiency for airspace users: - Reduced fuel burn - Reduced flight time - Reduced delays - Increased network throughput		
Joint investment / partnership	Yes	COOPANS	

Investment in ATM systems	Yes	COOPANS Topsy
If investment in ATM system, type?	Overhaul of existing system	The investments consists both in new and upgrades of existing systems.
If investment in ATM system, Reference to European ATM Master Plan / PCP	PCP	AF1 - Extended AMAN and PBN in high density TMAs AF2 - Airport Integration and Throughput. TBS within the scope of COOPANS AF3 - Flexible Airspace Management and Free Route AF4 - Network Collaborative Management. INAP and LARA integration is within the scope of COOPANS AF5 - SWIM: ground-ground integration and flight data and aeronautical data management & sharing AF6 - Initial Trajectory Information Sharing: air-ground integration towards i4D with enhanced Flight Data Processing performances. Future impact on FDP is within the scope of COOPANS

<b>Name of new major investment 2</b>	<b>SWIM</b>	Total value of the asset	<b>6 990 856 €</b>
Description of the asset	<p>Requirements from the EU for a new Integration Platform (SWIM) where all operational systems must be adapted in the new platform. (the replacement of RCMS is out of this scope)</p> <p>Implementation of a new architecture for information management within the network. Expected to require an extension of the LFV integration platform (incl. integration nodes, operative and administrative systems, external interfaces), adaptations of connecting systems (e.g. network adaptations, AIM/AIS (non-ADQ), hardware for Cyber Security and a demonstrator for the SWIM concept. Analysis and Definition of relevant services, including Implement Cooperative Network Information Exchange system, Aeronautical information Exchange Meteorological Information Exchange, that is to be handled in the Technical implementation of the SWIM concept</p>		
The investment is mandated by a SES Regulation (i.e. PCP/Interoperability)? Ref. to the Regulation and, if funded through Union assistance programmes, ref. to the relevant grant agreement.)	Yes	S-AF 5.1 – framework S-AF 5.2 Stakeholder implementation S-AF 5.3 Aeronautical data exchange. S-AF 5.5 Cooperative Network Information exchange	
Benefits for airspace users and results of the consultation of airspace users' representatives			
Joint investment / partnership	Yes	Partly with COOPANS, coordination with Swedavia and SMHI. Data Exchange via ECTRL Network Manager.	
Investment in ATM systems	Yes		
If investment in ATM system, type?	New system	The SWIM concept will be coordinated within COOPANS and apply to the TopSky ATM system. Implementation of blue profile is expected to be realized via new ATM system integration.	
If investment in ATM system, Reference to European ATM Master Plan / PCP	PCP	PCP AF#5, S-AF 5.1 – framework, S-AF 5.2 Stakeholder implementation, S-AF 5.3 Aeronautical data exchange. S-AF 5.5 Cooperative Network Information exchange	

<b>Name of new major investment 3</b>	<b>Other development</b>	Total value of the asset	<b>14 067 932 €</b>
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Description of the asset	<p>Other investments are aimed at supporting the intentions of the ATM Master Plan (and reinforced by Airspace Architecture Study etc), that ANSP expedite implementation of virtualization and automation in order to improve productivity while providing the necessary capacity. Other investments may, to some degree, include operational requirements to change existing systems due to demands raised during the time period. The main investment areas anticipated within the Other category are:</p> <ul style="list-style-type: none"> <li>• ATCC virtualization. This may include the development of a test platform (redundancy, real time etc. and connecting nodes) before developing the operational system. The first steps are expected to be taken in the technical domain, with the end goal of improving ANS productivity resource sharing and improved working methods.</li> <li>• Platform for automation. This may include a development facility and initial development, improved systems for operational data collection and analysis, algorithm development and simulator integration, and continued development of automations throughout RP3. Automation is aimed at increasing ANS productivity.</li> <li>• UTM adaptation. The ongoing development of UTM services may create a requirement for ATM systems to develop new interfaces, e.g. to prevent increased workloads in ATM that would otherwise arise if all interfaces with emerging UTM would require manual coordination. UTM adaptation is aimed at preserving ANS productivity as the number of coordinations with UTM are expected to gradually increase during RP3.</li> </ul>	
The investment is mandated by a SES Regulation (i.e. PCP/Interoperability)?	No	
Level of impact of the investment	Network	Impacts sector capacity per unit cost.
	Local	
	Non-performance	
Quantitative impact per KPA	Safety	
	Environment	
	Capacity	ANS productivity i.e. improved capacity per unit cost.
	Cost Efficiency	ANS productivity i.e. improved capacity per unit cost.
Results of the consultation of airspace users' representatives		
Joint investment / partnership	No	
Investment in ATM systems	Click to select	
If investment in ATM system, type?	Click to select	
If investment in ATM system, Reference to European ATM Master Plan / PCP	Click to select	

### 2.1.3 - Other new and existing investments

Description and justification of the costs nature and benefits of other new and existing investments in fixed assets planned over the reference period	<p>Other new investments are mainly a number of investments in replacements and/or upgrades within Communications and Radio due to, among other things, EU-regulations, end of life of equipment, additional operational requirements for added functionality and capacity increases. Other new investments are replacements/upgrades systems within NAV, ATM and buildings, together with "other PCP" that covers The European Commission Regulation No. 716/2014 that expects to require investments outside COOPANS and the main air traffic control and en route system.</p> <p>The existing investments contains mainly of fulfillment in investment in Contingency/Single System and the replacements of MSSR.s.</p>
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## 2.2 - Investments - SDATS

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### 2.2.1 - Summary of investments

Number of new major investments	0
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### 2.2.3 - Other new and existing investments

Description and justification of the costs nature and benefits of other new and existing investments in fixed assets planned over the reference period	The scope consists of approach for CNS and ATS equipment covering three airports and approach zones. ATS concept is remote towers. One is new and will be opened 2020, Scandinavian Mountain Airport. Investments covers infrastructure as remote ATS, MET and CNS.
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## 2.3 - Investments - ACR

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### 2.3.1 - Summary of investments

Number of new major investments	0
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### 2.3.3 - Other new and existing investments

Description and justification of the costs nature and benefits of other new and existing investments in fixed assets planned over the reference period	The scope for this is ATS and CNS infrastructure for 16 units. Among other new investments, one is in a simulator for education and training, both during initial training and re-fresh.
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## 2.4 - Investments - SMHI

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### 2.4.1 - Summary of investments

Number of new major investments	0
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### 2.4.3 - Other new and existing investments

Description and justification of the costs nature and benefits of other new and existing investments in fixed assets planned over the reference period	New investments in weather radar system and automatic observation systems.
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## 2.5 - Investments - ARV - Arvidsjaur

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### 2.5.1 - Summary of investments

Number of new major investments	0
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### 2.5.3 - Other new and existing investments

Description and justification of the costs nature and benefits of other new and existing investments in fixed assets planned over the reference period	The scope for this is ATS and CNS infrastructure for 1 unit.
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## 2.6 - Investments - Swedavia

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### 2.6.1 - Summary of investments

Number of new major investments	0
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### 2.6.3 - Other new and existing investments

Description and justification of the costs nature and benefits of other new and existing investments in fixed assets planned over the reference period	CNS equipment
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## SECTION 3: PERFORMANCE TARGETS AND MEASURES FOR THEIR ACHIEVEMENT

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### 3.1 - Safety targets

[3.1.1 - Safety KPI #1: Level of Effectiveness of Safety Management achieved by ANSPs](#)

### 3.2 - Environment targets

[3.2.1 - Environment KPI #1: Horizontal en route flight efficiency \(KEA\)](#)

### 3.3 - Capacity targets

[3.3.1 - Capacity KPI #1: En route ATFM delay per flight](#)

[3.3.2 - Capacity KPI #2: Terminal and airport ANS ATFM arrival delay per flight](#)

### 3.4 - Cost efficiency targets

3.4.1 - Cost efficiency KPI #1: Determined unit cost (DUC) for en route ANS  
En Route Charging Zone #x

3.4.2 - Cost efficiency KPI #2: Determined unit cost (DUC) for terminal ANS  
Terminal Charging Zone #x

[3.4.3 - Pension assumptions](#)

[3.4.4 - Interest rate assumptions for loans financing the provision of air navigation services](#)

[3.4.5 - Restructuring costs](#)

### 3.5 - Additional KPIs / Targets

### 3.6 - Description of KPAs interdependencies and trade-offs including the assumptions used to assess those trade-offs

[3.6.1 - Interdependencies and trade-offs between safety and other KPAs](#)

[3.6.2 - Interdependencies and trade-offs between capacity and environment](#)

[3.6.3 - Interdependencies and trade-offs between cost-efficiency and capacity](#)

[3.6.4 - Other interdependencies and trade-offs](#)

### Annexes of relevance to this section

ANNEX A. REPORTING TABLES & ADDITIONAL INFORMATION (EN-ROUTE)

ANNEX B. REPORTING TABLES & ADDITIONAL INFORMATION (TERMINAL)

ANNEX F. BASELINE VALUES (COST-EFFICIENCY)

ANNEX H. RESTRUCTURING MEASURES AND COSTS

ANNEX M. COST ALLOCATION

ANNEX J. OPTIONAL KPIs AND TARGETS

ANNEX O. JUSTIFICATIONS FOR THE LOCAL SAFETY TARGETS

ANNEX P. JUSTIFICATIONS FOR THE LOCAL ENVIRONMENT TARGETS

ANNEX Q. JUSTIFICATIONS FOR THE LOCAL CAPACITY TARGETS

ANNEX R. JUSTIFICATIONS FOR THE LOCAL COST-EFFICIENCY TARGETS

## SECTION 3.1: SAFETY KPA

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### 3.1 - Safety targets

#### [3.1.1 - Safety KPI #1: Level of Effectiveness of Safety Management achieved by ANSPs](#)

- a) Safety national performance targets
- b) Detailed justifications in case of inconsistency between local and Union-wide safety targets
- c) Main measures put in place to achieve the safety performance targets

#### **Annexes of relevance to this section**

ANNEX O. JUSTIFICATIONS FOR THE LOCAL SAFETY TARGETS

### 3 - PERFORMANCE TARGETS AT LOCAL LEVEL

#### 3.1 - Safety targets

##### 3.1.1 - Safety KPI #1: Level of Effectiveness of Safety Management achieved by ANSPs

###### a) Safety performance targets

Number of Air Traffic Service Providers	1
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LFV	Safety policy and objectives	C	C	C	C	C
	Safety risk management	D	D	D	D	D
	Safety assurance	C	C	C	C	C
	Safety promotion	C	C	C	C	C
	Safety culture	C	C	C	C	C
	Additional comments					

###### b) Detailed justifications in case of inconsistency between local and Union-wide safety targets

N/A
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\* Refer to Annex O, if necessary.

###### c) Main measures put in place to achieve the safety performance targets

Historically the safety performance in Sweden has been achieving or exceeding the targets for safety performance and indications are that this is unlikely to change. The Swedish Transport Agency is however intending to keep reviewing the safety performance at this level in more detail, this is both to ensure that the indications received are still correct but also to follow up on previous work done with regards to safety performance. This may be both as part of other oversight and as dedicated activities, details are yet to be decided.

\* Refer to Annex O, if necessary.

## SECTION 3.2: ENVIRONMENT KPA

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### 3.2 - Environment targets

#### [3.2.1 - Environment KPI #1: Horizontal en route flight efficiency \(KEA\)](#)

- a) Environment national performance targets
- b) Detailed justifications in case of inconsistency between national targets and national reference values
- c) Main measures put in place to achieve the environment performance targets

#### **Annexes of relevance to this section**

ANNEX P. JUSTIFICATIONS FOR THE LOCAL ENVIRONMENT TARGETS

### 3.2 - Environment targets

#### 3.2.1 - Environment KPI #1: Horizontal en route flight efficiency (KEA)

##### a) National environment performance targets

	2020	2021	2022	2023	2024
	Target	Target	Target	Target	Target
National reference values	1.26%	1.26%	1.25%	1.25%	1.25%
National targets	1.26%	1.26%	1.25%	1.25%	1.25%

##### b) Detailed justifications in case of inconsistency between national targets and national reference values

The environmental aspect of ANS Provision is considered important in SE, however, an important prerequisite for defining RP3 goals for SE is what opportunities exist for improvements.

It has been argued that the introduction of FRA and FUA should be able to drive the ability to achieve the smoothest flight distance. In SE FIR, FRA and FUA are already implemented and increased benefits with respect to these concepts are virtually non-existent. In other areas and development initiatives no real potential is identified for further improvements with regard to the smoothest flight distance.

The following variables drives result in poorer ability to reach the maximum shortest flight distance:

- Military exercises
- State visits
- Disturbances in infrastructure, such as Technical problems
- Weather

According to SE analysis none of these are subject to major and predictable changes during the course of RP3, providing a foundation to believe in improvements. SE would also like to remind of the situation at a pan-european level.

*\* Refer to Annex P, if necessary.*

##### c) Main measures put in place to achieve the environment performance targets

As pointed out above the introduction of FUA and FRA is already a fact. At the time of this preparation also Borealis member UK will introduce the concept. The impact of UK introduction is not anticipated to have great effect on SE horizontal flight efficiency. One aspect of this is to meet changes with more volatile traffic patterns as a result of FRA during RP3. This is of course an interdependency to capacity (see 3.6.2)

*\* Refer to Annex P, if necessary.*



## SECTION 3.3: CAPACITY KPA

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### 3.3 - Capacity targets

#### 3.3.1 - Capacity KPI #1: En route ATFM delay per flight

- a) Capacity national performance targets
- b) Detailed justifications in case of inconsistency between national targets and national reference values
- c) Main measures put in place to achieve the target for en-route ATFM delay per flight
- d) ATCO planning

#### 3.3.2 - Capacity KPI #2: Terminal and airport ANS ATFM arrival delay per flight

- a) Capacity national performance targets
- b) Contribution to the improvement of the European ATM network performance
- c) Main measures put in place to achieve the target for terminal and airport ANS ATFM arrival delay per flight

### **Annexes of relevance to this section**

ANNEX Q. JUSTIFICATIONS FOR THE LOCAL CAPACITY TARGETS

### 3.3 - Capacity targets

#### 3.3.1 - Capacity KPI #1: En route ATFM delay per flight

##### a) National capacity performance targets

	2020	2021	2022	2023	2024
	Target	Target	Target	Target	Target
National reference values	0,15	0,15	0,12	0,09	0,08
National targets	0,12	0,11	0,11	0,09	0,08

##### b) Detailed justifications in case of inconsistency between national targets and national reference values

SE has applied targets below the national reference value. Considering the historical level of delays the proposed target is however above the actual outcome.

The rationale for the proposed target is that even if historical values are generally lower they are still in a position where minor disturbances have large impact on the targets outcome. It should be noted that the proposed asymmetric incentive scheme also includes weather. With this background SE NSA consider the proposed targets relevant and proportionate.

\* Refer to Annex Q, if necessary.

##### c) Main measures put in place to achieve the target for en-route ATFM delay per flight

\* Refer to Annex Q, if necessary.

##### d) ATCO planning

	Actual	Planning					
	2018	2019	2020	2021	2022	2023	2024
<b>Malmo (ESMM ACC)</b>							
Number of additional ATCOs in OPS planned to start working in the OPS room (FTEs)	7	7	5	7	10	10	10
Number of ATCOs in OPS planned to stop working in the OPS room (FTEs)	6	15	6	6	1	6	10
Number of ATCOs in OPS planned to be operational at year-end (FTEs)	164,8	156,8	155,8	156,8	165,8	169,8	169,8

	Actual	Planning					
	2018	2019	2020	2021	2022	2023	2024
<b>Stockholm (ESOS ACC)</b>							
Number of additional ATCOs in OPS planned to start working in the OPS room (FTEs)	5	5	2	7	10	10	10
Number of ATCOs in OPS planned to stop working in the OPS room (FTEs)	10	12	5	2	5	6	9
Number of ATCOs in OPS planned to be operational at year-end (FTEs)	176,08	169,08	166,08	171,08	176,08	180,08	181,08

Additional comments

3.3.2 - Capacity KPI #2: Terminal and airport ANS ATFM arrival delay per flight

a) National capacity performance targets

	2020	2021	2022	2023	2024
	Target	Target	Target	Target	Target
<b>National targets</b>	0,35	0,35	0,35	0,35	0,35
Additional comments					

Airport level	ESSA-Stockholm/Arlanda	0,35	0,35	0,35	0,35	0,35
	Airport contribution to national targets	Arlanda is the single airport to which the regulation applies. Further it is also the airport with the largest impact of the national outcome. Other airports included in statistics are Bromma and Gothenburg/Landvetter.				
	Airport contribution to national targets					

b) Contribution to the improvement of the European ATM network performance

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\* Refer to Annex Q, if necessary.

c) Main measures put in place to achieve the target for terminal and airport ANS ATFM arrival delay per flight

<p>The capacity target is including weather, which is one of the most important issues affecting capacity. Historically, and up to the point of present, technical issues have also been affecting as well as capacity in aerodrome.</p> <p>Solutions for contingency is in the investment plan for Arlanda. This will of course aim to be able to meet larger scale effects than the ones that have occurred up to present, but is one of the measures.</p> <p>To mitigate effects of capacity constraints different projects are planned; optimization and redesign of arrival and departure routes (SID/STAR system), design and introduction of advanced arrival procedures (e.g. RNP Established, RNP AR approaches and potentially GBAS/GLS procedures), introduction of parallel approaches and departures and associated adjustments in flight routes and airspace.</p> <p>Another important issue is of course on the staff side where training is needed in order to meet future retirements and to have access to operational expertise in the development projects of Arlanda.</p>
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\* Refer to Annex Q, if necessary.

## SECTION 3.4: COST-EFFICIENCY KPA

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### 3.4 - Cost efficiency targets

#### 3.4.1 - Cost efficiency KPI #1: Determined unit cost (DUC) for en route ANS

##### En Route Charging Zone #x

- a) Baseline value for the determined costs and the determined unit costs (in real terms and in national currency)
- b) Cost-efficiency performance targets
- c) Description and justification of the methodology used to estimate the baseline values
- d) Justification for the level of the baseline value for the determined costs in comparison with the latest available actual costs
  
- e) Description and justification of the consistency between local and Union-wide cost-efficiency targets
- f) Main measures put in place to achieve the targets for determined unit cost (DUC) for en route ANS

#### 3.4.2 - Cost efficiency KPI #2: Determined unit cost (DUC) for terminal ANS

##### Terminal Charging Zone #x

- a) Baseline value for the determined costs and the determined unit costs (in real terms and in national currency)
- b) Cost-efficiency performance targets
- c) Description and justification of the methodology used to estimate the baseline values
- d) Justification for the level of the baseline value for the determined costs in comparison with the latest available actual costs
  
- e) Description and justification of the contribution of the the local targets to the performance of the European ATM network
- f) Main measures put in place to achieve the targets for determined unit cost (DUC) for terminal ANS

#### 3.4.3 - Pension assumptions

##### 3.4.3.1 Total pension costs

##### 3.4.3.2 Assumptions for the "State" pension scheme

##### 3.4.3.3 Assumptions for the occupational "Defined contributions" pension scheme

##### 3.4.3.4 Assumptions for the occupational "Defined benefits" pension scheme

#### 3.4.4 - Interest rate assumptions for loans financing the provision of air navigation services

#### 3.4.5 - Restructuring costs

##### 3.4.5.1 Restructuring costs from previous reference periods to be recovered in RP3

##### 3.4.5.2 Restructuring costs planned for RP3

### Annexes of relevance to this section

ANNEX A. REPORTING TABLES & ADDITIONAL INFORMATION (EN-ROUTE)

ANNEX B. REPORTING TABLES & ADDITIONAL INFORMATION (TERMINAL)

ANNEX F. BASELINE VALUES (COST-EFFICIENCY)

ANNEX H. RESTRUCTURING MEASURES AND COSTS

ANNEX M. COST ALLOCATION

ANNEX R. JUSTIFICATIONS FOR THE LOCAL COST-EFFICIENCY TARGETS

NOTE: The following requirements as per Annex II, 3.3 are addressed in the Annexes A and B:

Point 3.3 (d) on cost-allocation;

Point 3.3 (e) on the return on equity and cost of capital;

Point 3.3 (f) on assumptions for pension costs and interest on debt for other entities, inflation forecast and adjustments beyond IFRS;

Point 3.3 (g) on adjustments to the unit rates carried over from previous reference periods;

Point 3.3 (h) on costs exempt from cost-sharing;

Point 3.3 (k) reporting tables and additional informations.

### 3.4 - Cost efficiency targets

#### 3.4.1 - Cost efficiency KPI #1: Determined unit cost (DUC) for en route ANS

##### En Route Charging Zone #1 - Sweden

###### a) Baseline value for the determined costs and the determined unit costs (in real terms and in national currency)

2019 baseline value for the determined costs (in real terms and in national currency)	2 155 299 386
2019 latest available service units forecast (actual route flown, see point 1.2 of Annex VIII)	3 942 900
2019 baseline value for the determined unit costs (in real terms and in national currency)	<b>546,63</b>

###### b) Cost-efficiency performance targets

En route charging zone Sweden	Baseline 2014	Baseline 2019	RP3 Performance Plan (determined 2020-2024)					CAGR	CAGR
	2014B	2019 B	2020 D	2021 D	2022 D	2023 D	2024 D	2014A-2024D	2019B-2024D
Total en route costs in nominal terms (in national currency)			2 378 117 638	2 427 954 456	2 389 962 653	2 428 492 150	2 494 438 850		
<b>Total en route costs in real terms (in national currency at 2017 prices)</b>	<b>1 701 443 288</b>	<b>2 181 263 738</b>	<b>2 277 650 863</b>	<b>2 289 859 429</b>	<b>2 220 006 706</b>	<b>2 222 365 767</b>	<b>2 246 146 948</b>	<b>2,8%</b>	<b>0,6%</b>
YoY variation			4,4%	0,5%	-3,1%	0,1%	1,1%		
Total en route Service Units (TSU)	3 301 504	3 942 900	4 052 000	4 117 000	4 190 000	4 253 000	4 311 000	2,7%	1,8%
YoY variation			2,8%	1,6%	1,8%	1,5%	1,4%		
<b>Real en route unit costs (in national currency at 2017 prices)</b>	<b>515,35</b>	<b>553,21</b>	<b>562,11</b>	<b>556,20</b>	<b>529,83</b>	<b>522,54</b>	<b>521,03</b>	<b>0,1%</b>	<b>-1,2%</b>
YoY variation			1,6%	-1,1%	-4,7%	-1,4%	-0,3%		
Real en route unit costs (in EUR2017) 1	<b>53,50</b>	<b>57,43</b>	<b>58,35</b>	<b>57,74</b>	<b>55,00</b>	<b>54,24</b>	<b>54,09</b>	<b>0,1%</b>	<b>-1,2%</b>
YoY variation			1,6%	-1,1%	-4,7%	-1,4%	-0,3%		

National currency	SEK
1 Average exchange rate 2017 (1 EUR=)	9,63

**c) Description and justification of the methodology used to estimate the baseline values**

Initially the methods from PRB was analysed, especially the linear regression model. However, taking into account the local circumstances SE NSA consider the model a poor predictor of costs, i.e. due to circumstances as the immensed need for training and also the increased traffic volumes and its concentration also prevents linear regression as a good predictor for this specifically topic. For Swedens RP3 performance scheme the method recommended from the Commission is used, the estimated costs for 2019.

For the purpose of adjusting the baseline, a new approach zones have been considered. This is Scandinavian Mountain Airport (Sälen). Scandinavian Mountain Airport is opening in december 2019, also not financed through RP2. For Skövde and Eskilstuna, forecasts of costs 2019 are used. For Scandinavian Mountain Airport 2020 years values adjusted for inflation is used.

Another adjustment done regards the presentation and calculation of EU funds. Previously funds in some instances been netted out and cost base/auctal outcome been lower. This can of course fluctuate during periods but a moderate number applied by SE NSA is 10,5 million SEK.

*\* Refer to Annex F, if necessary.*

**d) Justification for the level of the baseline value for the determined costs in comparison with the latest available actual costs**

Staff cost. Comparing total costs of staff is not possible without taking into account pensions. Pensions are forecasted relatively low compared to both 2018 and 2020. Adjusting for this there is a 3 percent increase of staff costs between 2018 - 2019; it is to some extent driven by no of FTEs, however yearly revision of salaries is included.

The increase in other operating costs is most notably linked to the training of new ATCOs. Other explanatory variables are costs of new communication network, where a end of life analouge network is replaced with a digital, costs related to technical equipment including amendment of the 373 regulation. Also cost of Eurocontrol constitutes a cost increase. For the purpose of RP3 planning the latest forecast for Eurocontrol is taken into consideration, e.g. the change of internal taxation calculation.

Increase in depreciation between 2018 and 2019 depends especially on development of Remote ATS, Contingency investments and PSR Radar over the Baltic Seas.

*\* Refer to Annex F, if necessary.*

**e) Description and justification of the consistency between local and Union-wide cost-efficiency targets**

Cost efficiency target are not met; the long term equals 0,1 percent and the trend over RP3 -1,2 percent.

The long term trend is most affected by pensions at the main ANSP LFV. Pension system is defined benefit (for employees born before 1988) and the interest rate is a parameter very important to calculation of cost and debt. For 2014 it was a rise in this parameter - lowering costs, but for the entire period the opposit has been the case. If uncontrollable pension costs were to be excluded in the evaluation the target would be -1,5 percent.

For the trend RP3 following factors are examples of not beeing able to meet targets:

Training costs - a measure to meet current situation were movement of ATCOs, ATCOs changing employers and several moving abroad aswell as upcoming retirements, has to be met.

Development of Airspace - Airspace 2040. Except for the general study, actual changes will be implemented during RP3. Changes that will generate costs are: optimization and redesign of arrival and departure routes (SID/STAR system), design and introduction of advanced arrival procedures (e.g. RNP Established, RNP AR approaches and potentially GBAS/GLS procedures), introduction of parallel approaches and departures and associated adjustments in flight routes and airspace, changes to control zone and terminal area induced by LFV:s needs to meet RP3 requirements.

Regulatory requirements. Although most of the requirements cannot be referred to as local since they apply to all Member states, in SE where number of providers are several for other efficiency purposes these create cost drivers for more than one organisation. One example is the 373. For some of the cost drivers, for instance training according to 373, these effects are mostly initial during RP3.

MET - provision. MET services incur costs from PCP related demands, but also from replacement of radar equipment which is end-of life.

The MET provider has to secure delivery of services specified in EU 716/2014 by 2024. The development will be done in cooperation with the other NAMCON countries.

The proposal is to recover uncontrollable pension costs over two reference periods. In relation to that Sweden is willing to allow ANSP compensation corresponding to WACC. This amounts to ~ 20 million SEK from 2020 and decreasing.

*\* Refer to Annex R, if necessary.*

**f) Main measures put in place to achieve the targets for determined unit cost (DUC) for en route ANS**

In the overview and auditing by the NSA several cost driving parameters have been identified, of which many of them are primarily not related to long run cost efficiency and have clear impact on capacity (which in turn could increase revenues and decrease unit costs).

One object intended for long run efficiency is the Remote ATS. This is a concept which is provided under market conditions and subject to competition and to fully disclose the Business Case is not something which the NSA is able to force supported by regulation. However, LFV have during consultations revealed when this will reach break even from providers side. Note that the concept of restructuring costs is not applied. The remote ATS is however beneficial on the infrastructure side for the customers avoiding investments.

Return of Equity. NSA has launched a study for a maximum cap of Return on Equity with a specific focus on providers on the market subject to competition. SE NSA is of the opinion that providers otherwise should have a lower RoE. SE NSA is also of the opinion that gearing ratio and capital structure (gearing) evaluation needs to be individually audited. This decision, this cap, does of course influence providers differently and objections on the assumptions were raised. The work was supported by users.

Another aspect is the pensionsystem for ATCOs. This has been changed for employees born 1988 and later, from a defined benefit to a defined contribution system.

Important to note on the long term cost effectiveness trend which is stretched out to 2014. 2014 was a year with exceptional pension adjustments, actually pushing costs downward. If 2014 were to be harmonized to "normal" values it would reveal a decreasing long run trend.

Not explicitly related to the DUC cost effectiveness target, however important for costs charged to users, the proposal is to recover uncontrollable pension costs over two reference periods. In relation to that Sweden is willing to allow ANSP compensation corresponding to WACC. This amounts to ~ 20 million SEK from 2020 and decreasing.

*\* Refer to Annex R, if necessary.*

### 3.4.2 - Cost efficiency KPI #2: Determined unit cost (DUC) for terminal ANS

#### Terminal Charging Zone #1 - Sweden - TCZ

##### a) Baseline value for the determined costs and the determined unit costs (in real terms and in national currency)

2019 baseline value for the determined costs (in real terms and in national currency)	203 635 350
2019 latest available terminal service units forecast	156 317
2019 baseline value for the determined unit costs (in real terms and in national currency)	<b>1 302,71</b>

##### b) Cost-efficiency performance targets

Terminal charging zone Sweden - TCZ	Baseline 2019	RP3 Performance Plan (determined 2020-2024)					CAGR
	2019 B	2020 D	2021 D	2022 D	2023 D	2024 D	2019B-2024D
Total terminal costs in nominal terms (in national currency)		233 626 449	238 653 940	234 554 247	241 715 344	252 314 944	
<b>Total terminal costs in real terms (in national currency at 2017 prices)</b>	<b>203 635 350</b>	<b>221 813 711</b>	<b>222 633 461</b>	<b>214 787 012</b>	<b>217 526 125</b>	<b>223 542 092</b>	<b>1,9%</b>
YoY variation		8,9%	0,4%	-3,5%	1,3%	2,8%	
Total terminal Service Units (TNSU)	156 317	159 521	161 242	163 100	164 970	166 342	1,3%
YoY variation		2,0%	1,1%	1,2%	1,1%	0,8%	
<b>Real terminal unit costs (in national currency at 2017 prices)</b>	<b>1 302,71</b>	<b>1 390,50</b>	<b>1 380,74</b>	<b>1 316,90</b>	<b>1 318,58</b>	<b>1 343,87</b>	<b>0,6%</b>
YoY variation		6,7%	-0,7%	-4,6%	0,1%	1,9%	
Real terminal unit costs (in EUR2017) 1	<b>135,23</b>	<b>144,35</b>	<b>143,33</b>	<b>136,71</b>	<b>136,88</b>	<b>139,51</b>	<b>0,6%</b>
YoY variation		6,7%	-0,7%	-4,6%	0,1%	1,9%	

National currency	<b>SEK</b>
1 Average exchange rate 2017 (1 EUR=)	<b>9,63</b>



**c) Description and justification of the methodology used to estimate the baseline values**

The method considered, and applied, has been using the reported forecast. The auditing process has been a qualitative approach, supplemented by the recommendations in the manual for cost eligibility.

*\* Refer to Annex F, if necessary.*

**d) Justification for the level of the baseline value for the determined costs in comparison with the latest available actual costs**

Cause variables are found in implementing compliance with 2017/373 and PCP regulation (referral to sheet 4.2) and the intensified training of ATCOs at the same time as ATCO resources are crucial for development projects at the airport.

TNSU forecast has been developed by STATFOR, hence baseline equals this forecast.

*\* Refer to Annex F, if necessary.*

**e) Description and justification of the contribution of the the local targets to the performance of the European ATM network**

Arlanda is well below average compared to other airports capacity delays, although 2018 outcome was heavy influenced by weather and technical related issues. SE NSA has scrutinized and verified data underpinning the costs. As for En Route and approach, necessary development as regards EU regulation influence the cost base, investments to secure the infrastructure and meet the EU's demands for harmonization and upgrades, and also training in connection to the demographic situation.

*\* Refer to Annex R, if necessary.*

**f) Main measures put in place to achieve the targets for determined unit cost (DUC) for terminal ANS**

As for En Route, cost elements and its correlation to capacity and imposed mandatory regulation, have been scrutinized and verified. The gate-to-gate perspective have been central and recognised as important by user organisations. SE NSA have proposed and outlined an incentive scheme considered effective under the situation where capacity target is not met.

*\* Refer to Annex R, if necessary.*

### 3.4.3 - Pension assumptions

#### LFV

#### 3.4.3.1 Total pension costs (in nominal terms in '000 national currency)

Pension costs	2020D	2021D	2022D	2023D	2024D
<b>Total pension costs</b>	<b>684 618</b>	<b>719 637</b>	<b>632 432</b>	<b>595 164</b>	<b>615 995</b>
En-route activity	474 040	499 550	440 224	417 141	431 433
Terminal activity	51 225	53 433	50 962	50 594	48 119
Other activities	159 353	166 654	141 246	127 429	136 443

#### 3.4.3.2 Assumptions for the "State" pension scheme (in nominal terms in '000 national currency)

Are there different contribution rates for different staff categories? If yes, how many? Select

<Staff category name>	2020D	2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies					
Employer % contribution rate to this scheme					
<b>Total pension costs in respect of this scheme</b>					
Number of employees the employer contributes for in this scheme					

Description on the relevant national pension regulations and pension accounting regulations on which the assumptions are based, as well as information whether changes of those regulations are to be expected during RP3

"LFV's employees are covered by the public pension system in Sweden as well as the pension agreement for government employees, called PA16. The pensions are ""state"" pensions - no private pension schemes/no privat pension insurance. The public pension is financed through employers contribution for national social security purposes, LFV does not account for this as pensions costs - instead we include it in staff costs as social security costs.

Defined-contribution and defined-benefit pensions within the framework of PA16 are reported and commented under section 3.4.3.3 and 3.4.3.4 below."

Description of the assumptions underlying the calculations of pension costs comprised in the determined costs

Describe the actions taken ex-ante to manage the cost-risk (cost increase) associated with this item, as well as the actions taken to limit the impact of the unforeseen change on the costs to be passed on to airspace users

#### 3.4.3.3 Assumptions for the occupational "Defined contributions" pension scheme (in nominal terms in '000 national currency)

Are there different contribution rates for different staff categories? If yes, how many? Yes-2

PA16 category 1 and 2	2020D	2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies	891 681	895 816	911 552	922 552	954 841
Employer % contribution rate to this scheme	7,53%	7,56%	7,56%	7,57%	7,57%
<b>Total pension costs in respect of this scheme</b>	<b>67 188</b>	<b>67 712</b>	<b>68 898</b>	<b>69 819</b>	<b>72 263</b>
Number of employees the employer contributes for in this scheme	1 115	1 117	1 125	1 126	1 126

<Staff category name>	2020D	2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies					
Employer % contribution rate to this scheme					
<b>Total pension costs in respect of this scheme</b>					
Number of employees the employer contributes for in this scheme					

Description on the relevant national pension regulations and pension accounting regulations on which the assumptions are based, as well as information whether changes of those regulations are to be expected during RP3

The defined contribution plan for LFV staff is part of the pension system for government employees (called "PA16"). The defined contribution pensions are accounted for in accordance with Swedish GAAP and the Swedish National Financial Management Authority's regulations (ESV). The pensions are administrated by SPV (National Government Employee Pensions Board). The premium for the pensions are based on what's stipulated in PA16 and invoiced by SPV. The premium/cost to be paid by LFV for each employee is a certain percentage of gross salary and a special employer's contribution on the premium/cost. The costs are accounted for in the P/L as pension costs.

Category 1: Employees born in 1988 or later (2018: 83 members of staff) are only covered by defined contribution scheme (no part is defined benefit). The contribution rate for these employees are 6 % in general and then 31,5 % on monthly gross salaries above SEK 37k. On these premiums a special employer's contribution of 24.26 % is accounted for and paid to the state/the Tax Authorities. Calculations of actual outcome for 2018 shows an average contribution rate of 13.5% including special employer's contribution. Total salaries for category 1 was 39 MSEK in 2018.

All active employees of LFV born before 1988 connected to the defined benefit scheme also have a part of the pensions through a defined contribution scheme. The contribution rate is 4.5 % of gross salaries. On these premiums a special employer's contribution of 24.26 % is accounted for and paid to the state/the Tax Authorities.

We are not aware of any expected changes of the regulations during RP3 of the state pension system. The assumptions for defined contribution scheme are the same for the whole period 2020-2024.

Description of the assumptions underlying the calculations of pension costs comprised in the determined costs

See above. The premiums are in accordance with PA16 and administrated by National Government Employee Pensions Board.

Describe the actions taken ex-ante to manage the cost-risk (cost increase) associated with this item, as well as the actions taken to limit the impact of the unforeseen change on the costs to be passed on to airspace users

See above. The premiums are in accordance with PA16 and administrated by National Government Employee Pensions Board. The cost is based on the regulations in PA16 and is calculated based on gross salaries of the employees and therefore deemed to be of the character that no special risk mitigating action against unforeseen change is applicable.

#### 3.4.3.4 Assumptions for the occupational "Defined benefits" pension scheme (in nominal terms in '000 national currency)

Does the ANSP assume liability for meeting future obligations for the occupational "Defined benefits" scheme?	Yes
Is the occupational "Defined benefits" pension scheme funded?	Yes

	2020D	2021D	2022D	2023D	2024D
Total pensionable payroll to which this scheme applies	891 681	895 816	911 552	922 552	954 841
<b>Total pension costs in respect of this scheme</b>	<b>617 430</b>	<b>651 925</b>	<b>563 534</b>	<b>525 345</b>	<b>543 732</b>
- in respect of regular pension costs	617 430	651 925	563 534	525 345	543 732
- in respect of non-recurring deficit repair					
- reported as staff costs (in reporting tables)					
- not reported as staff costs (in reporting tables): please use comment box					
<b>Actuarial assumptions</b>					
% discount rate	-0,70%	-0,70%	-0,70%	-0,70%	-0,70%
% projected increase in benefits					
% annual increase in salaries					
% expected return on plan assets					
Net funding surplus / deficit					
Number of employees the employer contributes for in this scheme	1 090	1 110	1 110	1 110	1 110

Description on the relevant national pension regulations and pension accounting regulations on which the assumptions are based, as well as information whether changes of those regulations are to be expected during RP3

Pensions for LFV-staff are based on a pension agreement for personnel employed by the state, called "PA16". The LFV staff is to the largest extent covered by a Defined Benefit Scheme. 1072 active members in 2019.

As a "state enterprise", LFV follows the accounting rules of Swedish GAAP in accordance the Swedish National Financial Management Authority's regulations (ESV), which is different from IFRS (international accounting rules).

The pensions are administrated by SPV (National Government Employee Pensions Board) and the pensions rights are calculated yearly at present value by SPV and accounted for in LFV's balance sheet. The assumption are decided by SPV and the interest rate is set each year before closing date 31 December on the basis of the interest rate from Swedish Financial Supervisory Authority, which is an average of the interest rates for a year for long-term real obligation (for the period 1 Oct - 30 Sept).

The yearly change in the debt and costs are affected by a number of circumstances that LFV cannot control; for example inflation, forecasted interest rates, and expected average lifetimes. Largest fluctuations between the years mainly are dependent and explained by the fluctuation of the interest rate – the discount rate.

No changes of PA16 (the pension agreement) are expected during 2020-2024.

However the accounting principles as regards pensions for public entities will to some extent as from 1 January 2020 be changed. The ESV regulations state that from 2020, the enterprises will have to use the same insurance-technical bases that SPV applies for its pension operations / the Swedish state's occupational pension debt. The gross interest rate is normally the same between the two bases of calculation, while the other assumptions differ slightly (assumptions about tax, operating costs, load on capital value and assumptions about mortality). One consequence of this is also that the opportunity for the businesses to choose to apply the calculation bases for the coming years in the annual accounts will not be possible anymore. The debt is to be calculated as of December 31 according to the current year's calculation basis. This explains that the notification of new calculation bases for 2020 is taken into account in the 2020 financial statement and not as of 31 December 2019. There is also a change referring to classification in the financial statement of fluctuations in the pension obligation due to changes of the calculation basis. The fluctuation in the pension obligation due to this will be recorded directly against Equity without going through the P/L (income statement). All other cost/other changes of the obligation will be recorded as before through P/L. The aim with the change of the accounting principles is to harmonize the principles for all public entities in Sweden and partly with IPSAS (International accounting principles).

Basic principles and method for calculation and determining the cost for pensions and the pension obligation of LFV will beside the above mentioned be unchanged compared with RP2, 2015-2019, and are expected to be unchanged during RP3.

LFV's pension costs in the performance plan for 2020-2024 are based on a forecast made by SPV (National Government Employee Pensions Board). The latest forecast was obtained in July 2019. In July 2019, SPV announced that a further decrease of the interest rate, calculated by the Swedish Financial Supervisory Authority, is expected for the 2020 bases; a decrease of the gross rate from -0.7% to -1.3%.

The forecast of pensions is therefore based on the gross rate -1.3%, and the effect of the changed calculation bases explains the large pension costs in 2020. A forecast with different discount rates each year

Description of the assumptions underlying the calculations of pension costs comprised in the determined costs

Where, in the Reporting Tables, some occupational "defined benefits" costs (e.g. interest expense related to pensions) are reported in other cost item(s) than staff costs, the cost item(s) should be indicated here below along with corresponding explanations.

Part of the cost for defined benefit obligations is interest (indexation and interest) which is included in staff cost (cost for pensions). This is however accounted for as interest expenses (line item in financial cost) in the financial statement of LFV in accordance with Swedish Accounting principles.

Return on the funding of pension obligation (cash and bank balances) has reduced the cost for pensions. Interest income is recorded as financial income in the financial statement of LFV.

Describe the actions taken ex-ante to manage the cost-risk (cost increase) associated with this item, as well as the actions taken to limit the impact of the unforeseen change on the costs to be passed on to airspace users

See above. The obligation for defined benefit scheme and cost for pensions is regulated by PA16, the Swedish accounting principles and regulations and assumptions etc decided by National Government Employee Pensions Board based on the market development of interest and inflation. Therefore deemed to be out of control of LFV and of the character that no special risk mitigating action against unforeseen change is applicable.

3.4.4 - Interest rate assumptions for loans financing the provision of air navigation services

**LFV**

Select number of loans Select

**Interest rate assumptions for loans financing the provision of air navigation services  
(Amounts in nominal terms in '000 national currency)**

Other loans	2020D	2021D	2022D	2023D	2024D
Description					
Remaining balance					
Average weighted interest rate %	-	-	-	-	-
Interest amount					

Total loans	2020D	2021D	2022D	2023D	2024D
<b>Total remaining balance</b>	0	0	0	0	0
<b>Average weighted interest rate %</b>	-	-	-	-	-
<b>Interest amount</b>	0	0	0	0	0

### 3.4.5 - Restructuring costs

#### 3.4.5.1 Restructuring costs from previous reference periods to be recovered in RP3

Restructuring costs from previous reference periods approved by the European Commission?	Select
If yes, number of charging zones concerned	Select

Restructuring costs from previous reference periods to be recovered in RP3 (nominal terms in '000 national currency)					
---	--	--	--	--	--

Restructuring costs recovery plan from previous RPs	2020D	2021D	2022D	2023D	2024D
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Additional comments

#### 3.4.5.2 Restructuring costs planned for RP3

Restructuring costs foreseen for RP3?	Select
If yes, number of charging zones concerned	Select

**LFV**

##### a) Overall description of the restructuring measures planned for RP3

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##### b) Detailed information on the restructuring measures planned for RP3

Number of restructuring measures	Select
----------------------------------	--------

	2020D	2021D	2022D	2023D	2024D
<b>Total restructuring costs by measures</b>	0	0	0	0	0

##### c) Detailed information on the restructuring costs by nature by charging zone

<b>Total restructuring costs</b>	0	0	0	0	0
----------------------------------	---	---	---	---	---

	2020D	2021D	2022D	2023D	2024D
<b>Total restructuring costs by charging zone</b>	0	0	0	0	0

Additional comments

## SECTION 3.5: ADDITIONAL KPIS / TARGETS

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### [3.5 Additional KPIS / Targets](#)

#### **Annexes of relevance to this section**

ANNEX J. OPTIONAL KPIS AND TARGETS

3.5 - Additional KPIs / Targets

Number of additional KPIs	0
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## SECTION 3.6: DESCRIPTION OF KPAS INTERDEPENDENCIES AND TRADE-OFFS INCLUDING THE ASSUMPTIONS USED TO ASSESS THOSE TRADE-OFFS

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### **3.6 - Description of KPAs interdependencies and trade-offs including the assumptions used to assess those trade-offs**

[3.6.1 - Interdependencies and trade-offs between safety and other KPAs](#)

[3.6.2 - Interdependencies and trade-offs between capacity and environment](#)

[3.6.3 - Interdependencies and trade-offs between cost-efficiency and capacity](#)

[3.6.4 - Other interdependencies and trade-offs](#)



### 3.6 - Description of KPAs interdependencies and trade-offs including the assumptions used to assess those trade-offs

#### 3.6.1 - Interdependencies and trade-offs between safety and other KPAs

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a) Do the measures to reach the targets in the different KPAs require changes in the ANSP functional system that have safety implications? If yes, which mitigation measures are put in place?

There is no direct link made between the KPAs and changes to the functional system, but many changes made will have implication for the KPA results. Any change made to the functional system is assessed via the ANSP SMS and the authority receives information and applications for changes depending on severity. Mitigating measures depend on the specific risk but are monitored by ANSP and the authority as required.

b) What are the main assumptions used to assess the interdependencies between safety and other KPAs?

PSR High seas baltic is one example of direct interdependence with cost efficiency since. The investment is a consequence of the increased number of flights not using transponder, which in turn is a safety issue.

c) What metrics, other than those indicators described in the Regulation, are you monitoring during RP3 to ensure targets in the KPAs of capacity, environment, and cost-efficiency are not degrading safety?

Safety is monitored over the whole system, not specifically related to the KPAs. Currently there is no direct connection made between the KPAs and safety as safety is an integral part of the entire system.

d) Do targets allow trade-offs in operational decision making to managing resource shortfalls in order to preserve safety performance? Do targets restrict the release of staff for safety activities, such as training?

There is currently no evidence to show that lack of staff is preventing training or other safety activities. This does not equate that there are no issues with staffing. Some periods of the year staffing is constrained and in particular in the en-route centers. However currently there is no indication that training and safety activities for the staff can't be arranged around these constraints.

e) Has the State reviewed the ANSP financial and personnel resources that are needed to support safe ATC service provision through safety promotion, safety improvement, safety assurance and safety risk management after changes introduced to achieve targets in other KPAs? Please, explain.

Changes are assessed as per point a), there is no linkage to the KPAs with regards to changes. However there is interconnection between some KPAs, for example the targets for capacity and cost efficiency are connected. Financial status of the ANSPs are reviewed by the state and personnel resources monitored as part of the oversight conducted.

#### 3.6.2 - Interdependencies and trade-offs between capacity and environment

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SE wants to highlight the importance of the dependencies between capacity and environment, as the fulfillment of the environmental target depends on the airspace capacity and the capacity at the airports. In the event of a poor capacity, delays and risk of aircraft being forced to wait in holding positions in the air or on the ground at the airports will occur, which contributes to an increased environmental impact.

### 3.6.3 - Interdependencies and trade-offs between cost-efficiency and capacity

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The interdependence within these two targets in this plan is most related to number of ATCO staff, this is the single most important variable according to ANSP LfVs projections of capacity. Training is with the background above the priority measure to cope with demographic situation, and also ATCOs leaving. With reference to ATCO numbers presented in 3.3.1 numbers are not considered excessive but realistic and also pro-active, taking further pensions into account in the period of RP4. To not take into account long term effects could result in future detrimental effects since a strained ATCO situation prevents ATCO training.

Investments are also a factor influencing the capacity. Investment in the major ATM system is effected under the umbrella of COOPANS. Improved Mode S and CPDLC are examples of capacity improving investments in the RP3 plan.

Increasingly introducing a flexible sectorisation where possible. Gets many sector configurations but at the same time increases capacity and efficiency. The implementation takes resources, and also technical investments in COM.

Introduction of a Flight Information Service, a FIS position that handles mainly VFR flights, which in this way can relieve ordinary sectors, which gives an increased capacity.

### 3.6.4 - Other interdependencies and trade-offs

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## SECTION 4: CROSS-BORDER INITIATIVES AND SESAR IMPLEMENTATION

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### [4.1 - Cross-border initiatives and synergies](#)

[4.1.1 - Planned or implemented cross-border initiatives at the level of ANSPs](#)

[4.1.2 - Investment synergies achieved at FAB level or through other cross-border initiatives](#)

### [4.2 - Deployment of SESAR Common Projects](#)

### [4.3 - Change management](#)

#### **Annexes of relevance to this section**

ANNEX N. CROSS-BORDER INITIATIVES

## 4.1 - Cross-border initiatives and synergies

### 4.1.1 - Planned or implemented cross-border initiatives at the level of ANSPs

Number of cross-border initiatives	6
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Initiative #1	
Name	Borealis
Description	The vision of the Borealis Air Navigation Services Alliance is: To be the leading ANSP Alliance that enables its Members to drive better performance for stakeholders through business collaboration.
Expected performance benefits	<p>The primary focus of Borealis is en route and the regulated business. The Alliance's primary task is to reduce the members' costs and increase the capacity for our customers. This can be done e.g. a by cooperating across borders operationally and technically. One of the most positive projects is the implementation of FRA, Free Route Airspace. The Alliance also sees opportunities by cooperating in Cross Border Operation if and when the right conditions exist. Inventory of infrastructure has also been carried out to enable reduced costs for the members.</p> <p>The parties in Borealis are Avinor, EANS, ANS Finland, LFV, LGS, IAA, Isavia, NATS and Navair.</p> <ul style="list-style-type: none"> <li>• 9 ANSPs</li> <li>• 3 FABs</li> <li>• &gt; 3.8M flights / year</li> <li>• &gt; 10400 flights / day</li> <li>• 38% of European traffic</li> </ul>

Initiative #2	
Name	Coopans
Description	The ATC systems represent one of the largest investments for an ANSP. At the initiative of LFV, a group of users of Thale's ATM systems merged and formed COOPANS to harmonize work methodology and coordinate the requirements to reduce the costs for operating and developing ATM systems. The top priority for the members right now is to upgrade all the panels to the same version of the software. Parallel to this, plans are being prepared and prepared for the further development of the systems.
Expected performance benefits	According to the analyzes carried out, it has been found that the cooperation has led to measurable positive effects. Current partners in COOPANS are LFV, Navair, IAA, Austrocontrol, Nav Portugal and CroatiaControl.

Initiative #3	
Name	A6
Description	LFV is a member of the A6 through our cooperation in COOPANS. The purpose of LFV's cooperation is to implement future SESAR projects. Also the impact on which projects to implement is also done via the A6. The six partners in the A6 are AENA, DFS, DSNA, ENAV, NATS and COOPANS
Expected performance benefits	

Initiative #4	
Name	LFV-Navair
Description	LFV cooperates with Navair on many issues and in several areas. LFV and Navair have taken a further step in cooperation in the technical field through the establishment of the JPO - Joint Program Office. The latest example of the LFV Navair collaboration is the introduction of ADQ where an agreement has been concluded and a common system has been traded by LFV.
Expected performance benefits	

Initiative #5	
Name	Entry Point North
Description	Through the joint venture and the educational organization, the owners - LFV, Navair and IAA - can ensure access to air traffic controller training over time with high quality and cost efficiency.
Expected performance benefits	

Initiative #6	
Name	DK SE FAB
Description	ANSP LFV and Navair participates as observers in the DK SE FAB Board

Expected performance benefits	At the ANSP level the FAB allows for cooperation between the ANSPs and the authorities of Sweden and Denmark. It also allows for other stakeholders (such as the respective air force) to coordinate with both ANSP and CA. Many other potential performance benefits are overlapping with the initiatives above and therefore not repeated here.
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Additional comments
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**4.1.2 - Investment synergies achieved at FAB level or through other cross-border initiatives**

Details of synergies in terms of common infrastructure and common procurement
See Coopans - SWIM, LFV-Naviair - ADQ, DMI-SMHI, and also Entry point north (joint infrastructure for education)

## 4.2 - Deployment of SESAR Common Projects

PCP ATM Functionality (AF) / Sub functionality (s-AF)	Recent and expected progress
<b>AF1 - Extended AMAN and PBN in high density TMA</b>	
s-AF1.1 AMAN extended to en-route airspace	
Stockholm-Arlanda	Basic AMAN – Implemented at Stockholm-Bromma and Stockholm-Arlanda airport. System implementation via COOPANS cooperation. COOPANS is planning to have the capability as both OLDI and SWIM service by spring 2023. However it is up to each ANSP to establish a project to implement the concept. National definition and implementation remains as well as definition of required data exchange cross-border.
s-AF1.2 Enhanced TMA using RNP-based operations	
Stockholm-Arlanda	INEA CALL 2016 SAARP project - Swedavia and Novair with support from LfV - project aimed at improved PBN, Arlanda. No common COOPANS relevance. A SAARP+ initiative to modernise airspace further might be needed to close the GAP. Geographic Database for procedure design- The Swedish common initiative eToD is delayed until 2024, but functionality to close the GAP 2021 might be implemented in time.
<b>AF2 - Airport Integration and Throughput</b>	
s-AF2.1 DMAN synchronised with predeparture sequencing	
Stockholm-Arlanda	2.1.1. To be finalized 2019-12-31 with CEF funding. 2.1.2 & 2.1.3; Fully implemented. 2.1.4; Implementation phase through CEF funding. Finalized 2020-12-31
s-AF2.2 DMAN integrating surface management constraints	
Stockholm-Arlanda	2.2.1; Final implementation phase until 2019-12-31.
s-AF2.3 Time-based separation for final approach	
Stockholm-Arlanda	n/a
s-AF2.4 Automated assistance to controller for surface movement planning and routing	
Stockholm-Arlanda	2.4.1; No activities at present. Plan to join a common European implementation project in a potential CEF Call 2019, to be finalized 2023-12-31.
s-AF2.5 Airport safety nets	
Stockholm-Arlanda	2.5.1; Final implementation phase until 2019-12-31. 2.5.2. Partly in progress with CEF funding, Plan to join a common European implementation project in a potential CEF Call 2019, to be finalized 2022-12-31.
<b>AF3 - Flexible Airspace Management and Free Route</b>	
s-AF3.1 Airspace management and advanced flexible use of airspace	PCP Concept not fully applicable to Swedish concept. LfV need to define how to handle available airspace. Information sharing in Sweden is managed in the context of fully available airspace where civil flights are coordinated with Airforce and flies through TSAs during activated time periods. (Extended) separation is provided between military and civil flights. Therefore Sweden consider that coordination with airspace users and NM is not needed. Current Flight planning is not depending on such information. LfV to analyse LfV PCP position - if/when Gap could be considered as closed, and how to connect to the ATM-system (COOPANS coordination)
s-AF3.2 Free route	LfV has implemented the Cross-border Free-Route concept, within Borealis cooperation. The DCT concept is not needed. System functionality to be developed within COOPANS cooperation. COOPANS INEA call 2017 includes the remain functionality. Some delays might cause a slight delay into 2022.
<b>AF4 - Network Collaborative Management</b>	
s-AF4.1 Enhanced short-term ATFCM measures	STAM 1 implemented. STAM 2 is monitored via the existing LfV FMP-function, and coordination and implementation is performed within NM lead projects. NB NM is expected to launch PCP-functionality minimum 6 months before PCP-deadline, to secure time for stakeholder to implement
s-AF4.2 Collaborative NOP	PCP are monitored via the existing LfV FMP-function, and coordination and implementation is performed within NM lead projects. NB NM is expected to launch PCP functionality minimum 6 months before PCP-deadline, to secure time for stakeholder to implement. Test and verification might be done in a COOPANS common initiative.  4.2.4; Swedavia contributor to IP2016_131_AF4 coordinated by Eurocontrol/Network Manager. Gap closure by initiative from NM. Planned 2020-12-31.

s-AF4.3 Calculated take-offTime to target times for ATFCM purposes	PCP are monitored via the existing LFV FMP function, and coordination and implementation is performed within NM lead projects. NB NM is expected to launch PCP-functionality minimum 6 months before PCP-deadline, to secure time for stakeholder to implement
s-AF4.4 Automated support for traffic complexity assessment	Use of NM tool or develop own supporting tool TBD. Potential candidate for COOPANS call 2019 (INAP concept)
<b>AF5 - Initial SWIM</b>	
s-AF5.1 Common infrastructure components	PENS 1 implemented and NewPENS is expected to be implemented 2019. SWIM Governace European common initiative ongoing to state the framework
s-AF5.2 SWIM technical infrastructure and profiles	LFV: National adoption and implementation. Included in COOPANS call 2017 with end spring 2023 and national implementation initiated.  Swedavia: Ongoing Implementing project with CEF funding. Family coverage (yellow profile) will be 25% upon closure of this IP. 5.2.2; Ongoing Implementing project with CEF funding. Family fully coverage (yellow profile) upon closure of CEF funded IP (2023-12-31). No blue profile initiative. 5.2.3; Ongoing project with CEF funding aims at developing the systems needed to operate a PKI and its associated trust framework. Family coverage will be 60% upon closure of IP 2017_075_AF5.
s-AF5.3 Aeronautical information exchange	The required opeational requirement - what services to be used - is to be identified to secure that technical implementation according to PCP. Cooperation with other stakeholders needed, Airport, AU, FM, etc.
s-AF5.4 Meteorological information exchange	The required operational requirement - what services to be used - is to be identified to secure that technical implementation according to PCP. Cooperation ANSP, SMHI and Swedavia needed
s-AF5.5 Cooperative network information exchange	LFV: The required operational requirement - what services to be used - is to be identified to secure that technical implementation according to PCP. Cooperation with other stakeholders needed, Network Management Airport, AU, FM, etc. The technical capability will be implemented in an integration platform - handling all services on a principal basis. Operational implementation is all systems/functions are not needed to close the gap.  Swedavia: Partly implemented but not SWIM compliant with B2B.
s-AF5.5.6 Flight information exchange	LFV: Yellow profil is expected to be handled according to PCP. The Blue profile, time critical - e.g. Flight Object - definition is delayed, and might be removed for PCP, or remained with reduces scope. TBD  Swedavia: Ongoing initiative with CEF funding. Planned finalization 2023-12-31
<b>AF6 - Initial Trajectory Information Sharing</b>	LFV is buying the DLS-service and the CSP is expected to deliver the DLS-service required according to PCP

### 4.3 - Change management

Change management practices and transition plans for the entry into service of major airspace changes or for ATM system improvements, aimed at minimising any negative impact on the network performance

The Swedish Transport Agency has published national regulation for airspace change and design, TSFS 2018:98. This lays down the procedure for airspace change and also offers guidance on some aspects of the change. There is also internal agency processes for airspace changes (TSG 2017-1206 with associated processes) which dictate how the process should be conducted.

For ATM system changes and improvements these are assessed in accordance with the standard change process. The safety assessment conducted by the ANSP is provided to the authority who will decide on actions based on internal procedures (TSG 2016-3268). For a major change a review would most likely take place which means the authority would verify that the change process has been followed correctly and that regulatory requirements have been fulfilled. Normally this takes place via both document review and on-site audit (for very large changes several visits may take place).



## SECTION 5: TRAFFIC RISK SHARING ARRANGEMENTS AND INCENTIVE SCHEMES

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### **5.1 - Traffic risk sharing parameters**

[5.1.1 Traffic risk sharing - En route charging zones](#)

[5.1.2 Traffic risk sharing - Terminal charging zones](#)

### **5.2 - Capacity incentive schemes**

[5.2.1 - Capacity incentive scheme - Enroute](#)

5.2.1.1 Parameters for the calculation of financial advantages or disadvantages - Enroute

5.2.1.2 Rationale and justification - Enroute

[5.2.2 - Capacity incentive scheme - Terminal](#)

5.2.2.1 Parameters for the calculation of financial advantages or disadvantages - Terminal

5.2.2.2 Rationale and justification - Terminal

### **5.3 - Optional incentives**

#### **Annexes of relevance to this section**

ANNEX G. PARAMETERS FOR THE TRAFFIC RISK SHARING

ANNEX I. PARAMETERS FOR THE MANDATORY CAPACITY INCENTIVES

ANNEX K. OPTIONAL INCENTIVE SCHEMES

## 5.1 - Traffic risk sharing

### 5.1.1 Traffic risk sharing - En route charging zones

Sweden		Traffic risk-sharing parameters adapted?				
		Service units lower than plan		Service units higher than plan		
	Dead band	Risk sharing band	% loss to be recovered	Max. charged if SUs 10% < plan	% additional revenue returned	Min. returned if SUs 10% > plan
Standard parameters	±2,00%	±10,0%	70,0%	5,6%	70,0%	5,6%

### 5.1.2 Traffic risk sharing - Terminal charging zones

Sweden - TCZ		Traffic risk-sharing parameters adapted?				
		Service units lower than plan		Service units higher than plan		
	Dead band	Risk sharing band	% loss to be recovered	Max. charged if SUs 10% < plan	% additional revenue returned	Min. returned if SUs 10% > plan
Standard parameters	±2,00%	±10,0%	70,0%	5,6%	70,0%	5,6%

## 5.2 - Capacity incentive schemes

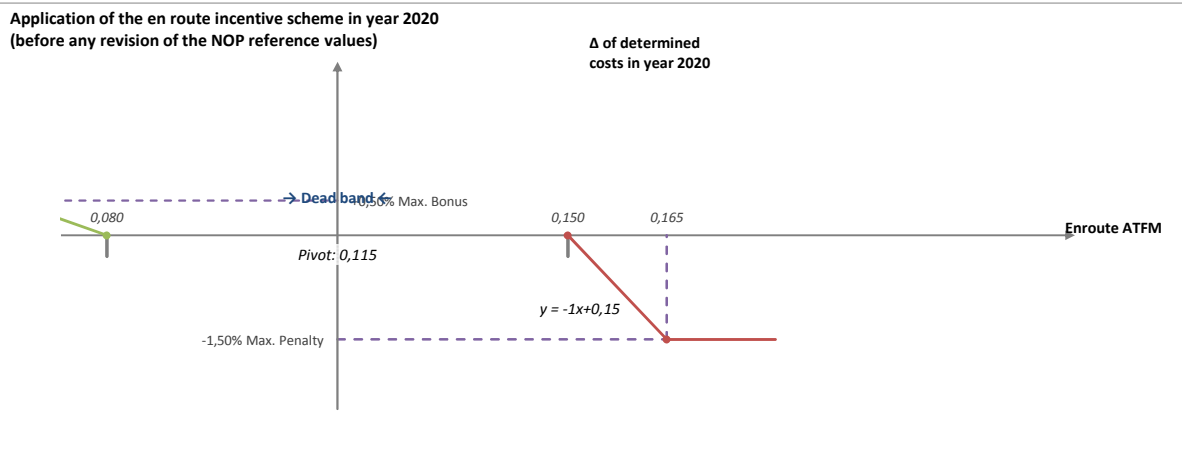
### 5.2.1 - Capacity incentive scheme - Enroute

#### 5.2.1.1 Parameters for the calculation of financial advantages or disadvantages - Enroute

Enroute	Expressed in	Value
Dead band Δ	fraction of min	±0,035 min
Max bonus (≤2%)	% of DC	0,50%
Max penalty (≥ Max bonus)	% of DC	1,50%
The pivot values for RP3 are	fixed	

#### LFV

	2020	2021	2022	2023	2024	
NOP reference values (mins of ATFM delay per flight)	0,15	0,15	0,12	0,09	0,08	
Alert threshold (Δ Ref. value in fraction of min)	±0,050	±0,050	±0,050	±0,050	±0,050	
Performance Plan targets (mins of ATFM delay per flight)	0,15	0,15	0,12	0,09	0,08	
Pivot values for RP3 (mins of ATFM delay per flight)	0,12	0,11	0,11	0,09	0,08	
Financial advantages / disadvantages	Dead band range	[0,08-0,15]	[0,07-0,14]	[0,07-0,14]	[0,05-0,12]	[0,04-0,11]
	Bonus range	[0,065-0,08]	[0,055-0,07]	[0,055-0,07]	[0,035-0,05]	[0,025-0,04]
	Penalty range	[0,15-0,165]	[0,14-0,155]	[0,14-0,155]	[0,12-0,135]	[0,11-0,125]



#### 5.2.1.2 Rationale and justification - Enroute

If the pivot values are different that the values in the NOP, explain rationale for the difference and method of calculation\*\*

Sweden's intention is to use pivot values that are fixed in the incentive schemes. The Swedish position in designing this incentive schemes has been predictability, simplicity, as few as possible adjustments, low administrative burden and that small disturbances shall not have major effects.

After contemplation, Sweden has suggested not to apply modulated pivot values. Argument is simply that building a predictable and reliable model to forecasts per delaycode under current situation is complicated. For example the later years growing traffics relation to weather phenomenon would by a regression model, or similar, predict a severe increase. There is also the question on adverse information, and to prevent disagreements Sweden considers including all delaycodes is reasonable.

The dead band is proposed to ± 0,035min. Since the fixed pivot value is used one of the reason to a quit wide dead band is to create some margin if the weather has great affect on delays some year. The average, the last 7 years, for weather as delay code has been 0,012. Another reason is the Swedish position that small disturbances shall not have major effects.

Bonus and penalty rationale. Sweden's position is that the incentive scheme shall be effective, but in all cover all the above mentioned positions, for example that small disturbances shall not have major effects. Sweden's proposal is that the incentive scheme is asymmetric with penalty's exceeding bonuses. One situation Sweden strives to avoid in particular is that providers experience economic surpluses while capacity targets are not met. However, the situation of lack of capacity imply need of projects or investments to rectify the situation, why the Sweden do not propose the maximum penalty available of 2 percent. The bonus is still there but at a more moderate level.

Sweden's position is that the incentive scheme En Route only applies to the main ANSP LFV.

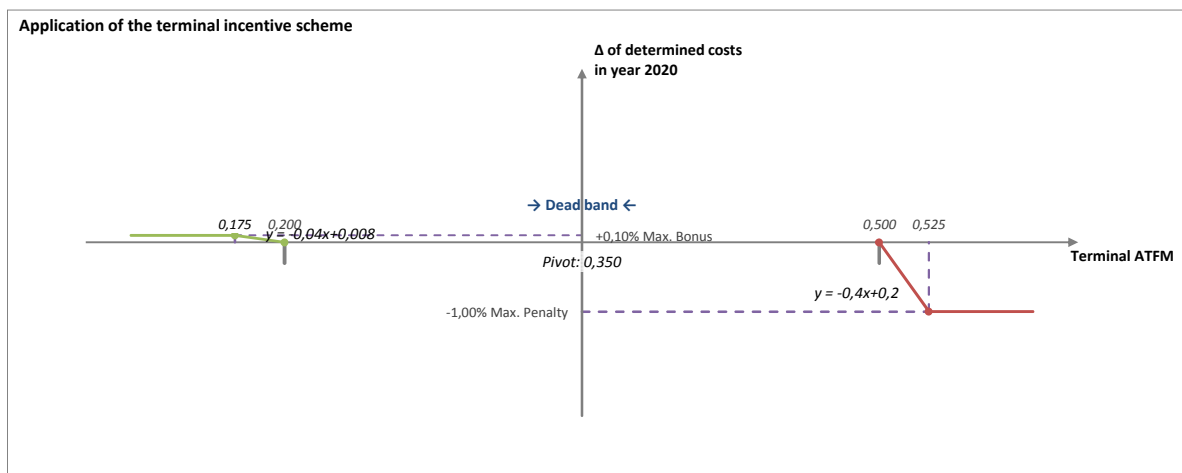
\*\* Refer to Annex I, if necessary.

## 5.2.2 - Capacity incentive scheme - Terminal

### 5.2.2.1 Parameters for the calculation of financial advantages or disadvantages - Terminal

Terminal	Expressed in	Value
Dead band Δ	fraction of min	±0,150 min
Bonus/penalty range (% of pivot value)	%	±50%
Max bonus	% of DC	0,10%
Max penalty	% of DC	1,00%
The pivot values for RP3 are	fixed	

	2020	2021	2022	2023	2024
Performance Plan targets (mins of ATFM delay per flight)	0,35	0,35	0,35	0,35	0,35
Bonus/penalty range Δ (in fraction of min)	±0,175	±0,175	±0,175	±0,175	±0,175
Pivot values for RP3 (mins of ATFM delay per flight)	0,35	0,35	0,35	0,35	0,35
Financial advantages / disadvantages	Dead band range	[0,2-0,5]	[0,2-0,5]	[0,2-0,5]	[0,2-0,5]
	Bonus range	[0,175-0,2]	[0,175-0,2]	[0,175-0,2]	[0,175-0,2]
	Penalty range	[0,5-0,525]	[0,5-0,525]	[0,5-0,525]	[0,5-0,525]



### 5.2.2.2 Rationale and justification - Terminal

Explain how the bonus and penalties are going to be apportioned between the different terminal charging zones and ANSPs providing services in each of them\*\*

This incentive scheme applies to Stockholm/Arlanda only. Bonuses and penalties are equally shared between the providers LFV and Swedavia.

The values for the incentive scheme have been evaluated by historic performance, taking into account that all delaycodes are included and also an asymmetric approach for bonus/penalty.

During previous years actual levels have been below the target of 0,35. For 2018 however, actual was above caused by weather and certain technical issues, which Sweden considers small incidents which leads to major effects for the targets. With the history of low-level delays, and the restrictions for how deadbands can be constructed Sweden considers the proposed bonus/penalty levels effective.

\*\* Refer to Annex I, if necessary.

### 5.3 - Optional incentives

Total maximum bonus for all optional incentives (≤2%):	0,0%
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Total maximum penalty for optional incentives (≤4%):	0,0%
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Number of optional incentives	Click to select
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## SECTION 6: IMPLEMENTATION OF THE PERFORMANCE PLAN

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[6.1 Monitoring of the implementation plan](#)

[6.2 Non-compliance with targets during the reference period](#)

## 6 - IMPLEMENTATION OF THE PERFORMANCE PLAN

### 6.1 Monitoring of the implementation plan

Description of the processes put in place by the NSA to monitor the implementation of the Performance Plan including the yearly monitoring of all KPIs and PIs defined in Annex I of the Regulation and a description of the data sources

The NSA has set up a forum, the national RP3 council, to work with the planning of RP3 and discuss different aspects of RP3. The council have consisted of main providers and user organisation.

NSA have taken assistance by consultants for independent audits and expert opinions. These have provided opinions on evaluation of the performance scheme periods RP1 and RP2, opinions on the cost reporting for RP3 and advice on RoE/WACC for the providers in the SE market. From these reports NSA have formed its own opinion and further elaborated and deepened investigations where found necessary or appropriate.

Another aspect of the NSA approach has been to incorporate the result of the EU Commissions studies and manuals into the implementation process. The academic study result was however difficult to interpret from the diversified results applied for SE depending on two approaches. The SE NSA also have some questioning on the criteria from clustering report. However, this provided guidance on issues relevant for SE environment. At last the Manual for cost eligibility have provided very helpful hints and provisions of tools, and has also been a valuable checklist for aspects to cover.

The focus for this performance plan, safety excluded as of course overriding, has been capacity. The SE capacity has been a major focus and NSA has monitored the development and taken note of main provider LFV projections, aswell at the Network Operating Plan. The SE NSA has also looked to take part of the arguments underpinning the SE part of the EU wide targets. T

### 6.2 Non-compliance with targets during the reference period

Description of the processes put in place and measures to be applied by the NSA to address the situation where targets are not reached during the reference period

SE NSA has a project group for the Performance plan with expertise covering the perspectives.

During the reference period performance is monitored, especially during the yearly monitoring report process. Where performance is not met the provider responsible is obliged to write a formal explanation to the NSA. If reported with satisfaction the NSA will use this for the monitoring report to make public.

If capacity target for En route delay is not met, and outside the deadband, the penalty mechanism in the incentive scheme will trigger.

## 7 - ANNEXES

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### ANNEX A. REPORTING TABLES & ADDITIONAL INFORMATION (EN-ROUTE)

ANNEX A.x - En route Charging Zone #x

### ANNEX B. REPORTING TABLES & ADDITIONAL INFORMATION (TERMINAL)

ANNEX B.x - Terminal Charging Zone #x

### ANNEX C. CONSULTATION

### ANNEX D. LOCAL TRAFFIC FORECASTS

### ANNEX E. INVESTMENTS

### ANNEX F. BASELINE VALUES (COST-EFFICIENCY)

### ANNEX G. PARAMETERS FOR THE TRAFFIC RISK SHARING

### ANNEX H. RESTRUCTURING MEASURES AND COSTS

### ANNEX I. PARAMETERS FOR THE MANDATORY CAPACITY INCENTIVES

### ANNEX J. OPTIONAL KPIs AND TARGETS

### ANNEX K. OPTIONAL INCENTIVE SCHEMES

### ANNEX L. JUSTIFICATION FOR SIMPLIFIED CHARGING SCHEME

### ANNEX M. COST ALLOCATION

### ANNEX N. CROSS-BORDER INITIATIVES

### ANNEX O. JUSTIFICATIONS FOR THE LOCAL SAFETY TARGETS

### ANNEX P. JUSTIFICATIONS FOR THE LOCAL ENVIRONMENT TARGETS

### ANNEX Q. JUSTIFICATIONS FOR THE LOCAL CAPACITY TARGETS

### ANNEX R. JUSTIFICATIONS FOR THE LOCAL COST-EFFICIENCY TARGETS

### ANNEX S. INTERDEPENDENCIES

### ANNEX T. OTHER MATERIAL

### ANNEX Z. CORRECTIVE MEASURES\*

*\* Only as per Article 15(6) of the Regulation*