



**Single Electricity Market
(SEM)**

**SEMOpX Price Control
Decision Paper**

**SEM-20-007
11 March 2020**

EXECUTIVE SUMMARY

This Decision Paper outlines the SEM Committee's determination in relation to the ex-ante allowed revenue regime for SEMOpx between 3 October 2019 and 2 October 2022. The total revenue allowance for SEMOpx for the price control period is €11,413,114 (March 2019 prices). This represents a 9% reduction in the proposed revenue allowance submitted by SEMOpx.

SEMOpx Submission					SEM Committee Decision			
March 2019 Prices	2019/20	2020/21	2021/22	Total	2019/20	2020/21	2021/22	Total
Opex Submission	3,499,785	3,512,455	3,531,892	10,544,132	3,352,790	3,364,790	3,377,290	10,094,870
Return on Regulatory Asset Base	18,042	52,331	72,305	142,678	15,944	47,319	66,063	129,326
Depreciation	77,400	241,700	381,100	700,200	68,400	218,200	347,100	633,700
Margin Submission	174,989	175,623	176,595	527,207	117,348	117,768	118,205	353,320
KPI Incentive Entitlement Submission	200,000	200,000	200,000	600,000	67,056	67,296	67,546	201,897
Total	3,970,216	4,182,109	4,361,892	12,514,217	3,621,537	3,815,372	3,976,204	11,413,114

Table 1, Revenue Summary

SEMOpx Submission					SEM Committee Decision			
March 2019 Prices	2019/20	2020/21	2021/22	Total	2019/20	2020/21	2021/22	Total
Unpredictable Capex Submission	50,000	50,000	50,000	150,000	50,000	50,000	50,000	150,000
Predictable Capex Submission	724,000	819,000	475,000	2,018,000	634,000	764,000	425,000	1,823,000
Total Capex	774,000	869,000	525,000	2,168,000	684,000	814,000	475,000	1,973,000

Table 2, Capex Summary

For the purpose of the 2019/20 tariff year, the current SEMOpx charges as published on the SEMOpx website will be applied by SEMOpx. This Decision Paper will not change the charges for this period. Any over or under recovery based on the difference between revenues recovered under the 2019/20 SEMOpx charges and the final revenue allowance for 2019/20 in the Decision Paper will be addressed through the K-Factor as part of the 2020/21 tariff setting process.

Table of Contents

1. Introduction	4
1.1 Background	4
1.2 Form and Scope of Price Control	5
1.3 Indexation	6
1.4 Treatment of K-Factor.....	6
2. SEMOpX Operational Expenditure (Opex)	8
2.1 Overview	8
2.2 Labour Costs.....	8
2.3 Facilities Costs & Overheads Allocated to SEMOpX	13
2.4 IT & Telecommunications.....	17
2.5 Finance and Regulation	19
2.6 Contract Services and Market Coupling	22
3. SEMOpX Capital Expenditure (Capex)	24
3.1 Predictable Capex.....	24
3.2 Unpredictable Capex	31
4. Applicable WACC, RAB and Requested Margin	33
4.1 Regulatory Asset Base, Applicable WACC and Depreciation.....	33
4.2 Requested Margin.....	34
5. Key Performance Indicators	40
5.1 Proposed KPIs.....	40
6. Summary	45
6.1 Summary of Decision.....	45
6.2 Estimated Charges.....	46

1. Introduction

1.1 Background

A Consultation Paper, SEM-19-003, was published on 28 January 2019 which considered a number of options for the framework for regulation of NEMOs in Ireland and Northern Ireland from 3 October 2019. The Consultation Paper provided an overview of the initial NEMO designation for the SEM and the legal and regulatory context under the EU Guideline on Capacity Allocation and Congestion Management, 2015/1222, including the regulatory framework which applied to SEMOpx between 2015 and 2019.

In SEM-19-019 it was decided that a time-limited designation of three years would be applied to any NEMO designated in the SEM from October 2019 and that a revenue control would apply to SEMOpx for an interim period of three years regardless of whether competition arises in the market during this time.

In July 2019, the CRU and UR published their respective decisions to designate EirGrid plc and SONI Ltd as a NEMO for Ireland and Northern Ireland from October 2019. EirGrid plc and SONI Ltd jointly deliver NEMO services through a contractual joint venture, SEMOpx. SEMOpx's service providers, EPEX Spot and European Commodities Clearing AG, provide the trading systems and central counterparty clearing functions of SEMOpx. These designations were the basis for the RAs' Consultation on the ex-ante allowance for SEMOpx between 2019 and 2022 (SEM-19-063). This Paper sets out the SEM Committee's Decision with respect to SEMOpx's ex-ante allowance for this period.

The SEMOpx Rules and Operating Procedures set out the detailed obligations of SEMOpx which are underpinned by the respective Market Operator Licences, the NEMO tasks under the CACM Regulation and SEMOpx's requirements under REMIT.

In summary, SEMOpx's role includes;

1. Undertaking NEMO tasks in facilitating the day ahead and intraday markets, as set out in the CACM Regulation, along with local continuous trading and one local intraday auction.
2. Ensuring the proper functioning and operation of the day ahead and intraday trading platforms.

3. Establishing and maintaining the market organisational bodies and functions such as the Exchange Committee and Market Monitoring, Surveillance and Reporting functions.

1.2 Form and Scope of Price Control

This Decision Paper details SEMOpx's price control allowance for a 3-year period between 3 October 2019 and 2 October 2022. This decision is based on the assumption of continued NEMO operation for the duration of the price control, notwithstanding changes to the number of users of SEMOpx's services.

The following elements are also applied to this price control, consistent with the regulatory framework applied to SEMOpx in SEM-17-096 and agreed assumptions through engagement with SEMOpx;

- This price control is provided on a combined basis between EirGrid and SONI on a 75% to 25% basis respectively.
- Exchange rate effects will be treated on a cost pass-through basis.
- Indexation will be applied consistent with the SEMO Price Control, based on RPI and CPI in order to update SEMOpx's revenue year by year based on the outturn rate of inflation.
- All figures in this Decision Paper are presented in March 2019 prices unless stated otherwise.
- Any capital expenditure will be depreciated over five years as part of a Regulatory Asset Base, with a return provided against a blended WACC set by reference to the prevailing regulatory approved EirGrid TSO and SONI TSO WACC rates. The recovery of the balance of any RAB at the end of the designation period will be decided by the RAs based on market conditions at the end of the designation period.
- Where revenue recovered in any given tariff period is in excess of or less than the regulatory approved revenues for that period, any over or under recovery will be managed via a K-Factor in the future tariff periods. The recovery of the balance of any over or under recovery at the end of the designation period, including any settlement required with regard to the outturn of the Capex Incentive and KPI arrangements, will

be decided by the RAs based on market conditions at the end of the designation period.

- Where costs escalate either over the period of the price control above a material threshold of €0.250m due to any changes in legislation or regulation, major or exceptional market changes, a reopener to the price control may be carried out by the SEM Committee.
- This price control underwrites the continuing efficient costs of providing a NEMO service for the designation period, irrespective of SEMOpx's market share or additional costs associated with price floors for minimum volumes in each of the day ahead and intraday auctions. As set out in SEM-19-019, the Price Control will apply to SEMOpx for a period of three years regardless of whether competition arises in the market during this time.
- Any incremental costs imposed on SEMOpx that can be directly attributable to a Participant will be treated as a pass-through cost.
- Volume based fees, greater than forecast or that do not meet the fixed costs (i.e. lower than the floor in the respective contracts) which form part of the contracted services and market coupling costs will be treated on a pass-through basis.

1.3 Indexation

All prices submitted by SEMOpx and shown in this Decision Paper are based on a mid-tariff (March 2019) price base. SEMOpx tariffs will be adjusted for out-turn inflation up to March of each year, with any adjustment accounted for through the end of year k-factor adjustment mechanism.

The applicable indexation rate is a blended rate of outturn CPI based on data published by the Central Statistics Office in Ireland and RPI as published by the Office for National Statistics in the UK.

1.4 Treatment of K-Factor

A k-factor will apply to SEMOpx for each tariff year to account for any over or under recovery by SEMOpx, based for example on differences in forecast and actual demand, market participation and the assumptions in SEMOpx's submission.

As discussed in the Consultation Paper, at the end of the price control and designation period, the treatment of the k-factor (in terms of whether it is applied to SEMOp_x or otherwise) will be decided based on market conditions at the end of the designation period.

2. SEMOpx Operational Expenditure (Opex)

2.1 Overview

This section considers the operational requirements as submitted by SEMOpx and provides the SEM Committee's decision on each Opex item following consideration of the responses received to the Consultation, further engagement with SEMOpx and additional evidence which has been provided to the RAs. In many cases, as noted in the Consultation Paper, the requested allowances are directly comparable to those allowed for under SEM-17-096.

2.2 Labour Costs

2.2.1 SEMOpx Submission

Staff Costs

SEMOpx's submission included a proposed average Full Time Equivalent (FTE) rate of €84,000, based on the average FTE rate provided for in the previous price control of €82,010 (in 2017 prices) indexed to March 2019 Prices using appropriate inflation rates.

FTE numbers

The submission included a proposal for 12.25 internal FTE roles along with 2 externally managed IT support resources. This was based on a reduction in headcount for the legal FTE allowed for under the previous price control from 1.0 to 0.5 FTE and the inclusion of 2 additional SEMOpx Operator resources for the daily operation of ex-ante market functions.

The submission stated that although the SEMOpx Operator roles were identified prior to I-SEM Go-Live, they were omitted from the original Price Control submission in 2017 due to an oversight. As these resources were necessary to ensure the effective running of SEMOpx with regard to auctions and the continuous market, deliverables and work were reprioritised in order to ensure the SEMOpx Operator functions could be fulfilled. Further detail on SEMOpx's proposals and each specific role can be found in the Consultation Paper (SEM-19-063) and the total number of FTEs requested is shown in Table 3.

Number of Employees	2019/20 – 2021/22
Senior Market Professional	6.5
Market Professional / Senior analyst	5.75
Analyst / Administration/Clerical Staff	-
Agency Staff (contract/temporary)	2
Total (internal and external)	14.25

Table 3, SEMOpx FTE Submission

2.2.2 RA Proposal

Staff Costs

In SEM-17-096, the SEMC decided that an allowance of €82,010 (in 2017 prices) was appropriate for each internal resource identified based on the actual historical cost of SEMO FTEs indexed using appropriately reflective wage indices for wage inflation by sector for NI and IE. This was calculated as an average across all FTEs and includes salary costs, bonuses, social security payments and pension costs. This was applied to each average FTE cost for the 2013/14 SEMO FTEs by grade and extrapolated based on historical data for the duration of the price control and staff mix of SEMOpx. These figures were weighted on a 75:25 basis to provide a composite average FTE cost figure at each grade.

In the Consultation, the RAs proposed to allow for the average FTE rate of €84,000 as submitted by SEMOpx as it represents the same average FTE rate as approved by the SEMC for 2018/19, indexed to March 2019 prices.

FTE numbers

As part of the 2018/19 price control, an allowance for the full resourcing requirement submitted by SEMOpx was provided, given the context of the establishment of a new entity and operation of the new market. As part of the Consultation, the RAs acknowledged that the market and SEMOpx are still at an early stage of operation however it was noted that the submission provided by SEMOpx did not differentiate between the changing resource requirements associated with establishment of SEMOpx and the new market versus the enduring resource requirement over the period of the price control, when the expectation is that the market would be in a more stable state of operation.

More information was requested by the RAs on the change in prioritisation of roles in 2018/19 to allow for the resourcing of the SEMOpx Operators in order to understand areas of the business where there may be over or under resourcing. Benchmarking information was also requested and reviewed by the RAs. Based on this analysis and the information provided, the

RAs' view was that insufficient justification was provided for the increase in resources from 10.65 internal FTEs to 12.25 internal FTEs.

The RAs proposed an allowance for 11.5 FTEs overall to account for the omission of the SEMOpX Operators from the 2018/19 Price Control but saw a number of areas for participant management, vendor management and registration where efficiencies should have been achieved following a year of NEMO operation.

Proposed Labour Costs as part of the Consultation are shown in Table 4 (not including the external IT support FTEs which are considered separately under IT & Telecommunications costs).

Labour Costs (March 2019 Prices €)	Provision under SEM- 17-096	Forecast for PC Period			
		2018/19	2019/20	2020/2021	2021/2022
SEMOpX Submission	894,000		1,029,000	1,029,000	1,029,000
RA Proposal	N/A		966,000	966,000	966,000

Table 4, RA Labour Costs Proposal

2.2.3 Summary of Responses

ESB GT supported the RAs' statement that insufficient justification has been provided for the proposed increase in resources. In their view, in light of the experience gained from the first year of the market there should be efficiency gains rather than an increase in costs.

In its response, SEMOpX stated that given its limited operational period under the new market arrangements, there is a limit to the potential for efficiencies to be achieved. SEMOpX stated that the proposed reduction in headcount will severely impact on SEMOpX's ability to carry out its functions to the levels of service expected. The response noted that the two trading operations resources were omitted from the 2018/19 price control submission but managed temporarily by deprioritising customer service and market development work.

Following a request by the RAs, SEMOpX has also provided additional information on the deliverables and areas of work deprioritised to accommodate the two SEMOpX Operator roles in the first year of the new market. This included a number of limitations in customer service (for example, reviews of website content, query response times, meetings with participants and development of efficiency gains), Market Developments (for example, involvement in NEMO committees and working groups, product and service improvements, REMIT reporting) and a number of other functions (for example, improvement of registration procedures, in-depth market monitoring and improvement of efficiency of operations).

For the case of registrations, SEMOpX’s response stated that there is no evidence of a drop off in workload for registrations and this is expected to increase over time based on its analysis of the expected number of member applications, volume of unit additions to the market, volume of change of ownership and trading responsibility for units and the number of changes to trader personnel. In SEMOpX’s view, having adequate registration resources is crucial to its effective operation. SEMOpX has also provided additional information on the expected level of SEMOpX registration resourcing over the coming years, which is summarised in Figure 1 below. This shows the number of members and unit changes of the first year of SEMOpX operation and a projection of future requirements based on a number of inputs provided by SEMOpX.

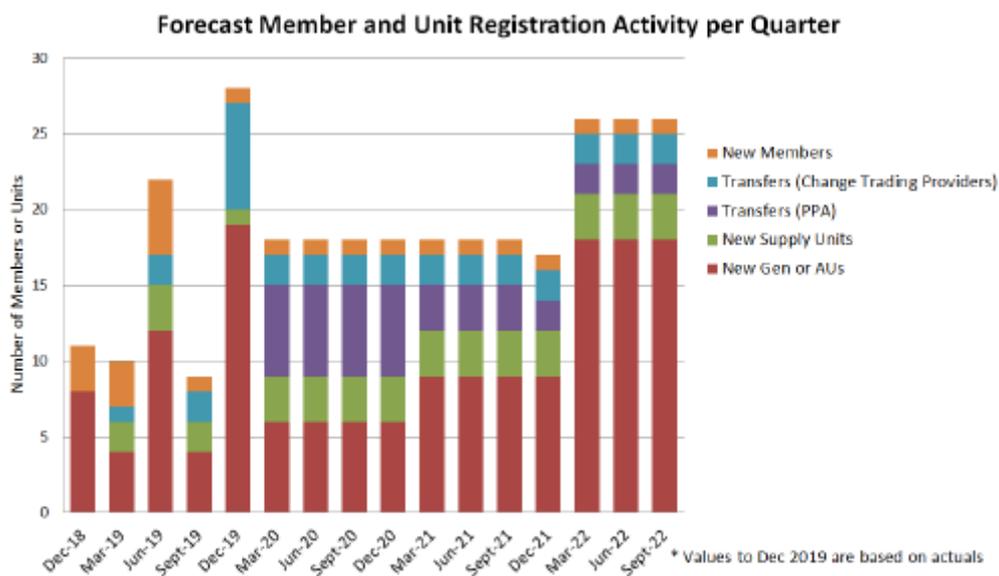


Figure 1

SEMOpX states that registration is a complex part of the SEMOpX operations as it involves multiple parties (SEMOpX registration, ECC, EPEX, SEMO) and multiple systems (ETS, M7, MMS, OUI, MDP systems and TSO systems). The overlapping of trading timeframes means that registration in systems is also a time critical activity. This means that having adequate registration resources is crucial to the effective operations of the ex-ante markets.

In the case of contract negotiation, in SEMOpX’s view it has already accounted for efficiencies in this area by identifying a reduction in the legal resource area of 0.5FTE based on evidence from the first year of operation.

In SEMOpX’s view, the proposed reduction in resources to 11.5 internal FTEs is not practicable and any under resourcing will have impacts on the quality of operations, query response times and service levels which may have financial impacts on participants.

2.2.4 SEM Committee Decision

The SEM Committee has decided to allow for the average FTE rate of €84,000 as submitted by SEMOpx as it represents the same average FTE rate as approved for 2018/19, indexed to March 2019 prices.

In relation to the requested FTE allowance, the additional evidence and justification provided by SEMOpx has been reviewed in detail, particularly in relation to the areas which needed to be deprioritised to account for the two SEMOpx Operators. On balance, this additional evidence has demonstrated that there are a number of areas where the requested increase in FTE numbers would contribute to achieving operational efficiencies. In addition, the point SEMOpx has raised in relation to the impact of additional FTEs on an organisation of its size is acknowledged. In the RAs' view, sufficient justification and evidence has also been provided to demonstrate the continued need for resources associated with SEMOpx registration requirements. On this basis, the SEMC has decided to allow for an increase in the 11.5 internal FTEs proposed in the Consultation Paper to 12.25 internal FTEs.

Labour Costs (March 2019 Prices €)	Provision under SEM- 17-096	Forecast for PC Period			
		2018/19	2019/20	2020/2021	2021/2022
SEMOpx Submission	894,000		1,029,000	1,029,000	1,029,000
RA Proposal	N/A		966,000	966,000	966,000
SEM Committee Decision	N/A		1,029,000	1,029,000	1,029,000

Table 5, SEM Committee Labour Costs Decision

2.3 Facilities Costs & Overheads Allocated to SEMOpx

2.3.1 SEMOpx Submission

A number of costs associated with Facilities, Recruitment, HR & Admin and Corporate Costs were submitted by SEMOpx and considered as part of an 'overheads' allowance in the Consultation Paper as per SEMOpx's 2018/19 allowance.

Facilities Costs and Insurance

Facilities costs are treated differently in the EirGrid TSO and SONI TSO price controls and the costs submitted by SEMOpx for this price control represent a hybrid of these arrangements. Facilities costs were included in SEMOpx's submission on a blended per head basis of circa €12,000 per annum based on 2018/19 actuals (and based on the FTE numbers submitted by SEMOpx), while insurance was estimated at €56,000 per annum in the submission based on 2018/19 actuals.

Facilities & Insurance (March 2019 Prices €)	Provision under SEM-17-096	Forecast for PC Period		
		2018/19	2019/20	2020/2021
Rent	164,000	147,000	147,000	147,000
Insurance	21,000	56,000	56,000	56,000
Total	185,000	203,000	203,000	203,000

Table 6, SEMOpx Facilities & Insurance Submission

Recruitment, HR & Admin

The submission provided a breakdown of costs associated with recruitment, HR and Admin, based on an estimate of €800 per FTE for training and recruitment over the course of the price control and an estimate of €3,000 per FTE for travel.

Recruitment, HR & Admin (March 2019 Prices €)	Provision under SEM-17-096		Forecast for PC Period	
	2018/19	2019/20	2020/2021	2021/2022
Training	10,000	12,300	12,300	12,300
Recruitment Costs	48,000	48,400	48,400	48,400
Travel	39,000	42,100	42,100	42,100
Total	70,000¹	102,800	102,800	102,800

Table 7, SEMOpx Recruitment, HR & Admin Submission

Corporate Costs

Corporate Overheads are common to the TSO, MO and SEMOpx price controls and are allocated to each licensee based on a consistent set of principles. Corporate Services include Human Resource Services, Procurement and a number of legal charges which are directly incurred by the TSOs but recharged to SEMOpx for services not directly undertaken by SEMOpx.

The submission stated that Corporate Costs relate to the allocation of 10% of the Market Operator Director's cost/time to SEMOpx, the allocation of 5% of the SONI Managing Directors' cost/time to SEMOpx and the allocation of costs associated with the CEO, Board, Group Finance and Group Regulation based on the number of FTEs in SEMOpx.

Corporate Costs (March 2019 Prices €)	Provision under SEM-17-096		Forecast for PC Period	
	2018/19	2019/20	2020/2021	2021/2022
CEO and Management Recharge	25,000	35,000	35,000	35,000
Group Recharges	83,000	73,500	73,500	73,500
Total	108,000	108,500	108,500	108,500

Table 8, SEMOpx Corporate Costs Submission

¹ A reduction in the Overhead Allowance of €27,000 set out in the SEMOpx Decision for 2018/19 was not prescribed against any one of the cost categories within Overheads. For simplicity this is included as a single line item reduction against the Recruitment, HR and Administration cost category but should not be interpreted as a disallowance of this category of costs in and of itself.

2.3.2 RA Proposal

A number of the figures provided in the SEMOpx submission for Overheads Costs were predicated on a headcount of 12.25 internal FTEs as per SEMOpx's submission. Based on the RAs' proposal to allow for 11.5 internal FTEs, the submitted Overhead Costs were adjusted in the Consultation Paper. This was based on an adjustment to Rent under the 'Facilities and Insurance' category, an adjustment to Training and Travel under the 'Recruitment, HR & Admin' category and an adjustment to Group Recharges under the 'Corporate Costs' category as these are calculated/allocated based on the number of FTEs in SEMOpx.

As part of the Consultation, the RAs compared the overhead rate per FTE in SEM-17-096 (based on 10.65 FTEs) versus the forecast costs provided between 2019/20 and 2021/2022. This showed an increase in costs of €274 per FTE which in the RAs' view was not sufficiently justified in SEMOpx's submission. On this basis, the RAs proposed a reduction in this cost to align the SEMOpx overheads allowance for 2019-2022 to the benchmarked allowance for 2018/19.

In addition, under the cost category of Recruitment, HR and Admin, €48,400 per annum was requested for recruitment costs, based on the assumption that the recruitment of staff will be of a similar scale to that previously allowed annually over the course of the 2018/19 price control. The RAs queried the level of costs requested for recruitment given that SEMOpx staff are already in place for this price control, versus the previous price control period which would have involved recruitment of a greater number of new staff. While this allowance was not reduced for the purpose of the Consultation Paper, the RAs requested further information from SEMOpx on the drivers of this cost.

(March 2019 Prices €)	Provision under SEM-17-096	Forecast for PC Period		
	2018/19	2019/20	2020/2021	2021/2022
SEMOpx Submission for Facilities and Insurance, Recruitment, HR & Admin and Corporate Costs	363,000	414,300	414,300	414,300
RA Proposal	N/A	391,971	391,971	391,971

Table 9, RA Overheads Proposal

2.3.3 Summary of Responses

SEMOpX welcomed the RAs' acknowledgement in the Consultation Paper that not all costs in the Overheads costs categories are driven by FTE numbers as some of these are fixed costs (such as insurance) and it is the increase in these fixed cost categories that is driving the increase in the average overhead rate per FTE, for example insurance costs in which have increased from 21,000 in 2018/19 to 56,000 in 2019/20.

If only the overhead costs which are driven by FTE numbers are compared, the overhead rate per FTE is comparable to SEM-17-096. Based on this, in SEMOpX's view the proposal to reduce the overhead provision to match the previous price control period is not justified as the key driver for the increase in costs is the fixed cost of insurance for SEMOpX. In SEMOpX's view, as these insurance costs are based on the outcome of an independent and competitive process, their inclusion in full is appropriate.

Following a request by the RAs, SEMOpX provided additional information to demonstrate the results of an independent assessment of available insurance coverage based on the most appropriate policy for business, Professional Indemnity/Errors and Omission. The submission includes the total amount quoted for Professional Indemnity insurance of €55,125.00 along with a Corporate Insurance Allocation to SEMOpX of €875.00.

2.3.4 SEM Committee Decision

Based on the change in the allowed FTE allowance for SEMOpX as part of this Decision Paper, the Overhead Costs which are calculated/allocated based on the number of FTEs in SEMOpX have been adjusted upwards. In addition, due to the additional evidence provided in relation to the increase in insurance costs this allowance has been adjusted to reflect the total quoted cost of insurance.

However, the RAs have not seen any additional justification for the level of costs requested for recruitment given that SEMOpX staff are already in place for this price control, versus the previous price control period which would have involved recruitment of a greater number of new staff. On this basis, the SEM Committee has decided to apply a 15% reduction per year to the recruitment costs submitted under this price control as an appropriate overhead allowance for any associated turnover within the period.

(March 2019 Prices €)	Provision under SEM-17-096		Forecast for PC Period	
	2018/19	2019/20	2020/2021	2021/2022
SEMOpx Submission for Facilities and Insurance, Recruitment, HR & Admin and Corporate Costs	363,000	414,300	414,300	414,300
RA Proposal	N/A	391,971	391,971	391,971
SEM Committee Decision	N/A	407,040	407,040	407,040

Table 10, SEM Committee Overheads Decision

2.4 IT & Telecommunications

2.4.1 SEMOpx Submission

SEMOpx's submission stated that IT costs represent SEMOpx's deemed share of total IT costs across the Group, broken down into IT application support costs and third-party contractor costs. Third Party Contractor Costs refer to two 24/7 FTEs which are allocated to support Market Monitoring systems, Oracle Middleware, CRM/Query management and accounting systems.

IT & Telecommunications (March 2019 Prices €)	Provision under SEM-17-096		Forecast for PC Period	
	2018/19	2019/20	2020/2021	2021/2022
IT Application Support Costs	77,000	130,000	130,000	130,000
Third Party Contractor Costs	280,000	166,000	166,000	166,000
Total	340,000²	296,000	296,000	296,000

Table 11, SEMOpx IT & Telecommunications Submission

² A reduction in Market Surveillance costs of €16,000 from the Decision for 2018/19 is included in this figure.

2.4.2 RA Proposal

The RAs were broadly satisfied with the IT and Telecommunications costs as set out in SEMOpx's submission. IT Application Support Costs reflect SEMOpx's share of total IT costs across the Group which have been verified through each of the TSO Price Controls, while the basis and justification for the two external 24/7 FTEs has been provided in SEMOpx's submission as per SEM-17-096.

IT & Telecommunications (March 2019 Prices) €	Provision under SEM-17-096	Forecast for PC Period		
		2018/19	2019/20	2020/2021
SEMOpx Submission	340,000	296,000	296,000	296,000
RA Proposal	340,000	296,000	296,000	296,000

Table 12, RA IT & Telecommunications Proposal

2.4.3 Summary of Responses

No responses were received in relation to this Consultation Proposal.

2.4.4 SEM Committee Decision

On the basis of the above, the SEM Committee has decided to allow for the proposal outlined in the Consultation Paper.

IT & Telecommunications (March 2019 Prices) €	Provision under SEM-17-096	Forecast for PC Period		
		2018/19	2019/20	2020/2021
SEMOpx Submission	340,000	296,000	296,000	296,000
RA Proposal	340,000	296,000	296,000	296,000
SEM Committee Decision	340,000	296,000	296,000	296,000

Table 13, SEM Committee IT & Telecommunications Decision

2.5 Finance and Regulation

2.5.1 SEMOpx Submission

SEMOpx's submission stated that finance and regulation costs relate to costs primarily required under legal and regulatory obligations and a number of costs are estimated based on historical costs paid by SEMO, for example for the SEMO Market Audit.

Finance & Regulation (March 2019 Prices) €	Provision under SEM-17-096	Forecast for PC Period		
		2018/19	2019/20	2020/2021
Market Audit	138,000	135,000	135,000	135,000
Statutory Audit	38,000	37,500	37,500	37,500
Internal Audit	12,000	11,250	11,250	11,250
Legal Professional Fees	15,000	20,000	20,000	20,000
Banking Fees	1,000	1,000	1,000	1,000
Total	204,000	204,750	204,750	204,750

Table 14, SEMOpx Finance & Regulation Submission

2.5.2 RA Proposal

As part of the Consultation Paper, the RAs proposed to remove the Market Audit allowance from the SEMOpx price control, on the understanding that no Market Audit will be required for SEMOpx as it is not prescribed in the SEMOpx Rules and Operating Procedures and has not been carried out to date. On the basis that a market audit has not been conducted for 2018/19, this would also be reflected in SEMOpx's K-factor for 2019/20.

The RAs stated in the Consultation paper that they would also expect that any ongoing fees for the Statutory Audit would decrease over the period of the Price Control. Evidence was not provided to the RAs to support the sustained level of such costs over the period of the Price Control.

In addition, no justification was provided in the submission for the increase in legal professional fees from €15,000 to €20,000 per annum and no forecast outturn cost for 2018/19 was submitted.

Based on this, the RAs proposed to remove the Market Audit allowance and reduce Statutory Audit costs by 20% for 2021/22, (Under the 2019-2022 SEMO Price Control, overall audit fees for 2020/21 were reduced by 27% for the final tariff year). A reduction in the allowance for Legal Professional Fees was also proposed to €15,000 per annum.

Finance & Regulation (March 2019 Prices) €	Provision under SEM-17-096	Forecast for PC Period		
		2018/19	2019/20	2020/2021
Market Audit	138,000	0	0	0
Statutory Audit	38,000	37,500	37,500	30,000
Internal Audit	12,000	11,250	11,250	11,250
Legal Professional Fees	15,000	15,000	15,000	15,000
Banking Fees	1,000	1,000	1,000	1,000
RA Proposal	N/A	64,750	64,750	57,250

Table 15, RA Finance & Regulation Proposal

2.5.3 Summary of Responses

In response to the Consultation Paper, ESB GT stated that Market Audit funding is necessary and should be kept in the price control. In their view, auditing should be completed to assess SEMOpx's performance and compliance with the SEMOpx Rules and Operational Code and a Modification should be made to the SEMOpx Rules to require an annual audit to be completed.

In their response, SEMOpx acknowledged that where no Market Audit is conducted specifically for SEMOpx the revenues for same are not required, but that if this position changes it would need to be accounted for through an appropriate adjustment for the costs associated with conducting the audit.

In relation to statutory audit and internal audit fees, in their response SEMOpx stated that the competitive tender for SEMOpx's audit services is procured on a 3-year basis, without a reduction in the audit cost over time given the short duration of procurement. In SEMOpx's view, it is essential to have sufficient revenues in place to enable high-quality audits to be undertaken.

SEMOpx also noted in their response that in relation to Legal Professional Fees, the estimate submitted reflects only minor external legal counsel and does not provide for significant external legal advice for changes in market arrangements or major disputes associated with the SEMOpx Rules.

2.5.4 SEM Committee Decision

The SEM Committee has considered the responses received in relation to an allowance associated with the Market Audit and is of the view that given the specific arrangements for SEMOpx a market audit is unlikely to provide the same value as that provided for under the SEMO market audit, which involves a consultation process on the terms of reference for the audit and is completed on the entirety of SEMO's business in relation to the Trading and Settlement Code. On balance, considering that a significant portion of the SEMOpx business is outsourced to third party providers, any audit would only be able to focus on certain internal areas of the SEMOpx business in practice for any reasonable and proportionate cost. On this basis, the SEM Committee has decided to provide no allowance for a Market Audit to be conducted.

The SEM Committee has also decided to reduce the proposed Legal Professional Fees to €15,000 per annum and the statutory audit fees to 30,000 for 2021/22 as per the Consultation Paper.

Finance & Regulation (March 2019 Prices) €	Provision under SEM-17-096	Forecast for PC Period		
		2018/19	2019/20	2020/2021
Market Audit	138,000	0	0	0
Statutory Audit	38,000	37,500	37,500	30,000
Internal Audit	12,000	11,250	11,250	11,250
Legal Professional Fees	15,000	15,000	15,000	15,000
Banking Fees	1,000	1,000	1,000	1,000
RA Proposal	N/A	64,750	64,750	57,250
SEM Committee Decision	N/A	64,750	64,750	57,250

Table 16, SEM Committee Finance & Regulation Decision

2.6 Contract Services and Market Coupling

2.6.1 SEMOpx Submission

The costs submitted by SEMOpx are primarily associated with its service providers and European Market Costs based on SEMOpx's largely outsourced model of operation using an established Power Exchange (EPEX) and Central Counterparty (ECC). Under this model, market coupling and trading operations functions are being delivered by an established Power Exchange rather than establishing this functionality internally.

Service provider costs are based on the number of participants in the market and have a fixed and variable element linked to the traded volumes in each market. The number of participants between 2019 and 2022 is assumed to be 50 in the SEMOpx submission, with forecast traded volumes based on the 2018-2027 All Island Generation Capacity Statement median all-island electricity demand forecast. The figure for the anticipated traded volume outturn for 2018/19 is 76 TWh and the assumed volumes increase from 79 TWh in 2019/2020 to 87 TWh in 2021/22.

Costs associated with participation in EU wide markets include NEMO Committee Costs, Single Day Ahead Coupling costs, Single Intraday Coupling costs and Price Coupling Region Operational Costs. As the new market has been implemented using an interim intraday trading solution, a number of EU Single Intraday Coupling costs are not currently incurred by SEMOpx.

Contract Services & Market Coupling (March 2019 Prices €)	Provision under SEM-17-096		Forecast for PC Period	
	2018/19	2019/20	2020/2021	2021/2022
Service Provider Costs and European Market Coupling Costs	1,460,000	1,556,000	1,568,000	1,588,000

Table 17, SEMOpx Contract Services & Market Coupling Submission

2.6.2 RA Proposal

Following a number of requests for clarification on the assumptions used and a comparison of pan-EU market coupling costs, the RAs stated in the Consultation that as such costs fall

largely outside of SEMOpx’s control and reflect the monies paid to third parties in respect of supporting systems and other industry costs associated with operating as a NEMO that they should be allowed in full.

Contract Services & Market Coupling (March 2019 Prices €)	Provision under SEM-17-096		Forecast for PC Period	
	2018/19	2019/20	2020/2021	2021/2022
SEMOpx Submission	1,460,000	1,556,000	1,568,000	1,588,000
RA Proposal	N/A	1,556,000	1,568,000	1,588,000

Table 18, RA Contract Services & Market Coupling Proposal

2.6.3 Summary of Responses

SEMOpx welcomed the proposed allowance in their response along with confirmation that volume-based fees associated with contracted services will be recoverable on a pass-through basis.

2.6.4 SEM Committee Decision

The SEM Committee has decided to allow for the full amount proposed under the Consultation Paper and confirms that volume-based fees associated with contracted services will be recoverable on a pass-through basis. If volumes are higher than estimated in the price control then the additional volume related costs for the contracted services will be allowed as a direct pass-through and SEMOpx will be allowed to retain the necessary revenue from the additional volume fees to meet the volume based contracted service costs.

Contract Services & Market Coupling (March 2019 Prices €)	Provision under SEM-17-096		Forecast for PC Period	
	2018/19	2019/20	2020/2021	2021/2022
SEMOpx Submission	1,460,000	1,556,000	1,568,000	1,588,000
RA Proposal	N/A	1,556,000	1,568,000	1,588,000
SEM Committee Decision	N/A	1,556,000	1,568,000	1,588,000

Table 19, SEM Committee Contract Services & Market Coupling Decision

3. SEMOpx Capital Expenditure (Capex)

3.1 Predictable Capex

3.1.1 SEMOpx Submission

SEMOpx requested a Capex allowance in its submission in order to enhance services, ensure compliance, mitigate potential market risks and support changes by the TSO/MO which will impact on the ex-ante markets. Capex proposals based on business cases for 11 projects including IT infrastructure, market analysis tools, reporting requirements and product development were submitted by SEMOpx, outlined in Table 20. The submission included a description of each project and its justification. SEMOpx stated in its submission that estimated costs are subject to further refinement based on the scope and design of any changes being progressed further.

Predictable Capex (March 2019 Prices €)	Provision under SEM-17-096		Forecast for PC Period	
	2018/19	2019/20	2020/2021	2021/2022
Participant Training (e-learning system)	-	9,000	9,000	-
Market System Data Storage and Archiving	-	120,000	140,000	20,000
Website Enhancements	-	100,000	100,000	-
Product Development	-	200,000	200,000	200,000
Registration and Transfer Improvements	-	120,000	275,000	160,000
REMIT Transparency	-	-	-	20,000
Market Analysis Tools	-	50,000	25,000	25,000
Urgent Market Messaging	-	30,000	-	-
Compliance Management System	-	10,000	5,000	-
Middleware Enhancements	-	35,000	15,000	-

TSO/SEMO Driven Capital Expenditure	-	50,000	50,000	50,000
Total	-	724,000	819,000	475,000

Table 20, SEMOpx Predictable Capex Submission

3.1.2 RA Proposal

The RAs noted in the Consultation Paper that it was difficult to carry out a detailed assessment of the proposed predictable Capex for each project as in some cases the scope of work is not yet known in full and the proposed expenditure is subject to change. This was compared to the treatment of the 2013-2016 SEMO Capex submission, which also included only provisional estimates of costs. It was concluded that it was difficult to carry out any effective benchmarking and market testing for efficiency based on the cost estimates provided.

Proposed Projects

The RAs assessed the submissions for each of the proposed projects and categorised these into projects which reflect operational requirements of SEMOpx and more discretionary projects based on the drivers of each project and justification of costs provided in SEMOpx's submission, outlined in the table below. This distinction is discussed further in the Consultation Paper.

The RAs proposed to allow for the projects identified on the left of Table 21 and allow €100,000 per annum for the Product Development Project.

Projects identified as necessary for SEMOpx operations	Projects identified as discretionary
Market System Data Storage and Archiving	Participant Training (e-learning system)
Website Enhancements	Product Development
Registration and Transfer Improvements	Urgent Market Messaging
REMIT Transparency	Compliance Management System
Market Analysis Tools	
Middleware Enhancements	
TSO/SEMO Driven Capital Expenditure	

Table 21, Projects identified as necessary for SEMOpx Operations

Proposed Baseline

Due to the difficulty in assessing these project estimates against any benchmarks and the lack of any outturn Capex costs incurred by SEMOpx to date, of the total project costs allowed for, the RAs proposed a baseline of 95% to account for any efficiencies which can be achieved in relation to final outturn costs. The RAs' proposal in relation to Capex is outlined in Table 22.

Predictable Capex (March 2019 Prices €)	Forecast for PC Period (based on a baseline of 95%)		
	2019/20	2020/2021	2021/2022
Market System Data Storage and Archiving	114,000	133,000	19,000
Website Enhancements	95,000	95,000	-
Product Development	95,000	95,000	95,000
Registration and Transfer Improvements	114,000	261,250	152,000
REMIT Transparency	-	-	19,000
Market Analysis Tools	47,500	23,750	23,750
Middleware Enhancements	33,250	14,250	-
TSO/SEMO Driven Capital Expenditure	47,500	47,500	47,500
RA Proposal	546,250	669,750	356,250

Table 22, RA Predictable Capex Proposal (with a 95% baseline)

Capex Incentivisation

The Consultation Paper considered the requirement for incentivisation of efficient Capital Expenditure, based on the assumption that the forecast costs submitted by SEMOpx include some contingencies, the fact that no competitive procurement process for relevant projects has taken place yet and the lack of a detailed derivation of estimated project costs.

Two approaches were considered by the RAs in relation to this. The first approach the RAs considered was based on the provision of a single ex-ante allowance based on a subset of approved projects to SEMOpx as per the proposed baseline in Table 23 to account for any efficiencies which can be achieved in relation to final outturn costs. SEMOpx would be incentivised to under spend this allowance by retaining 50% of savings derived from efficiency gains, with 50% of any over expenditure being absorbed by SEMOpx.

Outturn Expenditure	Allowed Expenditure	Reward/Penalty
80%	1,257,800	157,225
85%	1,336,413	117,919
90%	1,415,025	78,613
95%	1,493,638	39,306
100%	1,572,250	0
105%	1,650,863	-39,306
110%	1,729,475	-78,613
115%	1,808,088	-117,919

Table 23, RA Capex Incentivisation Proposal

An alternative approach considered by the RAs was to apply menu regulation to the SEMOpX price control. The proposal outlined how SEMOpX could choose between a lower cost allowance with an incentive scheme which allows them to retain significant benefits from under spending or a higher cost allowance with relatively small rewards for under-spending. The RAs noted that the smaller scale of the proposed Capex allowance under this price control may not necessitate the complexity of this second option.

Monitoring the delivery of Capex Items

The RAs also proposed that the following requirements would apply to any Capex allowance provided for under this price control;

- Notice should be provided to the RAs where SEMOpX does not intend to take forward any of the business cases approved for the price control period.
- Where any approved projects are not progressed by SEMOpX, the RAs will revise the baseline and revenue requirement downward.
- RA approval will be required for any substitution to the list of approved projects.
- The RAs will monitor the delivery and costs associated with the final approved baseline.
- SEMOpX will be required to submit an end of year capital report with a summary of actual outturn for each project at the end of each tariff year.

3.1.3 Summary of Responses

In their response, ESB GT highlighted the proposal to reject the request for funding for participant training and stated that this is needed for an evolving and growing market, noting that training for market participants is a common feature of other markets. In ESB GT's view, the cost of training is not prohibitive and ensures a level playing field between competitors and

effective communication of market changes. ESB GT also support the provision of an Urgent Market Messaging platform by SEMOpx as it would pool all market participants onto one platform.

SEMOpx stated that while they welcome the proposal for the list of progressed Capex projects to be considered as a holistic package, further consideration is needed in relation to the overall Capex provision and its incentivisation. In terms of Capex incentivisation, SEMOpx highlighted in their response that the quoted cost of Capex projects are provisional estimates and subject to change. Without a transparently developed target cost and single reference price for the Capex allowance, SEMOpx has some concerns with the proposed baseline of 95% of a single ex-ante allowance. SEMOpx has proposed an alternative in the absence of a single evidence-based reference price where a 'deadband' cost range should be determined to sit within the cap-and-collar-based cost envelope that is proposed by the RAs. The penalty and reward framework would then exist outside of the 'deadband' with SEMOpx incurring a penalty where outturn costs exceed the upper bound of the deadband up to the cap or where efficiencies are achieved and costs outturn less than the lower bound down to the collar (floor) a reward related to these efficiencies would ensue.

SEMOpx supports the principle of the 50% penalty or reward share, whereby SEMOpx would be incentivised to under spend this allowance by retaining 50% of savings derived from efficiency gains, with 50% of any over expenditure being absorbed by SEMOpx.

SEMOpx note the significant reduction in the allowance for Product Development and have asked the RAs to reconsider the approach to allow €100,000 per annum for Product Development in order to ensure that day-ahead and intraday trading products are optimised to increase market liquidity, which may require changes to SEMOpx's systems. Following submission of its response to the Consultation Paper, SEMOpx also submitted a document considering details of potential product and service enhancements for the SEM ex-ante markets against a range of assessment criteria, including benefits to members, regulatory requirements, implementation considerations and potential risks.

3.1.4 SEM Committee Decision

Proposed Projects

Following the responses received in relation to Market Participant Training and Product Development, further engagement with SEMOpx and the extensive additional information submitted concerning potential improvements to products in the ex-ante markets, the RAs

have reconsidered the position in the Consultation Paper in relation to both Capex projects. A number of recent ACER decisions in relation to pan-European ex-ante products have also highlighted the importance of ex-ante product development in the SEM, noting the limitation in the long term of implementing SEM-specific product changes which cannot be accommodated at a pan-European level. On this basis, the list of projects identified for progression by SEMOpX has been updated to include the development of an updated participant training system and to allow for an increased allowance of €150,000 for product development.

In relation to the Urgent Market Messaging system, the RAs note that a separate decision has been taken for this solution which has been communicated via letter by the RAs. The RAs are engaging with EAI in relation to alternatives to a SEMOpX and SEMO system for provision of REMIT information to ACER.

Proposed Baseline and Capex Incentivisation

In relation to the concerns raised by SEMOpX on the proposed baseline of 95% of a single ex-ante allowance, the RAs note that the transparently developed single cost and reference price could not be achieved due to the limited cost estimates provided by SEMOpX. On this basis and noting the challenges of deriving a single estimate which were discussed in the Consultation, the baseline which will be used in relation to final outturn costs for Capex incentivisation will be 100% of the costs submitted for approved projects as per Table 24.

Predictable Capex (March 2019 Prices €)	Forecast for PC Period		
	2019/20	2020/2021	2021/2022
Market System Data Storage and Archiving	120,000	140,000	20,000
Website Enhancements	100,000	100,000	-
Product Development	150,000	150,000	150,000
Registration and Transfer Improvements	120,000	275,000	160,000
Participant Training (e-learning system)	9,000	9,000	-
REMIT Transparency	-	-	20,000
Market Analysis Tools	50,000	25,000	25,000
Middleware Enhancements	35,000	15,000	-
TSO/SEMO Driven Capital Expenditure	50,000	50,000	50,000
RA Proposal	546,250	669,750	356,250
SEMC Decision	634,000	764,000	425,000

Table 24, SEM Committee Predictable Capex Decision

Based on this change to the baseline allowance, the SEM Committee has decided to implement the incentivisation framework proposed in the Consultation. This has not been amended to include a 'deadband' cost range for outturn expenditure as proposed in SEMOpx's response. The provision of a baseline of 100% of the cost estimates provided in SEMOpx's submission limits the risk faced by SEMOpx associated with any over expenditure. This rewards and penalties associated with this framework are shown in Table 25 below.

Outturn Expenditure	Allowed Expenditure	Reward/Penalty
80%	1,458,400	182,300
85%	1,549,550	136,725
90%	1,640,700	91,150
95%	1,731,850	45,575
100%	1,823,000	0
105%	1,914,150	-45,575
110%	2,005,300	-91,150
115%	2,096,450	-136,725

Table 25, SEM Committee Capex Incentivisation Decision

As per the proposal in the Consultation Paper, the SEM Committee has decided that the following requirements will apply to the Capex allowance provided for under this price control;

- Notice should be provided to the RAs where SEMOpx does not intend to take forward any of the business cases approved for the price control period.
- Where any approved projects are not progressed by SEMOpx, the RAs will revise the baseline and revenue requirement downward.
- RA approval will be required for any substitution to the list of approved projects.
- The RAs will monitor the delivery and costs associated with the final approved baseline.
- SEMOpx will be required to submit an end of year capital report with a summary of actual outturn for each project at the end of each tariff year.

3.2 Unpredictable Capex

3.2.1 SEMOpx Submission

An allowance for Unpredictable Business Capex was requested by SEMOpx to cover smaller scale and unforeseen capex requirements that may arise during the course of the price control.

Unpredictable Capex (March 2019 Prices €)	Provision under SEM-17-096	Forecast for PC Period		
		2018/19	2019/20	2020/2021
Unpredictable Capex Allowance	0	50,000	50,000	50,000

Table 26, SEMOpx Unpredictable Capex Submission

3.2.2 RA Proposal

The RAs noted that the requested allowance is a discretionary fund which is used to cover the aggregate costs of smaller scale but ongoing levels of business Capex and to enable SEMOpx to respond to IT issues requiring immediate resolution. The RAs noted that the provision of an allowance on a pass-through basis will mean that only actual expenditure will be placed on the SEMOpx RAB up to a cap of €50,000. On this basis, it was proposed to allow for the full Unpredictable Capex allowance requested.

Unpredictable Capex (March 2019 Prices €)	Provision under SEM-17-096	Forecast for PC Period		
		2018/19	2019/20	2020/2021
RA Proposal	0	50,000	50,000	50,000

Table 27, RA Unpredictable Capex Proposal

3.2.3 Summary of Responses

SEMOpx stated that they welcome the RAs' minded to position to include the requested Unpredictable Capex provision to be allocated on a pass-through basis with only actual expenditure being placed on the SEMOpx RAB.

3.2.4 SEM Committee Decision

Based on the responses received, the SEM Committee has decided to allow for the Unpredictable Capex allowance proposed in the Consultation Paper.

Unpredictable Capex (March 2019 Prices €)	Provision under SEM-17-096	Forecast for PC Period		
		2018/19	2019/20	2020/2021
RA Proposal	0	50,000	50,000	50,000
SEM Committee Decision	0	50,000	50,000	50,000

Table 28, SEM Committee Unpredictable Capex Decision

4. Applicable WACC, RAB and Requested Margin

4.1 Regulatory Asset Base, Applicable WACC and Depreciation

Under this revenue control, an allowed revenue regime is applied to SEMOpx, with any incremental Capex being placed on SEMOpx's Regulatory Asset Base (RAB). SEMOpx does not have an opening RAB at the start of this price control as the costs associated with establishing SEMOpx are being recovered as part of overall I-SEM Implementation Project Costs.

The Weighted Average Cost of Capital (WACC) mechanism which applies to SEMOpx blends the two system operator WACCs in accordance with the specified proportions of 75% for EirGrid and 25% for SONI. The application of a WACC to a Regulated Asset Base is a form of remuneration for the exposure to systematic risk.

Under the current SONI Price Control from 2015-2020, a WACC of 5.85% applies, while under the current EirGrid price control PR4 a WACC of 4.95% applies. Any Capex placed on SEMOpx's RAB will be subject to a blended pre-tax Weighted Average Cost of Capital rate of 5.18%.

Throughout this price control the WACC will be updated to reflect any changes associated with the relevant TSO price controls and adjustments made in the corresponding K-factor.

TSO Price Control	Specified Proportion	WACC Rate	Blended Rate for SEMOpx
EirGrid Transmission System Operator	75%	4.95%	5.18%
SONI Transmission System Operator	25%	5.85%	

Table 29, Blended WACC Rate for SEMOpx

Depreciation of assets is subject to straight-line depreciation over a five-year period, as per the Market Operator Price Control. This is considered a reasonable asset life for IT and related assets and is consistent with SEMO price controls to date.

The table below shows SEMOpx’s estimated cost of capital over the next three years based on its submission.

	Forecast	Forecast	Forecast
	2019/20	2020/21	2021/22
Opening Regulatory Asset Base	0	696,600	1,323,900
Return on Asset Value	18,042	52,331	72,305

Table 30, SEMOpx estimated cost of capital

The table below shows the estimated cost of capital for the next three years based on the baseline of capital expenditure outlined in Section 3, assuming expenditure is incurred halfway through each year. This also includes the unpredictable Capex allowance for illustration although it will not be placed on SEMOpx’s RAB unless it is incurred.

	Forecast	Forecast	Forecast
	2019/20	2020/21	2021/22
Opening Regulatory Asset Base	0	615,600	1,211,400
Additions	684,000	814,000	475,000
Depreciation	68,400	218,200	347,100
Asset Value Close	615,600	1,211,400	1,339,300
Half Year Asset Value	307,800	913,500	1,275,350
Return on Asset Value	15,944	47,319	66,063

Table 31, Estimated cost of capital

4.2 Requested Margin

4.2.1 SEMOpx Submission

The regulatory framework for designated NEMOs in the SEM from October 2019 was set out in SEM-19-019. SEM-19-019 stated that any remuneration applied to SEMOpx in the absence of a sufficient RAB would be consistent with other parts of the licencees’ activities as Market Operator.

In its submission, SEMOpx requested a margin of 5% of total Opex and stated that its risks are associated with the need to manage fiduciary duties, reputational risk, operational expenditure risk and forecasting error. This margin would provide a return of circa €175,000 per annum as detailed in Table 29 below (based on the SEMOpx Opex submission).

Margin Requested (March 2019 Prices €)	Provision under SEM- 17-096		Forecast for PC Period	
	2018/19	2019/20	2020/2021	2021/2022
SEMOpX Submission (5% of total Opex based on the Opex allowance submitted by SEMOpX)	-	174,989	175,623	176,595

Table 32, SEMOpX Margin Submission

4.2.2 RA Proposal

The RAs were mindful that there is currently no RAB within SEMOpX. This reflects the decision that all capital costs associated with implementing the I-SEM project (including TSOs, SEMO and SEMOpX) have been placed on the respective TSOs' RAB.

The RAs engaged with SEMOpX as part of the Consultation process in respect of the nature of the risks faced by the designated NEMO under the regulatory framework set out in SEM-17-096. The Consultation Paper stated that some level of margin is appropriate under this price control, due to the relatively small RAB and associated return for SEMOpX for this period. However, the RAs noted that this needs to take into account the mitigating factors that have been put in place by the RAs based on a number of unique risks faced by SEMOpX and the level of return that will be earned by SEMOpX on its RAB based on a blended WACC of 5.18%.

The Consultation noted that assessing an appropriate margin for SEMOpX is difficult given the limited information provided by SEMOpX and also the lack of benchmarking information available of comparable entities facing similar risks. Based on the limited information received and the associated difficulty assessing the specific risks, the RAs proposed a margin of 2.5% of the proposed OPEX allowance as a proxy for the risks SEMOpX face in relation to managing the overall revenue of the SEMOpX business. This amounted to circa €82,000 per year based on the proposed Opex allowance in the Consultation as shown in Table 33.

Margin Requested (March 2019 Prices €)	Provision under SEM- 17-096	Forecast for PC Period		
		2018/19	2019/20	2020/2021
SEMOpX Submission (5% of total Opex)	-	174,989	175,623	176,595
RA Proposal (2.5% of OPEX proposal)		81,861	82,178	82,477

Table 33, RA Margin Proposal

4.2.3 Summary of Responses

While SEMOpX welcomed the Consultation proposal that an appropriate level of margin is required under this revenue control, in its view a number of the RAs' draft proposals have increased a number of risks/exposures faced by SEMOpX which may require a higher margin than the original 5% proposed.

SEMOpX set out the following risks in its response which merit a higher level of margin;

- Cashflow risk, due to forecast error resulting in the need for working capital.
- SEMOpX's fiduciary responsibilities in carrying out its functions.
- Discretionary capital risk if inadequate 'unpredictable' capex is provided for.
- Regulatory change risk, with exposure borne by SEMOpX of up to €0.25m.
- Opex trendline level of risk, due to any exclusion of anticipated increase in Opex.
- Reputational and financial risks associated with KPIs applied to SEMOpX.
- Nomination risk associated with units not registered in the Balancing Market.

In its response, SEMOpX acknowledged that while it is difficult to obtain definitive benchmarking information on comparable entities, the profit margins of similar European entities should be considered in the context of the SEMOpX margin. In its view, the 2.5% margin on controllable costs proposed by the RAs is not evidence based, does not appear to be benchmarked and does not represent an acceptable framework for the operation of SEMOpX. SEMOpX proposes that a margin of 5% provides a competitively priced framework which is benchmarked to financeable returns required to operate an asset light business and remunerate the risks on Return on Capital Employed.

4.2.4 SEM Committee Decision

As part of the 2018/19 price control process, a number of SEMOpx risks and mitigating factors were identified which will continue to be applicable under the 2019-21 price control, as outlined in the Consultation Paper and in Table 35 below.

In relation to the specific risks set out by SEMOpx in its response to the Consultation, the RAs note the full amount of requested 'Unpredictable' Capex has been provided for under this price control period which should not present a risk for SEMOpx.

SEMOpx also stated in its response that it faces exposure to any regulatory change of up to 0.25m. The exposure borne by SEMOpx to any regulatory or major market change risk would be expected to be minimal over a three-year period however, with this €0.25m limit introduced during the previous price control to limit the risk SEMOpx will face.

In terms of the reputational and financial risk associated with KPIs applied to SEMOpx, the RAs note that there is only upside risk involved in the Opex pot provided for the three KPIs to be applied to SEMOpx. In addition, the changes requested by SEMOpx to the KPI parameters in its response have been included in Section 5 below.

The RAs do accept that SEMOpx is exposed to cashflow risk and the recovery cycle via the yearly tariff adjustment mechanism to recover any cashflow shortfalls, along with the risk related to the ex-ante cost estimates provided under this price control. The RAs' proposed a margin of 2.5% as a proxy for this cashflow risk and recovery mechanism, in the absence of any suitable benchmarks. As part of the Consultation process, the RAs assessed the margins of a number of competitive European Power Exchanges but were of the view that these did not provide appropriate benchmarks for SEMOpx or for the regulatory framework applied to it.

Based on the additional information and arguments provided by SEMOpx this margin has been adjusted upwards to 3.5% of the OPEX allowance provided for in this Decision Paper as a proxy for the risk faced by SEMOpx in managing the overall revenue requirement of the SEMOpx business. The SEM Committee's Decision in relation to the margin to apply to SEMOpx is outlined in Table 34.

Margin Requested (March 2019 Prices €)	Provision under SEM- 17-096		Forecast for PC Period	
	2018/19	2019/20	2020/2021	2021/2022
SEMOpX Submission (5% of total Opex)	-	174,989	175,623	176,595
RA Proposal (2.5% of OPEX proposal)	-	81,861	82,178	82,477
SEM Committee Decision (3.5% of Opex)	-	117,348	117,768	118,205

Table 34, SEM Committee Margin Decision

The SEM Committee's Decision in relation to mitigating factors for risks faced by SEMOpX is outlined below.

Change in market share or additional costs associated with minimum volumes in auctions	This price control underwrites the continuing efficient costs of providing a NEMO service for the designation period, irrespective of SEMOpX's market share or additional costs associated with price floors for minimum volumes in each of the day ahead and intraday auctions. These arise where participation in the market is below contracted volumes and additional costs are incurred.
Changes in legislation or regulation, major or exceptional market changes	Where costs escalate either individually or in aggregate over the period of the price control above a material threshold of €0.250m due to any of these factors, a reopener to the price control may be carried out by the SEM Committee.
Increase in costs from individual participant requirements	Any incremental costs imposed on SEMOpX that can be directly attributable to a Participant, for example shipping costs charged to ICOs, should be incurred by the party imposing such costs and SEMOpX should be held cost

	neutral from such requests. In summary, these would be treated as a pass-through cost.
Exchange rate fluctuation	Exchange rate fluctuations are not controllable in this context and can be passed through.

Table 35, Proposed mitigating factors for risks faced by SEMOpx

It should be noted that this proposed approach is specific to SEMOpx and to this price control and the period covered by it and cannot be seen as precedent for any future determinations in respect of the Market Operator and the TSOs. The structure, status of SEMOpx as a NEMO and risk profile is unique to SEMOpx.

5. Key Performance Indicators

5.1 Proposed KPIs

5.1.1 SEMOpx Submission

SEMOpx was requested by the RAs to provide proposals on KPIs to be used between 2019 and 2022.

The following KPIs were proposed by SEMOpx;

- 1. Auction Results:** The percentage of occurrences where the day ahead and intraday auction results are published within 1 hour of the target publication times through the auction trading system (ETS). The target times, as documented in the SEMOpx Operating Procedures, are;
 - DAM 11:55
 - IDA1 18:10
 - IDA2 08:40
 - IDA3 14:15.
- 2. System Availability:** Availability of the auction and continuous trading systems according to their required availability (i.e. 24/7) excluding any planned outages. This is a ratio of the time in which systems are said to be in a functioning condition to the total time they are required to be available.
- 3. General Queries:** The percentage of occurrences where a general query received is addressed within 30 Business Days. This KPI aims to maintain efficiency and customer focus within SEMOpx. A general query is defined within the metric as any request logged through the SEMOpx helpdesk (info@semopx.com). Time spent for market participants to provide further information or accept resolution of a query will not be counted as part of the query resolution time. Nor will time be counted where a procedural change or system change is needed in order to close a query.

The proposed weightings and targets proposed by SEMOpx include;

SEMOpX KPI	Weighting	Proposed Lower Bound	Proposed Upper Bound
Auction Results	50%	98.0%	99.9%
System Availability	30%	99.5%	99.9%
General Queries	20%	88.0%	99.9%

Table 36, SEMOpX KPI Weightings and Targets Submission

5.1.2 RA Proposal

The RAs broadly supported the proposals and definitions for KPIs related to Auction Results, System Availability and General Queries with some minor changes to the definitions of each indicator. In addition, it was proposed that a requirement for website availability is added to the System Availability KPI.

- 1. Auction Results:** The percentage of occurrences where the day ahead and intraday auction results are published within 1 hour of the target publication times through the auction trading system (ETS). The target times, as documented in the SEMOpX Operating Procedures, are;

 - DAM 11:55
 - IDA1 18:10
 - IDA2 08:40
 - IDA3 14:15.
- 2. System Availability:** Availability of the auction and continuous trading systems according to their required availability (i.e. 24/7) excluding any planned outages. Also included is website availability between 8am-6pm Monday to Friday. This is a ratio of the time in which systems are said to be in a functioning condition to the total time they are required to be available.
- 3. General Queries:** The percentage of occurrences where a general query received is resolved within 20 Business Days. This KPI aims to maintain efficiency and customer focus within SEMOpX. A general query is defined within the metric as any request logged through the SEMOpX helpdesk (info@semopx.com). Time spent for market participants to provide further information or accept resolution of a query will not be

counted as part of the query resolution time. Nor will time be counted where a procedural change or system change is needed in order to close a query.

The RAs' proposed weightings and targets are shown in Table 37 below.

SEMOpx KPI	Weighting	Proposed Lower Bound	Proposed Upper Bound
Auction Results	50%	99.0%	99.9%
System Availability	30%	99.5%	99.9%
General Queries	20%	95.0%	99.9%

Table 37, RA KPI Weightings and Targets Proposal

The RAs proposed that the potential KPI entitlement would be set to 2% of internal Opex to reflect the smaller number of KPIs in comparison to those currently applied to SEMO (which has a potential Opex entitlement of 4% under its 7 KPIs). This would lead to a potential entitlement of approximately €65,000 per year.

Potential KPI Entitlement (March 2019 Prices €)	Provision under SEM-17-096	Forecast for PC Period			
		2018/19	2019/20	2020/2021	2021/2022
SEMOpx Submission	-		200,000	200,000	200,000
RA Proposal			65,489	65,743	65,981

Table 38, RA KPI Entitlement Proposal

5.1.3 Summary of Responses

In their response to the Consultation, ESB GT stated that under the proposed General Queries KPI, 20 working days is too long a response time in a dynamic and fast paced energy trading market and requested that this should be shorter.

SEMOpx is of the view that the proposed reward framework is insufficient to ensure that any potential KPIs are meaningful and for SEMOpx to invest to enable their achievements. In its view the potential impact on customers should set the basis for the scale of the incentive entitlement, not simply the relative number of incentives.

In relation to the Auction Results KPI, SEMOpx have proposed that the allowance of two late reports out of the total of 124 auctions run per month would be more appropriate as a lower

bound, equating to a lower bound percentage of 98% rather than 99%. SEMOpx also propose a lower bound percentage of 93% rather than 95% for the General Queries KPI.

5.1.4 SEM Committee Decision

The RAs have considered the scale of this KPI allowance and on balance whether KPIs should be applied to SEMOpx at this stage given the limited pot available and the monitoring requirements that would need to be put in place in order to incentivise SEMOpx to invest in achieving these KPIs. The SEM Committee considers that there is value in applying these KPIs to SEMOpx given that they have been consulted on with market participants through this consultation process.

The SEM Committee has decided to reduce the lower bound percentage for Auction Results to 98% and the General Queries KPI to 93% as requested by SEMOpx. In its response to the Consultation, SEMOpx stated that the proposed KPI incentive of 2% of internal Opex does not reflect the activity and performance standards that market participants expect of SEMOpx, however in the RAs' view the KPI requirement for SEMOpx does not merit the same % Opex compensation as the KPIs applied to SEMO given the wider range of requirements imposed through its KPI framework. Based on the changes made to the proposed lower KPI bounds as requested in SEMOpx's consultation response, the RAs are of the view that these KPIs are targeted and achievable within a 2% Opex reward framework.

SEMOpx KPI	Weighting	Proposed Lower Bound	Proposed Upper Bound
Auction Results	50%	98.0%	99.9%
System Availability	30%	99.5%	99.9%
General Queries	20%	93.0%	99.9%

Table 39, RA KPI Weightings and Targets Decision

Potential KPI Entitlement (March 2019 Prices €)	Provision under SEM-17-096	Forecast for PC Period		
		2018/19	2019/20	2020/2021
SEMOpx Submission	-	200,000	200,000	200,000
RA Proposal		65,489	65,743	65,981
SEM Committee Decision		67,056	67,296	67,546

Table 40, SEM Committee KPI Entitlement Decision

In relation to these KPIs, the SEM Committee confirms that external factors which are demonstrably outside of SEMOpx's direct control are excluded from the KPI measurements, such as SEMO and/or System Operator system failures and issues outside of SEMOpx's control and planned outages, planned releases and ad-hoc releases that have an impact.

In relation to the General Queries KPI, queries unresolved for more than 20 business days are only counted once and not on a rolling basis. If further information is requested following resolution of a query this is counted as a new query. If information required is dependent on third parties and is outside of SEMOpx's control this does not impact on the calculation of the metric.

SEMOpx will report on its performance against these incentives as part of the annual K-factor and tariff setting process for SEMOpx. Such a report will include details of any adjustments made as a result of the factors noted above, should they arise.

6. Summary

6.1 Summary of Decision

March 2019 Prices	SEMOpX Submission				SEM Committee Decision			
	2019/20	2020/21	2021/22	Total	2019/20	2020/21	2021/22	Total
Opex Submission	3,499,785	3,512,455	3,531,892	10,544,132	3,352,790	3,364,790	3,377,290	10,094,870
Return on Regulatory Asset Base	18,042	52,331	72,305	142,678	15,944	47,319	66,063	129,326
Depreciation	77,400	241,700	381,100	700,200	68,400	218,200	347,100	633,700
Margin Submission	174,989	175,623	176,595	527,207	117,348	117,768	118,205	353,320
KPI Incentive Entitlement Submission	200,000	200,000	200,000	600,000	67,056	67,296	67,546	201,897
Total	3,970,216	4,182,109	4,361,892	12,514,217	3,621,537	3,815,372	3,976,204	11,413,114

Table 41, Revenue Summary

March 2019 Prices	SEMOpX Submission				SEM Committee Decision			
	2019/20	2020/21	2021/22	Total	2019/20	2020/21	2021/22	Total
Unpredictable Capex Submission	50,000	50,000	50,000	150,000	50,000	50,000	50,000	150,000
Predictable Capex Submission	724,000	819,000	475,000	2,018,000	634,000	764,000	425,000	1,823,000
Total Capex	774,000	869,000	525,000	2,168,000	684,000	814,000	475,000	1,973,000

Table 42, Capex Summary

6.2 Estimated Charges

For the purpose of the 2019/20 tariff year, the RAs approved the tariffs for the 2018/19 tariff year to be rolled forward and applied by SEMOpx. These are published in a separate statement of charges for 2019/20. This Decision Paper does not change the charges for this period. Any over or under recovery based on the difference between revenues recovered under 2019/20 SEMOpx Charges and the final revenue allowance in this Decision Paper will be addressed through the K-factor adjustment process as part of the 2020/21 tariff setting process.

The table below shows a comparison between the approved 2019/20 charges and indicative charges calculated based on the final revenue allowance in this Decision Paper, for information only.

Fee Structure	Approved 2019/20 Charges	Indicative 2019/20 Charges based on the final revenue allowance Decision
Once off entry fee (€)	5,000	5,000
Annual subscription fee (€/annum)	5,000	5,000
Variable trading fee DAM (€/MWh)	0.044	0.041
Variable trading fee IDM (€/MWh)	0.044	0.041

Table 43, Comparison of Charges