Single Electricity Market
(SEM)

SEMO 2018 – 2021 Capital Expenditure

Decision Paper

SEM-21-006

01 February 2021

EXECUTIVE SUMMARY

The current SEMO price control (SEM-18-003) is effective for the period 1 October 2018 (go-live of the revised Single Electricity Market (SEM) arrangements, referred to hereafter as 'SEM Go-Live') to 30 September 2021. While the current price control covers SEMO's operational expenditure (opex) and financeability allowances it could only, at the time it was determined, provide a limited capital expenditure (capex) allowance for SEMO of €0.8m over the three year period; this was in respect of 'unpredictable capex' (for replacement servers and additional software licenses etc).

Due to significant uncertainty associated with forecasting 'predictable' capex in advance of SEM Go-Live, SEMO chose not to include such proposals for the 2018 – 2021 period.

In recognition of this uncertainty, the SEMC outlined principles to apply to any SEMO capex during the 2018 – 2021 period within its price control decision paper (SEM-18-003). These principles included the expenditure during this period being subject to a final outturn review and efficiency review.

To that end, on 29 October 2020 SEMO submitted its 2018-2021 capex submission, totaling €20.82m across eleven projects, to the Regulatory Authorities (RAs) for review. SEMO's submission formed the basis of the SEM Committee's consultation paper (SEM-20-086) which proposed €16.95m of capex allowances for 2018-2021; this was published on 30 November 2020. The consultation closed on 8 January 2021 with four responses received.

The SEM Committee consider this approach of reviewing SEMO's capex retrospectively (for years 2018/19 and 2019/20) and a forecasted capex for year 2020/21 as being a one-off event, driven by the introduction of the revised SEM arrangements from October 2018. Our review of proposed capex for 2020/21 will provide an ex-ante allowance which will be subject to a final outturn review as part of the 2021-24 price control as indicated in SEM-18-003 and adjusted in line with actual expenditure through the annual tariff process. The regulatory framework in its entirety for the next 2021-24 price control will be subject to further discussion with SEMO and public consultation.

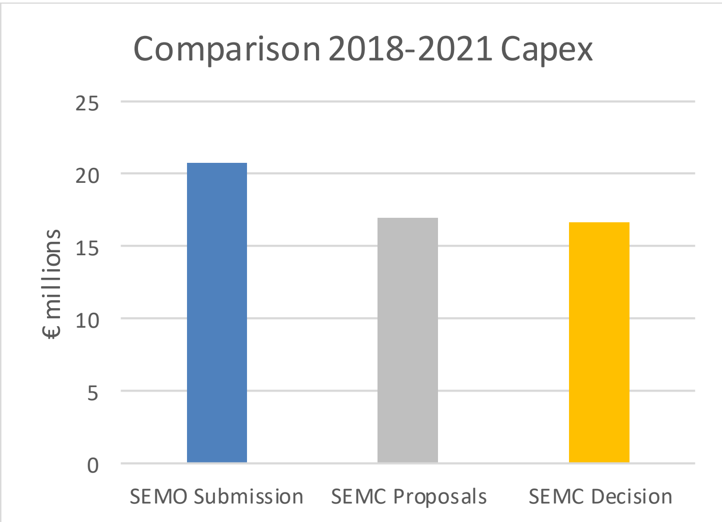
The purpose and timing of the consultation process and this decision paper is twofold: firstly to provide SEMO with the SEM Committee's decisions in relation to capex for the period 2018-2021 which will inform SEMO's 2021-2024 price control capex submission (due to be submitted to the RAs in February 2021) and, secondly, to inform the tariff setting process.

In arriving at the decisions within this paper the SEM Committee has reviewed the timing of the allowances and, where necessary, has re-profiled some allowances to better align with either (a) the actual commissioning/ capitalisation of assets/ projects on SEMO's Fixed Asset Register (as is the case for 2018/19) or (b) the expected year of completion of a project and therefore the expected year in which a capital addition will be made to SEMO's Fixed Asset Register. Re-profiling did not, in the case of every project, affect the overall three-year total allowance. However, the total allowance proposed in our consultation has reduced by virtue of this correction. Ensuring that the correct approach is applied is fundamental to this decision as the capital additions to SEMO's Fixed Asset Register inform it's Regulated Asset

Base (RAB) which is then used to calculate the final depreciation and Weighted Average Cost of Capital (WACC) return for each tariff year.

Furthermore, the SEM Committee has reconsidered all projects as capex, aiming to prioritise certain projects while also considering what is achievable within the period being considered. Adjustments have been made to the proposed allowance for other projects in line with new information received from SEMO.

Figure 1 below summarises the total amount sought by SEMO across the eleven capital projects, the total allowance proposed in the SEM Committee's consultation paper (across seven projects) and the final total amount allowed for in this decision paper (across eight projects). While the allowances in total are similar between that proposed and the final decision, the final decision reflects a re-profiling of projects across the 2018-21 period to better capture the year in which the project is likely to be completed. Appendix A provides a cost breakdown by project, profiled across the three year period.



SEMO Submission	SEMC Proposals	SEMC Decision	% variance between Submission and Decision
€m	€m	€m	%
20.82	16.95	16.66	20%

Figure 1: Comparison between SEMO's Submission, Consultation Proposals and SEM Committee Decision

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1. Introduction

1.1 Background

The current SEMO price control is effective for the period 1 October 2018 (go-live of the new SEM arrangements, referred to hereafter as 'SEM Go-Live') to 30 September 2021.

Due to significant uncertainty associated with forecasting capital expenditure (capex) in advance of SEM Go-Live, SEMO chose not to include any predictable business capex proposals that may be required for the period 2018 – 2021. In recognition of this uncertainty, the SEM Committee 2018 – 2021 price control decision paper (SEM-18-003) stated:

"***Predictable capex***

SEMC is cognisant of the uncertainty in the level and nature of change in the I-SEM market following implementation. It is also aware that there are likely to be a number of actions outstanding post go-live as well as a number of sustainable solutions to be developed following interim solutions implemented as part of I-SEM (Day 2 list).

The SEMC is of the view that it will be important to be clear in defining any Day 2 list so as to avoid any boundary issues between these costs and those associated with other change, as well as clearly stipulating what constitutes unpredictable and predictable capex.

In order to facilitate the setting of future tariffs in a clear and robust fashion, SEMC would reinforce the need for any foreseeable and predictable capex to be submitted at least 4 months ahead of any new tariffs being applicable to allow sufficient time for scrutiny and inclusion.

Given SEMO's response to the SEMC proposal concerning the principles for Predictable Capex and Viridian's query as to what would practically occur if Capex spends do not meet the materiality threshold, the SEMC has decided to remove this materiality threshold and apply the following principles to predictable Capex;

1. *Submissions should be made in a timely manner, at least 4 months prior to annual tariff setting so as to allow the SEMC sufficient time to scrutinise, review and approve.*

2. *Submissions which may arise should be based on costed estimates, rather than forecast estimates.*

3. *Where such predictable Capex is accepted by the SEMC, it will be subject to final outturn review as part of the next Price Control.*

4. *This will include efficiency review of the Capital Expenditure and any inefficiency (plus return) will be corrected where deemed inefficient."*

This consultation and decision process addresses point 3 above with SEMO's October 2020 capex submission being more acceptable to the SEM Committee (SEMC). SEMO had previously made a capex submission for 27 projects to the RAs in August 2019 for the period 2018 – 2021. No allowances were approved in respect of the August 2019 submission. Following engagement, SEMO reduced the number of proposed projects from 27 to 11, this being the basis of SEMO's October 2020 capex submission.

On 30 November 2020, the SEM Committee published a consultation[1] with respect to SEMO's capex allowance for the period 1 October 2018 – 30 September 2021. This paper summarises responses received to that consultation and provides the SEM Committee's final decision.

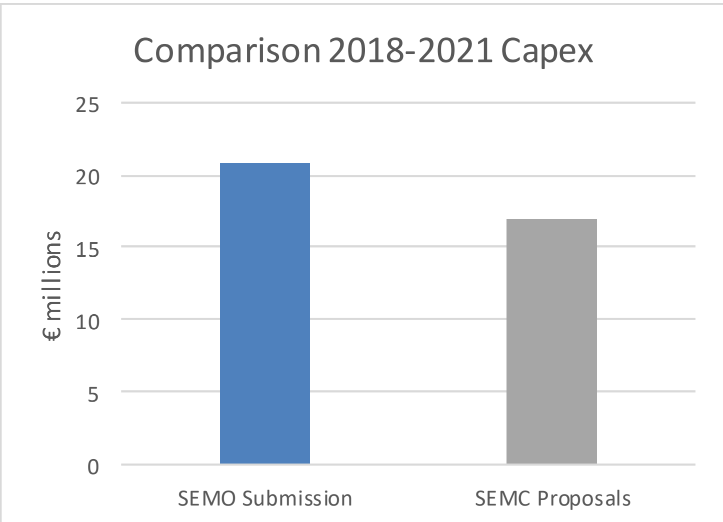
1.2 Capital Expenditure

The RAs consulted (SEM-20-086) on SEMO's capex proposals for the period 1 October 2018 – 30 September 2021 from 30 November 2020 to 8 January 2021. The consultation paper covered the following:

- 2018/19 SEMO actual capital expenditure for the year;
- 2019/20 SEMO actual capital expenditure for the year;
- 2020/21 SEMO forecast capital expenditure for the year;
- Treatment of capex within SEMO tariffs.

SEMO sought to recover costs associated with eleven projects across the three year period from SEM Go-Live. Some projects are complete (for example, two projects which related to the "I-SEM" programme), others are ongoing (for example, market system releases) and some are due to be completed during the current 2020/21 year.

Figure 2 below shows SEMO's total request for €20.82m for which the RAs proposed a reduction of 19% with a proposed allowance of €16.95m. This proposed allowance was across seven projects with three projects being recommended for deferral into the 2021-24 price control period and one project being recommended as an operational expense (opex) rather than capex.



[1] SEM-20-086 SEMO 2018-2021 Capital Expenditure - Consultation | SEM Committee

SEMO Submission	SEMC Proposals	% variance
€m	€m	%
20.82	16.95	19%

Figure 2: Comparison between SEMO's Submission and SEM Committee's Consultation Proposals

1.3 Market System Development Plan (MSDP) 2019-21

During September/October 2020 SEMO consulted on its Market System Development Plan (MSDP) relating to the two year period from 1 October 2019 to 30 September 2021[2]. The MSDP consultation informed SEMO's October 2020 capex submission to the RAs for the 2018-2021 period and provided more detail on most[3] of the projects which were considered by the SEM Committee as part of this consultation process.

SEMO is required under its licenses[4] to produce a MSDP for the development of the SEM Trading and Settlement System over the following two years. The MSDP is produced annually[5] and, following consultation, is subject to approval of both RAs.

The RAs acknowledged that the 2018-2021 capex consultation (SEM-20-086) was closely related to SEMO's MSDP consultation, however, the primary focus for the RAs was on costs and setting appropriate capex allowances for SEMO.

On 30 November 2020, SEMO submitted its 2019-21 MSDP to the RAs for approval. The RAs indicated in its capex consultation that it was envisaged that any approval by the RAs of the MSDP would be subject to, and dependent upon, this decision paper.

The two processes (SEMO's MSDP consultation and SEM Committee's capex consultation), which have dovetailed each other, have raised a question more generally on the value of the MSDP, what it is seeking to achieve and if there is a more efficient and effective means of engaging with stakeholders. The RAs will consider this further and liaise with SEMO and participants, recognising that any changes to the MSDP process will require licence modifications to both the EirGrid and SONI Market Operator licences.

1.4 Summary of Responses

The SEM Committee received four non-confidential[6] responses to the consultation. These are published alongside this decision paper from:

- Bord Gais Energy (BGE)
- IWEA and RenewableNI
- SEMO (plus separate Addendum)

[2] https://www.sem-o.com/documents/general-publications/MSDP-2019-2021-Published-for-Consultation.pdf
[3] SEMO's MSDP Consultation did not include the I-SEM Post Production Support or I-SEM Day 1+ projects
[4] EirGrid Market Operator Licence Condition 4
SONI Market Operator Licence Condition 16
[5] Due to the development of the revised SEM arrangements (I-SEM project) the publication of annual MSDP consultations had been paused. Consultation recently recommenced with the publication of the 2019 – 2021 MSDP consultation in September 2020.
[6] Noting that SEMO's response was marked 'commercially sensitive' but SEMO has no issue with the response being published.

- SSE

In general, BGE welcomed the cost challenges outlined by the RAs in the consultation paper to ensure that the capex allowances must in all cases be for efficiently incurred costs required to deliver services of value. The proposed reductions to allowances in some projects seem appropriate for the period under consideration, however a balance is needed in other projects to ensure that the proposed reductions in allowances do not undermine achieving the system improvements needed. BGE therefore asked the RAs to exercise caution when making their decision.

BGE suggested that clarity is needed from SEMO as to what they consider to be capex costs and what they consider to be opex costs as this would help to simplify the nature of the capex costs submitted for the period. BGE, in response to SEMO's consultation on the 2019 – 2021 MSDP, suggested that cost items common across business cases such as infrastructure/ hardware should be grouped and reported separately to the respective projects to which they relate to provide clarity to participants and transparency of cost-effective synergies across the projects, especially where different projects appear to overlap in purpose.

BGE supported the SEM Committee's proposal for SEMO to provide a mid-year progress report for the 2020/21 year in April 2021 on project and spend status to both the RAs and to stakeholders at the Market Operator User Group (MOUG) meetings. BGE requested that this should be an ongoing semi-annual item going forward.

IWEA and RenewableNI welcomed the consultation and believe that it provides much needed transparency on the overall spend by SEMO for the period 2018 – 2021. They view each of the eleven projects proposed by SEMO as being important for improving the stability of the market, with many required to fulfil SEMO's "core objective" and which relate to fixes for issues and defects which should not have materialised in the new SEM arrangements to begin with e.g. system functionality and re-pricing and re-settlement functionality.

IWEA and RenewableNI expressed concern with the timing of the SEM Committee's consultation since it was published in November 2020 relating to 2018 – 2021 period. Their concern relates to the ex-post approval of spend meaning there is little scope to materially alter or change the capital projects' plans or budgets for the 2020/21 tariff year. However, IWEA and RenewableNI did welcome the RAs' acknowledgement that the ex-post review is a one-off event driven by the introduction of the revised SEM arrangements from October 2018 and welcomed the commitment to consult in Quarter 2 2021 on the next capex plan which covers 2021-24. They view it important that market participants have sufficient, transparent information on SEMO's capex plans so that their performance can be assessed objectively.

SSE is concerned with how capex relating to this particular period has, and is, being managed by SEMO and the RAs. While appreciating SEMO's reluctance to provide cost forecasts in the face of uncertainty, the high degree of work needed to stabilise the market following go-live and for future market adjustments to reflect those areas that were not able to be delivered before go-live, SSE suggests that it is now time for an increased degree of accountability and oversight.

SSE is concerned that given the low level of detail in SEMO's business cases, there is danger of "double-counting" across the various capital projects. It is SSE's view that early engagement (including with stakeholders) is to be encouraged. They note that, unlike the price controls for other parties, there was no proactive engagement from SEMO prior to the publication of the MSDP in relation to capex for 2018 – 2021. In terms of procurement, SSE advocates that this should be on a project-by-project basis with suitable incentives for delivery (penalties for non-delivery) within clear timeframes to help provide market confidence.

In relation to the additional I-SEM project cost SSE is of the view that defects, failures in planning and delivery and delays in implementation of core aspects of market design should have realistically formed part of the go-live I-SEM delivery project. It is concerned that participants bear the cost. Furthermore, where these issues are a result of inadequate service from the vendor, SSE indicate that these should be addressed via contractual arrangements and financial redress, and again not at cost to market participants.

In SEMO's view the consultation proposals raise a number of concerns, both in terms of capex allowances for the period 2018 – 2021 and in relation to the regulatory principles under which SEMO operates. SEMO indicate surprise and concern regarding some of the proposals such as the RAs' proposed review of costs incurred during 2020/21, the proposal to categorise certain capex as opex, concerns relating to asymmetric risk within the proposals, and the proposals to discount a significant amount of funding requested for projects to be progressed in 2020/21.

SEMO believes it is important to reiterate that the pre-October 2018 SEM should not be used as a benchmark to forecast costs for the period October 2018 to September 2021. It believes that the scale and complexity of the new market systems coupled with the RAs' decision to launch the market with multiple significant known defects makes for an inappropriate comparator.

In relation to delays between phases for some projects, SEMO considers a driver for change in project timeframes was the insufficient regulatory support received during the 2018 – 2021 period. In SEMO's view, should any of the projects not receive the necessary funding to be carried out this financial year, there may be an increase in opex for 2021-2024 as the forecast efficiencies which formed part of that submission will not be achieved. Any disallowances made for 2020/21 will also have a knock-on impact on the capex requirements for the 2021-2024 period.

IWEA and RenewableNI, SSE and BGE all raised concerns about the absence of costs that relate to the impacts of the Clean Energy Package, Brexit and the Electricity Balancing Guidelines. They each considered this omission to be significant and an aspect of potential capex costs that SEMO will incur not only in this 2018 – 2021 period but also into the next price control. Their view is that this creates uncertainty on the full and final capex costs for SEMO and raises concerns of cost and charge volatility for participants and ultimately customers. In addition SSE is concerned that, with no development or scoping costs relating to delivery of these projects in any way, this confirms that the market will be non-compliant for a prolonged period given the very long lead time for system releases. Furthermore, IWEA and RenewableNI strongly recommend that projects relating to these areas be expedited as quickly as possible. They noted that lack of progress in implementing the

Clean Energy Package and of projects to improve cross-border trading with GB following Brexit is having a material impact on the investment signal for new renewable generation, and, increasing risk to the current pipeline of renewable projects.

While a general overview of the responses is provided above, each project section within Chapter 2 below captures the feedback received from those respondents in relation to specific projects. At the end of Chapter 2 the SEM Committee has provided more general commentary, some of which picks up on the areas mentioned above.

2. SEMO Capital Expenditure Projects – Stakeholder Responses and SEM Committee Decisions

The purpose of this Chapter is to summarise each project which was consulted upon, outline responses received and set out the SEM Committee's decision in respect of each project. A section at the end of this Chapter provides more general commentary, some of which reflects areas mentioned within the responses received.

Also, Appendix A provides a detailed summary of allowances for all eleven capital projects proposed by SEMO, profiled across the three year period.

2.1 Project: Market System Release Capital

Description of project based on SEMO's submission

This project relates to the capital required to procure vendor support hours which are essential for delivering functional changes and regulatory approved market modifications for the SEM systems. Internal resources provide technical, project and management support for the various releases estimated by SEMO at €8.60m for the three year period.

This project and costings relate to the following system releases:

Release	Number of Defects	Date of Deployment
D	56	Oct 2019 & Dec 2019
E	64	Apr-20
F	94	Nov-20
G	TBA	Scheduled June 2021
H	TBA	Scheduled Q4 2021

Table 1: Summary of Market System Releases within SEMO October 2020 Submission

Summary of SEMC consultation proposals

Market System Release Capital	2018/19	2019/20	2020/21	
	Tariff Year	Tariff Year	Tariff Year	Total
	€m	€m	€m	€m
SEMO Submission	0.135	2.065	6.400	8.600
SEMC Proposal	0.135	2.065	4.164	6.364

Table 2: Summary Project Costs within SEMO October 2020 Submission and SEMC Proposal

Now that the balancing market is much more stable since SEM Go-Live, the RAs recognise the move by SEMO to reduce the number of releases to two per year since Release E in April 2020.

The RAs noted variances in the incurred/ forecasted costs in each of the three years when comparing SEMO's October 2020 capex submission with the SEMO tariff submission which the RAs received in May 2020. This comparison showed a significant increase of 54% for year 2020/21 within the October 2020 capex submission.

For year 2020/21 SEMO had estimated the number of vendor hours for Release G in June 2021 and Release H (scheduled for deployment October – December 2021). Release H has been estimated by SEMO as requiring 80% more vendor hours than Release G. Based on the information provided by SEMO, Release G has been partially scoped and Release H has not as yet been scoped. We have engaged with SEMO more recently and understand that Release H should be scoped by end-February 2021. The information provided by SEMO for these releases is shown in the table below:

Release	Number of Defects	Change Requests	Date of Deployment
G	TBA	CR-158 Repricing and relationship with instruction profiling CR-129 Correction of QUNDELTOL calculations CR-072 Clarification on Intraday Quantity and Payment CR-119 Change Day ahead Difference Quantity to Day Ahead Trade Quantity CR-081 Amendments of conditions in which the Backup price is used CR-126 Configuration of Variable Market Operator Price CR-088 Changes to configuration of FX rate CR-079 Registered Capacity Report Amendments	Schedule June 2021
H	TBA		Q4 2021

Table 3: Detail of Release Scoping for 2021 Market System Releases within SEMO October 2020 Capex Submission

The RAs considered the number of vendor hours for each release, including a comparison with legacy SEM (when in a steady state) and noted a 67% increase in the number of vendor hours required for Release G and a 200% increase in the number of vendor hours required for Release H. The RAs considered the 133% increase per year compared to the legacy SEM budgeted vendor hours as excessive (while acknowledging the revised SEM arrangements are more complex than the legacy SEM).

Given the move to bi-annual releases, the RAs' expectation was that the 2020/21 tariff year would correlate to the costs associated with two releases i.e. Release F (deployed in November 2020) and Release G (expected to be deployed in June 2021) only. The RAs therefore proposed an allowance to reflect that capital costs associated with Release H should fall within the 2021/22 tariff year.

The RAs had concerns with the profiling of releases across the years and mentioned in the consultation paper that further engagement would take place with SEMO in relation to the timing of costs to ensure the market system release costs and release support costs are being captured in the year the release is deployed. For example, the RAs expect costs associated with Release A to C to be captured in 2018/19, Releases D and E in 2019/20 and Releases F and G in 2020/21. The consultation noted that, following engagement and further review by the RAs, any changes to the profiling of the Releases and support costs due purely to timing of allowances would be clearly explained in the SEM Committee's decision paper.

Throughout SEMO's submission, numerous references are made to defects and their resolution since SEM Go-Live in October 2018. SEMO stated in its submission that they will be resolved by the vendor at no extra cost to SEMO. However, within the project section of the submission it stated an additional €0.5m[7] has been included in 2020/21 for defect resolution where defects are outside of their warranty period. The RAs raised a concern in the consultation that, given the extensive resources being sought within this System Release project and the Release Support project along with the resources provided to date for testing releases, that some defects have not been resolved efficiently within the warranty period and additional monies are being sought.

Given the above concerns regarding the recent fluctuations in estimated costs and the inclusion of Release H costs within the 2020/21 tariff year (even though Release H isn't due to be deployed until during the 2021/22 tariff year) and the additional monies sought for defects outside of their warranty period, the RAs proposed to reduce the submitted request for the tariff year 2020/21 to reflect the information provided in SEMO's tariff submission received in May 2020. The SEM Committee view the tariff submission figure of €4.16m as being a more reasonable allowance for the year 2020/21.

<u>Summary of responses</u>

BGE agree with the RAs' view that capex should only be allowed for in the period in which it is incurred through the delivery of the contracted system release, and that the capex costs associated with Release H are delayed to the next pricing period (2021-2024).

In BGE's view there is an apparent overlap between the System Release project, Release Support project and the Additional Market Environment project. These projects would benefit from more granular detail on costs (and cost synergies) within those projects to differentiate the spend that appears similar in nature. Recognising the reductions proposed by the RAs for these projects, additional specificity on costs and purpose would help to better understand these projects.

BGE share the RAs' stated concern that "…some defects have not been resolved efficiently within the warranty period and additional monies are being sought." Although the basis of the warranty is not stated, unless the warranty clearly prohibits the remediation required, given that the market is still in 'release mode' and is still remedying Known Issues, BGE believes fixes of the defects should not be charged to SEMO customers. It remains essential that all known defects are remediated effectively on a cost-efficient basis for participants whether under warranty or otherwise.

BGE noted that the proposed allowance for this project is reduced to €6.4m from €8.6m based on the rationale outlined in the consultation paper. However, BGE comment that a balance is needed in the capex available to ensure that the proposed allowance reductions do not undermine achieving the system improvements needed through Known Issues fixes

[7] In responses to RAs' questions received 13 November 2020 an estimated amount of €800,000 per annum was given as relating to defects outside of warranty.

in the Market System Release Capital project; BGE asked that caution be exercised to ensure sufficient capex is available to SEMO to complete the fixes needed.

SSE considers that there may be some duplication since some specific defects are already called out in Code Releases outlined under the I-SEM Day 1+ project.

SSE acknowledges the need for vendor hours to be increased because of significant issues still to be remedied. In SSE's view this demonstrates that the market is not yet in a stabilisation phase and additional monitoring and reporting from SEMO is still required, noting that repricing is still not delivered.

SSE is clear that the need for additional vendor hours to fix issues is a direct result of insufficient incentives laid on SEMO (through regulatory measures) or the vendor (through contractual arrangements), to ensure complete, accurate and compliant delivery.

In SSE's view it has not been demonstrated that the costs have been efficiently incurred and without such justification it is not clear how the RAs can pass such costs on to market participants. Furthermore, it is not clear that these costs have not already been included at initial design stages.

SEMO is concerned with the following views expressed in the consultation: the comparison of hours between the legacy SEM and the revised SEM, the timing of costs for releases being incurred, and the efficiency on resolving defects.

SEMO believes the increase in hours is fully justified and required given the scale of change being driven. In its response SEMO indicate that the new SEM systems are considerably more complex than those in the legacy SEM. As an example it cites that there are 137 interfaces in the revised SEM versus 5 in the legacy SEM. The 24x7x365 operation of the new market is highly integrated with System Operations and to the outside world. SEMO argues that the level of complexity means that the delivery of change requests takes more time to design, develop and to test by vendors.

In addition SEMO explains that typically legacy SEM releases tended to be approximately 7,000 hours in size (14,000 hours per year). Under the new arrangements Release G is expected to be approximately 4,000 hours and Release H to be up to 9,000 hours. The repricing change request alone in Release G is 3,000 hours. It views the consequences of not having the scope to deliver large release (i.e. up to 9,000 hours) as risks associated with delays, including technical, functional, and ongoing defect resolution.

Specifically in relation to Release H SEMO provided the following regarding scope and timing for costs. Release H is currently scheduled for deployment in October 2021 with over 25 changes being assessed in order to finalise the scope. These include modifications and functional changes but not defects. For Release H to be deployed in October 2021, the work will need to be carried out prior to this release date. As such, although the deployment will happen in tariff year 2021/22, the work and costs associated with this release will be completed in tariff year 2020/21.

SEMO considers the statement made by the RAs that "…some defects have not been resolved efficiently within the warranty period and additional monies are being sought" as simply not true and a very worrying concern for SEMO. SEMO therefore provided additional information on the large amount of work carried out on the defects during the warranty period in its response which has been published alongside this decision paper.

Since SEM Go-Live in October 2018, SEMO indicates that it has prioritised defects with nearly 850 resolved and that it has embarked on an aggressive programme of deploying hot fixes and major releases during the first year of operation. The warranty period ended for the SEM Go-Live releases in October 2019. A balance had to be maintained between delivery of fixes which improved the stability of the market systems on one hand and the necessary outage time which adversely impacted traders on the other. There remains c200 defects, which have mostly low impacts, which will incur costs should SEMO determine that they need to be fixed.

In SEMO's view the proposed allowance of €4.164m for the System Release capital in 2020/21, a reduction of €2.236m, is a significant reduction and would restrict the development and scope of planned improvements for Releases G and H.

SEMC decision

A key aspect in the differing views and ultimately the difference in the amount being sought by SEMO and the allowance being proposed/ decided upon arises due to differing opinions on the timing of capex (when costs are incurred or when project/assets are complete/commissioned) and which year such costs should be captured in. This is an important area and, as it relates to other projects, Chapter 3 below provides further detail and includes the SEMC's decision on this issue which has been applied to the decision on this project.

The RAs share the concerns raised by some market participants in relation to an apparent overlap or duplication of costs between projects and the need for more granular and specific detail within the business cases. BGE recognised this in its concern regarding the reductions proposed by the RAs and urges SEMO to provide additional detailed information and costings in future submissions, to better aid the RAs' understanding of these projects so as more informed allowances can be provided.

The RAs take on board SSE's general concerns regarding lessons learnt from the I-SEM project and the importance of regulatory incentives and appropriate vendor arrangements. This will be considered in more depth in the upcoming SEMO price control for 2021-2024 review which will be consulted upon in Quarter 2 of 2021.

The RAs welcome the greater detail provided by SEMO in its response in relation to defects. This is beneficial to both the RAs and to market participants.

The RAs have not altered their view after assessment and comparison of release hours between legacy SEM and the revised SEM. The RAs are in receipt of various previously provided documentation from SEMO which clearly shows a budget of 3,000 vendor hours for each release within legacy SEM (when in a steady state, before being reduced in anticipation of the new market). The RAs are therefore uncertain of the reference made in SEMO's response to 14,000 vendor hours per year (7,000 per release) for legacy SEM, particularly given this amount is on par with the hours proposed within the new SEM arrangements, which SEMO mention in their response as having 137 interfaces compared to 5 in legacy SEM.

Based upon the timing discussion and SEMC decision in Chapter 3, the allowance requested by SEMO for year 2020/21 must be reduced to remove Release H which is due to be implemented in systems in October 2021 which falls within the 2021/22 tariff year. When SEMO made its submission, the scope for Release H had not been finalised and it is disappointing that while some further information is provided in their response, it remains insufficient for an accurate assessment and SEMO has not provided revised costing for year 2020/21.

Based upon the timing for allowances decision in Chapter 3, the allowances would simply be re-profiled by moving forward a year. Given the variations in costs across the three year period it is important to bear in mind that SEMO advised that the cost profiling across the years does not reflect the true underlying effort employed due to the number of defect fixes which were remedied under warranty in the earlier years.

However, in taking heed of market participants' call for balance and caution in making a decision on this project the SEM Committee has decided that the allowance for 2018/19 is to be reduced to zero[8] (as detailed in Chapter 3), the allowance for 2019/20 is to remain as is and also include €0.135m from 2018/19, and the allowance for 2020/21 is to remain at €4.164m[9] as proposed in the consultation to capture Release F (November 2020) and Release G (June 2021). Based upon SEMO's submission, if €6.4m for year 2020/21 equates to 13,000 vendor hours, the RAs' allowance of €4.164m would equate to c10,000 vendor hours (bearing in mind SEMO have advised the repricing system changes are 3,000 vendor hours in Release G in June 2021).

This decision has been made much more difficult due to the lack of information provided by SEMO. The RAs will require much greater detail and costs within the 2021-24 price control capex submission.

The allowances provided within the decision for the Market System Release Capital project are set out in Table 4 below and represent 74% of the total requested by SEMO.

Market System Release Capital	2018/19 Tariff Year €m	2019/20 Tariff Year €m	2020/21 Tariff Year €m	Total €m
SEMO Submission	0.135	2.065	6.400	8.600
SEMC Proposal	0.135	2.065	4.164	6.364
SEMC Decision	0.000	2.200	4.164	6.364

Table 4: Project Costs within SEMO Capex Submission, SEMC Proposal and Decision

[8] Release costs have been captured within the I-SEM PPS project during year 2018/19
[9] Taken from SEMO's 2020/21 tariff submission received in May 2020.

2.2 Project: Release Support Capital

Description of project based on SEMO's submission

The Release Support Capital project provides resources to support, oversee and govern the use of the vendor hours detailed in Market System Release Capital project and to carry out testing activities during the execution phase for releases. SEMO is seeking to recover £4.7m in total across the three year period which relates to professional fees/ consultancy and internal resources. This project relates closely to the system releases outlined in Table 1 in section 2.1 above.

Summary of SEMC consultation proposals

The RAs considered the estimated project cost of €4.7m as significant, particularly given the high level justification provided in SEMO's submission. This project is in addition to the Market System Release Project estimated at €8.6m and represents over 50% of the Market System Release project costs across the three-year period.

The RAs noted that SEMO's described benefits of the project include the development of a comprehensive test programme and the addition of a second market environment (MMS/CSB P2) deployed in 2019[10] which should lead to higher quality releases in future. SEMO considers this project necessary to stabilise its systems in order to improve the efficiency of market operations and the amount of time and resources spent on defect resolution and query management.

The RAs proposed to allow the amounts requested for years 2018/19 and 2019/20 in recognition of the effort involved in stabilising the market during that two year period. Year 2020/21 represents the third year since SEM Go-Live; the RAs expected there to be greater efficiency associated with supporting the bi-annual releases. The RAs therefore proposed a reduction to the amount being sought for Release Support costs in 2020/21 consistent with the reduction applied to Market System Release Capital project in the year 2020/21; the RAs were of the view that this is more representative of a reasonable and proportionate cost estimate. Table 5 below shows SEMO's submission alongside the RAs' proposals.

Summary of responses

BGE's response is similar across this project and the Market System Release Capital project. In summary, BGE is concerned with apparent overlap of this project with the Market Release Capital project and the Additional Market Environments project. BGE's recommendation is for separate reporting of spend common to a number of projects so as clarity could be provided to participants on the application of cost-effective synergies across the projects, especially where different projects appear to overlap in purpose.

SSE expresses concern as to whether this project is needed at all. It agrees that €4.7m is a significant cost for contractors and would welcome greater clarity including detail of the specific services provided for the price. SSE would also welcome any indication of how

[10] Additional Market Environment Project (August 2019 submission)

value can be quantified in relation to this project and its deliverables, which could provide greater explanation of the significant cost. SSE are not comfortable that participants are paying for a facility where it is not demonstrated that the costs have been efficiently incurred.

SEMO's response refers to the complexity and challenge associated with fully stabilising the systems and delivering high quality changes which required additional resources for programme management, design and most of all testing.

SEMO says there is a need for more design and testing in order to be as efficient as possible and to deliver as much improvement as possible in parallel with the development of two releases in 2021 (Release G - June 2021 and Release H - October 2021). A key lesson learnt from earlier releases is the need for more rigorous testing. Any reduction in the test resources being made available in particular would risk the quality and delivery schedule for the releases (for example, Release G contains the critical repricing change request which is challenging to both develop and test).

SEMC decision

This project is also affected by the timing for allowances discussion and decision as detailed in Chapter 3 below. For example, SEMO is seeking €1.37m in respect of 2018/19 however this does not appear on SEMO's Fixed Asset Register for 2018/19. Therefore it can only be assumed the 2018/19 costs (€1.37m) relate to system releases which will be capitalised and added to SEMO's Fixed Asset Register and RAB in year 2019/20. As a consequence the SEMC have re-profiled the allowances for each year by moving them forward a year in line with the decision in Chapter 3.

SEMC do not see a need to make any further adjustments given the concerns raised by market participants in their responses in relation to the overall need for the project, the level of cost being requested, the apparent overlap with other projects and the absence of greater specificity on the costs and purpose associated with this project.

Should SEMO expect to continue to request release support capital for the 2021-2024 price control, any future submission would greatly benefit from more detail on the costs, deliverables and the value associated with the project.

The allowances provided within this decision are set out in Table 5 below and represent 73% of the total requested by SEMO.

Release Support Capital	2018/19 Tariff Year €m	2019/20 Tariff Year €m	2020/21 Tariff Year €m	Total €m
SEMO Submission	1.369	2.103	1.262	4.734
SEMC Proposal	1.369	2.103	0.821	4.293
SEMC Decision	0.000	1.369	2.103	3.472

Table 5: Project Costs within SEMO Capex Submission, SEMC Proposal and Decision

2.3 Project: Settlement Support and Resettlement

Description of project based on SEMO's submission

The Settlement Support and Resettlement project addressed a number of settlement issues including M+4 delays with €2m of monthly underpayments to Market Participants, a large number of manual workarounds, performance issues, settlement document breaches, ad hoc resettlement not functioning and issues during the build of repricing and resettlement processes. SEMO indicated that it was forced to carry out a large number of manual workarounds as temporary measures in order to settle the market due to defects in the system which did not enable the full resettlement of the SEM. Additional resources were therefore required including resources with subject matter expertise to analyse and resettle many participants. This project is now complete and cost €0.61m.

Summary of SEMC consultation proposals

Due to issues and defects within the system developed there were considerable difficulties with settlement and resettlement which required significant extra resources to carry out the various complex manual workarounds, and to deal with the vast amount of settlement general and formal queries as well as disputes. The RAs' view within the consultation paper, was that the benefits of these extra resources at that time will have been utilised within year as a temporary measure to address the immediate settlement difficulties.

Furthermore, the RAs contended that the longer term benefits of this project will be received from the resolution of the settlement and re-settlement defects and issues within the Market System Release Capital project.

In recognition of this 'one-off' project directly related to dealing with the settlement and resettlement difficulties experienced after SEM Go Live, the RAs proposed to allow these costs to be recovered as opex rather than as capex. More information supporting this proposal can be found in the SEM Committee Capex Consultation Paper (SEM-20-086).

Summary of responses

BGE supports the approach taken by the RAs in removing spend that should be considered as operational expenditure such as the Settlement Support and Resettlement project from the capex allowance requested by SEMO.

In SSE's view there are several capex activities listed in the business case for this project which would be eligible for recovery. SSE also view this project as ongoing and incomplete since pricing is not yet delivered. Therefore they consider it not as a 'one-off' project but a longer-term project until settlement support and resettlement enters a phase of stabilization. They view this as an area for which market confidence needs to be restored.

SSE do not accept that this should totally be considered as opex.

SEMO is opposed to recognising this project as an operational expense rather than capex. SEMO indicates that it treats such investment as capital expenditure in accordance with accounting policies. While regulatory accounting can differ, SEMO do not agree with the treatment of this investment as opex. Moreover, in SEMO's opinion, if the expenditure is to be treated as opex then the regulatory framework needs to elsewhere account for the risk associated with such expenditure.

SEMO state the future benefit of this project is to resolve the significant number of issues with the settlement system post go-live on 1 October 2018. Following SEM Go-Live, initial settlement documents were well outside prescribed timelines, there was a large number of complex work arounds and significant delays in M+4 resettlement to name but a few. SEMO, therefore, invested a further €0.61m in capital expenditure during 2018/19 and 2019/20 to bring the settlement and resettlement functions in line with their intended use i.e. to settle and resettle the market in a timely fashion.

<u>SEMC decision</u>

The feedback received from market participants and SEMO in relation to this project has been beneficial in understanding the project.

Market participants have been closely involved with this settlement and resettlement issue to date and clearly have mixed views on whether this project should be treated as opex or capex. Given the effort to improve the settlement and resettlement functions from that experienced in the months following SEM Go-Live, and recognising that market participants consider there to be a need for further work in this area, the decision has been taken to reinstate this project as capex.

This project is also subject to the timing for allowances decision as set out in Chapter 3, particularly in relation to year 2018/19. Given this particular project was completed during 2019/20 the decision has been taken to provide the full amount being requested of €0.61m within 2019/20. This decision is shown in Table 6 below.

Settlement Support and Resettlement	2018/19 Tariff Year €m	2019/20 Tariff Year €m	2020/21 Tariff Year €m	Total €m
SEMO Submission	0.346	0.268	0.000	0.614
SEMC Proposal	0.000	0.000	0.000	0.000
SEMC Decision	0.000	0.614	0.000	0.614

Table 6: Project Costs within SEMO Capex Submission, SEMC Proposal and Decision

2.4 Project: Market System Data Archiving

Description of project based on SEMO's submission

SEMO continues to have an obligation under the Trading and Settlement Code[11] to maintain the integrity and availability of information including for purposes of disaster recovery. Furthermore, within Agreed Procedure 5, SEMO is also required to store market data for a minimum of six years. The scale of data within the new SEM arrangements has led to massive volumes of data being created on a daily basis. To support these obligations, SEMO is seeking €1.128m to invest in the underlying infrastructure and the delivery of a data archiving solution. This project is scheduled for 2021 with benefits expected for the duration of the market (5 years +).

Summary of SEMC consultation proposals

Based on the October capex submission, the RAs consider this project to be closely related to the dynamic reporting facility associated with the Website Development project and also the Market Analysis Tools project. As part of this project SEMO points out the burden on its front office in relation to queries from interested parties including regulators, participants and market research companies relating to requests for data. This aspect will be alleviated once the dynamic reporting facility is available via the Website Development project. SEMO also recognises that this project will assist with market analysis.

Operational savings may be experienced with the greater ease of accessing archived data, for example, alleviating the significant overhead of a very resource-intensive process in retrieving data from backups. The ease in retrieving data is also expected to improve the current manual process for responding to queries.

SEMO advised in its submission that, at present, data is stored predominantly online with very limited archiving capability and, as a direct result, SEMO is experiencing storage space problems as the data builds on a daily basis. Given the significant amount of pressure on the current architecture, and the resulting performance degradation across the SEM central systems the RAs were concerned that the daily increase in storage related issues is not reflected in the progress of the project, noting that this project was previously profiled over a two year period from 2019 – 2021 but is now condensed into year 2020/21.

The RAs considered this an important project and proposed allowing the amount requested by SEMO in full, on the basis this project is prioritised for completion in 2021.

Summary of responses

BGE supports the RAs' view that this is an important project and SEMO should receive the full capex allowance for its completion as a priority in 2021.

IWEA and RenewableNI welcome the full allowance being proposed as they believe it to be of critical importance that market data is correctly archived, especially given the uncertainty around pricing and settlement in the first two years of the market operation. They also agree

[11] Agreed Procedure 5: Data Storage and IT Security

to this project being completed as soon as possible given it is a prerequisite for the Market Analysis Tools project.

SSE is surprised that this project is only in the scoping phase however it supports the view that it should be delivered as soon as possible. SSE is very concerned with the indication that there is currently insufficient archiving since 2018, which they assumed would have been considered and scoped before SEM Go-Live in October 2018. SSE considers the detail to be insufficient to comment on the allowance requested.

SEMO anticipates that work will continue to advance this project until September 2021. Further data work will be required which will be documented in later capex submissions.

SEMO says that expected operational savings have been taken into consideration as part of the 2021-2024 operational expenditure price control submission made to the RAs in December 2020.

SEMC decision

The feedback from respondents has confirmed the SEMC's view that this investment in both the underlying infrastructure and data archiving solution is vital and needs to put in place as soon as possible. Other projects can then benefit from this data archiving, for example, the Website Development project and particularly dynamic report functionality. It is understood the Market Analysis Tools project is also dependent on delivery of this project.

The SEMC is concerned that SEMO's response only commits to 'advance the project until September 2021'. The RAs, upon review of SEMO's October 2020 submission asked SEMO for the full project costs and were advised in writing on 24 November 2020 that the total estimated cost of the project was €1.128m.

The SEMC is therefore providing an allowance for this project in full at €1.128m on the understanding that it is prioritised for completion by September 2021 and that the data archiving solution will endure and bring benefits for the duration of the market (5 years +) as indicated by SEMO in its original submission. This decision is shown in Table 7 below.

Market System Data Archiving	2018/19 Tariff Year €m	2019/20 Tariff Year €m	2020/21 Tariff Year €m	Total €m
SEMO Submission	0.000	0.000	1.128	1.128
SEMC Proposal	0.000	0.000	1.128	1.128
SEMC Decision	0.000	0.000	1.128	1.128

Table 7: Project Costs within SEMO Capex Submission, SEMC Proposal and Decision

2.5 Project: Additional Market Environments

Description of project based on SEMO's submission

SEMO currently maintains nine MMS/CSB environments, including the production environment. Additional Market Environments are required by SEMO to support and maintain each environment, provide a pre-production environment for purposes of testing infrastructure upgrades and to reduce downtime in the release management process, provide a second production environment to test non-functional defects and to avoid a downtime in the availability of the market systems when implementing releases. SEMO is seeking €0.14m in respect of this project.

Summary of SEMC consultation proposals

Based on SEMO's submission, this project is due to be completed in April 2021 with benefits experienced for the lifetime of the market (5 years +). This project is heavily focused on various testing activities including those associated with change requests and defect fixes as part of the market system release testing. SEMO included the first year's annual maintenance cost within this project. The RAs expected that annual maintenance for future years will be treated as an operational expense (opex).

Given that the MMS P2 environment is already deployed[12] and this project is so closely related to the testing associated with change requests and defect fixes which make up the market system releases, the RAs contended that there is sufficient scope within the Release Support Capital project to cover the areas outlined. The RAs did not propose allowing any costs for the 2018 – 2021 period under review in the consultation, however noted that SEMO can submit a business case in its 2021 – 2024 price control capex submission.

Summary of responses

BGE were concerned with the apparent overlap of this project with the Market System Release Capital project and the Release Support Capital project and therefore noted the need for more granular detail in recognition of the RAs' reductions proposed in the consultation to costs requested under these projects.

In BGE's view there is not enough detail in this project to understand if it is addressing an existing testing environment request by participants. Significant numbers of defects are still appearing in market releases and market participants had requested involvement to test the pre-release versions before they go live in the market release. Participants need to be facilitated with access to pre-release versions in a testing environment. If this project currently does not include this participant request then BGE asks that a separate project and capex allowance is provided that sees market participants testing defect corrections pre-release.

BGE requires clarity from SEMO as to what they consider to be capex and what they consider opex in their project work to help simplify the nature of the capex costs submitted.

[12] As referenced in the August 2019 submission

For example, SEMO's inclusion of the first year's annual maintenance costs within this capex project together with the RAs stating they expect to see these as opex for future years.

IWEA and RenewableNI strongly urge a reconsideration on disallowing any allowances for this project. SEMO requires sophisticated market environments to test the new market releases and recent experience has shown the rollout of previous market releases to be poor, with one of the contributing factors being insufficient market environments to adequately test the releases. They believe there is a benefit to market participants and consumers in allowing SEMO to proceed with this project at a relatively modest cost of €0.143m.

SSE is unclear what these market environments are in addition to, given the claim that testing environments have been recently implemented to manage defects. SSE mention the difficulty of analysing these costs but said they would not be in favour of no allowance if it led to a repeat of their experience of nearly every code release to date. SSE wants to ensure that all necessary testing environments are delivered.

SSE is disappointed that industry feedback doesn't appear to be considered by SEMO as industry has repeatedly requested clarity regarding testing and has advocated for offline replica systems for fixing of defects, as well as the facility for participants to contribute at the testing stages.

SEMO suggested there was a misunderstanding regarding this project and stated that this project is to cover:

(i) The MMS/CSB database separation (currently being planned), and
(ii) The P2 failover configuration (in progress).

The amount being sought will enable SEMO to purchase a number of servers, VMware software etc in order to develop an environment that will be used to test the infrastructure changes which are included in Release H. The provision of the additional environment will also test the configuration of the load balancers prior to promoting a P2 environment to production. Furthermore, the additional investment will help to increase security, mitigating against data loss and will enable longer deployments for certain large scale releases. In SEMO's view to disallow the funding for this 2018-2021 period would mean that the risk of potential defects in the production environment would remain.

<u>SEMC decision</u>

The SEMC continues to have concerns, together with some respondents, that there is a potential overlap of this project with other projects within the paper. Indeed, this would seem to be borne out in SEMO's response to the consultation. For example, this project relates to failover configuration (P1/2), but within the Bi-annual System Release project it mentions the inclusion of changes in the ABB releases relating to areas such as Failover. Also, within the Market Management System (MMS) Performance Enhancement project which seeks to address issues such as no MMS redundancy/single point of failure and the ability to extend releases but then provides an update that Failover has been deployed and can be exercised thereby providing redundancy and supporting longer release deployments. Furthermore, the

MMS/CSB database separation mentioned in SEMO's response in relation to this project, was also captured within the MMS Performance Enhancement project in their submission.

The RAs explored the request from industry with SEMO, which a number of respondents raised in their consultation responses, for more involvement in pre-release stages including testing to help improve on their recent experience of system releases. SEMO clarified, in an Addendum to its response, that an externally facing, scaled test environment for market participants to test pre-production software version is not available. Despite other respondents suggesting that this may help to reduce SEMO's testing costs, providing this capability would involve:

- The procurement, build and maintenance of an additional Production-scale environment (hardware, licensing etc)
- Potentially new builds of up-stream and down-stream systems (eg. EDIL, EMS etc) may be required and configured to ensure data flows to the test environment can be provided without placing additional burden on live operational systems. Again, this may result in additional hardware and licensing costs.
- Additional resources would be required to ensure the environment(s) is maintained.
- Market operations resources would be need to 'shadow operate' the test systems to facilitate any test phase of value.

In response to strong pushback from market participants in their consultation responses which reflect their experiences of releases/hot fixes which has been challenging for them, the SEMC will provide the allowance in full for this Additional Market Environment project within year 2020/21. This decision is shown in Table 8 below.

Additional Market Environments	2018/19 Tariff Year €m	2019/20 Tariff Year €m	2020/21 Tariff Year €m	Total €m
SEMO Submission	0.000	0.005	0.138	0.143
SEMC Proposal	0.000	0.000	0.000	0.000
SEMC Decision	0.000	0.000	0.143	0.143

Table 8: Project Costs within SEMO Capex Submission, SEMC Proposal and Decision

2.6 Project: Market Management System (MMS) Performance Enhancements

Description of project based on SEMO's submission

The MMS is the central system for managing and administering the balancing market and is key to the overall system landscape of the SEM. The MMS provides different functionality including registration, scheduling and dispatch, instruction profiling and imbalance price calculation and reporting. The business case proposed performance enhancements to the

MMS, such as a back-up system to provide failover, a process to reduce Dispatch Balancing Costs when MMS is on outage, improvements to reduce late publication of settlement documents and improvements to control centre functions e.g. Real Time Dispatch (RTD). SEMO is seeking a total of €0.57m in respect of this project.

Summary of SEMC consultation proposals

The RAs noted this project was in the final execution phase, due to be completed in February 2021 with benefits likely to be experienced for five or more years until there is a major market re-design.

The RAs also noted the benefits expected both in terms of failover and system performance. However, in the RAs' opinion the expected improved performance of control centre functions and the reduced time lag for Real Time Dispatch (RTD) are TSO obligations and therefore outside the scope of this SEMO capex review.

Furthermore, the SEMO Capex submission received in October 2020 refers to the need for a process to avoid generators being settled on their simple commercial offer data at times when the back-up price is being used. In February 2020 the RAs approved Mod_19_19 'Determining the use of Complex Commercial Data in Settlement when required information is not available' which was recently implemented into systems via the market system bi-annual Release F (November 2020). Therefore the RAs assume the cost for this enhancement will be captured under market system releases rather than this project.

In addition, the first year's annual maintenance cost is included in this project. The RAs expect that annual maintenance for future years will be treated as an operational expense (opex).

Given the above, the RAs estimated a reduced allowance for the tariff year 2020/21, by reducing the allowance for professional fees and internal resources by three fifths as an estimated adjustment for those areas which are the responsibility of the TSOs rather than SEMO. The reduction also reflects that a Trading and Settlement Code modification process has been put in place to reduce Dispatch Balancing Costs when the MMS is on outage. Further information on this proposal can be found in the SEM Committee SEMO 2018-2021 Capex Consultation Paper (SEM-20-086).

Summary of responses

BGE requires clarity from SEMO as to what they consider to be capex and what they consider opex in their project work to help simplify the nature of the capex costs submitted. For example, SEMO's inclusion of the first year's annual maintenance costs within this capex project together with the RAs statement that they expect to see these as opex for future years.

SSE requested clarity as to what is proposed to be achieved and how this will reduce Dispatch Balancing Costs or make Real Time Dispatch (RTD) more efficient.

SEMO in its response provided more information on the need for improvements to reduce the time lag for RTD. The determination of 5 minute imbalance pricing is dependent on accurate flagging information being provided from the scheduling (RTD) process. Imbalance pricing is a SEMO function and therefore if flagging information is out of date due to slow running of RTD the imbalance price will be incorrect.

SEMO provided further detail in its response which included updates on failover and switchover capability and performance enhancements associated with the control centre e.g. improving RTD runs.

SEMC decision

The SEMC remains of the view that the cause of some of the issues mentioned by SEMO in this project stem from TSO functions such as scheduling and dispatch e.g. time lags with RTD runs, rather than SEMO functions.

With this in mind, the SEMC maintains its stance as outlined in the consultation paper on this project, and therefore the final allowance will reflect the modest reduction proposed in the consultation. However, given the timing of the project the allowance has been re-profiled and will be applied to year 2020/21. This decision is shown in Table 9 below.

MMS Performance Enhancements	2018/19 Tariff Year €m	2019/20 Tariff Year €m	2020/21 Tariff Year €m	Total €m
SEMO Submission	0.000	0.267	0.303	0.570
SEMC Proposal	0.000	0.267	0.259	0.526
SEMC Decision	0.000	0.000	0.526	0.526

Table 9: Project Costs within SEMO Capex Submission, SEMC Proposal and Decision

2.7 Project: Market Analysis Tools

Description of project based on SEMO's submission

SEMO considered a range of market analysis tools for monitoring the performance and quality of its operations. Sufficient analytical capability is necessary to support real-time monitoring, market analysis for complex market queries, specific market concerns and trends. Ultimately, the outputs of the tools will be made available to key external stakeholders including market participants and regulators. SEMO is seeking €0.25m in year 2020/21 in respect of this project.

Summary of SEMC consultation proposals

The RAs noted the dependency of this project on the Market System Data Archiving project being advanced before it can be delivered. The Data Archiving project is currently scheduled for 2020/21 which is also the same year for the design phase for this Market Analysis Tools project.

The allowance being sought up to September 2021 relates to the scoping and execution of the design phase only. SEMO did state in their submission that the development and roll-out phases will be additional costs beyond tariff year 2020/21, and suggested that 'significant investment is required'.

Given the above, the RAs recommended the deferral of the design phase of this project until the data archiving infrastructure is in place. The fuller project could then be captured within the 2021 – 2024 price control consultation and decision process.

<u>Summary of responses</u>

BGE noted the dependency of this project on the completion of the Data Archiving project and supports the deferral of this Market Analysis Tools project until the Data Archiving project is completed in 2021.

IWEA and RenewableNI recognised that the Data Archiving project is a prerequisite to this Market Analysis Tools project and agree that the Data Archiving project should therefore be completed as soon as possible.

SSE considered the delivery of the Data Archiving project and the Additional Market Environments project as being more important to address market confidence and therefore supports the postponement of this Market Analysis Tools project.

SSE advocates consultation with stakeholders on what market analysis tools are needed ahead of future delivery of this project.

SEMO considers this Market Analysis Tools project to be important to ensure the fulfilment of its obligations. A key focus is the use of analytical techniques to answer complex queries in which the Data Archiving capability will form the first step to delivering the right data competencies. As such, SEMO will prioritise the Data Archiving project for tariff year 2020/21 and will look to readdress the Market Analysis Tools as part of the next price control process for 2021-24.

<u>SEMC decision</u>

The SEMC is of the view that this project should be deferred so that the Data Archiving project, upon which this Market Tools project is dependent, can be prioritised in 2021. This deferral is reflected in Table 10 below.

Given that this project has the potential to be significant, the SEMC will require sufficient information on the specific tools to be developed and the associated cost details within any future capex submission relating to this project.

Market Analysis Tools	2018/19 Tariff Year €m	2019/20 Tariff Year €m	2020/21 Tariff Year €m	Total €m
SEMO Submission	0.000	0.000	0.250	0.250
SEMC Proposal	0.000	0.000	0.000	0.000
SEMC Decision	0.000	0.000	0.000	0.000

Table 10: Project Costs within SEMO Capex Submission, SEMC Proposal and Decision

2.8 Project: Compliance Management

Description of project based on SEMO's submission

SEMO is of the view that the development of a compliance system is required to track the level of compliance with the various market codes and licences. SEMO expects that this will make audits more efficient and allow it to proactively highlight any concerns regarding adherence to the codes and to demonstrate where remedial or long term actions are being taken to resolve non-compliances. At present there is no automated system; instead, a manual approach is currently used. The compliance project involves development of an IT tool to act as a single repository for all legislative, licence and code obligations. SEMO is seeking €0.14m in total within year 2020/21 of the period under review.

Summary of SEMC consultation proposals

Based upon SEMO's submission, this project could be considered a group-wide function. It is therefore important for the RAs' to be aware of the total cost for this project in order to assess that the €0.14m being sought by SEMO is both reasonable and proportionate. In addition, information available to the RAs notes that compliance related costs are allocated to the TSO businesses of the EirGrid Group. The RAs note that, if implemented, SEMO state that this will make audits more efficient and will reduce the large overhead in providing evidence of compliance.

The RAs requested that SEMO provide justification as to why it considers this project essential for the 2019 – 2021 period and, if necessary, why such compliance-related costs should be allocated to SEMO. The RAs remained unconvinced that this project is essential for the period under consultation.

Given the above, the RAs proposed to defer an allowance for this project. SEMO can submit a business case in the upcoming price control review for years 2021-2024.

Summary of responses

BGE considered the proposed reduction to the allowance being sought for this project as being appropriate for this pricing period based on the rationale outlined in the consultation paper.

SSE recognised that a compliance system could be beneficial in the effectiveness of market audits but supported this project being deferred. SSE asked that stakeholders be engaged with to allow input into the scoping and development to understand the proposed scope in terms of codes and licence obligations.

SEMO confirmed that the cost of this Compliance Management project within their submission is associated with SEMO only. Should this project not receive the necessary funding during this price control period, they indicate there will remain a risk of not being able to readily demonstrate compliance with the Trading and Settlement Code obligations in an efficient manner.

SEMC decision

The SEMC remains of the view that this project is not essential for the 2018-2021 period under review, particularly given the necessary priority being given to other projects within the year 2020/21 e.g. Market System Release Capital and Data Archiving projects. The SEMC's decision is reflected in Table 11 below.

Compliance Management	2018/19 Tariff Year €m	2019/20 Tariff Year €m	2020/21 Tariff Year €m	Total €m
SEMO Submission	0.000	0.000	0.140	0.140
SEMC Proposal	0.000	0.000	0.000	0.000
SEMC Decision	0.000	0.000	0.000	0.000

Table 11: Project Costs within SEMO Capex Submission, SEMC Proposal and Decision

2.9 Project: Website Development

Description of project based on SEMO's submission

SEMO went live with a new website in 2018. The website needs to be developed to meet the data and reporting needs of market participants. SEMO also needs to enhance its communication ability through regular website publications, stakeholder market updates and through the provision of Dynamic Reporting capability. SEMO's proposed solution and deliverables, as provided in its October 2020 capex submission were detailed in the consultation paper (SEM-20-086) as well as in SEMO's 2019-2021 MSDP consultation.

Summary of SEMC consultation proposals

The RAs note that SEMO expects the benefits from this website to last at least three years or until the next major market refresh.

This website project is considered a group-wide function spanning across the System Operators, SEMO and SEMOpx with the amount being sought representing SEMO's proportion of costs. As part of the consultation the RAs requested the total project cost in order to assess that the amount being sought is both reasonable and proportionate.

However, the RAs considered this to be an important project for completion by September 2021 and proposed to allow the full amount being sought as shown in Table 12 below.

Summary of responses

BGE supports the importance given to the website development project and the proposed allowance. BGE considers the website to be a significant source of information provision to participants and stakeholders, and its development for dynamic reporting and communications should improve the value experience of users.

IWEA and RenewableNI welcome the proposal to provide the full revenue allowance. They believe there are many improvements needed which will have direct benefits to market participants that in turn reduce the quantity of queries received by SEMO. They agree with the RAs' view that this project should be completed by September 2021.

SSE is supportive of the improvements to the website and encourage focus on a number of different areas including user friendliness, clearer areas for publication of consultations, settlement and market data as well as a review of the dashboard and other market data to ensure it is still fit for purpose.

SSE welcomes dynamic reporting by Quarter 4 2021 and would encourage a review of the suite of reports provided by SEMO to ensure that there are no other reports that would be useful for market participants. SSE would welcome industry engagement as the website needs to be functional for its users.

SEMO confirm the amount of €0.23m requested is based on an estimate of the SEMO work that will be done by September 2021. They consider there to be a number of aspects to be addressed by SEMO in order to make dynamic reporting available to market participants. The main focus will be on the availability of historical market data. Any further website development will be included in the 2021-24 SEMO capex submission in February 2021.

SEMO also mentions that the timelines for delivery of this project will be dependent on overall business priorities. SEMO states operational priorities have impacted on the advancement of the website project outlined. However, SEMO state it should be noted that the website was continually improved as a result of a number of smaller operational projects.

SEMC decision

The SEMC is concerned with SEMO's consultation response and a change in stance and timeline for expected deliverables in relation to this website project within a matter of months since its capex submission in late October 2020. In instances like this, the RAs would expect a project re-submission at an earlier stage rather than learning via a consultation response that deliverables and timelines are likely to change; this provides no opportunity for the RAs or indeed stakeholders to review a revised proposal. The SEMC proposed to allow the full amount requested in the consultation, in good faith, to expedite the full list of website enhancements provided in SEMO's October 2020 capex submission, including dynamic reporting, which would also have the benefit of reducing the burden on operational resources (e.g. currently fulfilling data extraction requests). SEMO's submission mentioned this project being achievable within the 2020/21 year.

The feedback from respondents has confirmed the SEMC's view that the enhancement of the SEMO website, particularly with dynamic reporting functionality, is important for improving stakeholders experience and engagement with SEMO. The RAs note that within SEMO's October submission they expect the benefits from this website enhancement to last at least three years or until the next major market refresh.

Despite this, and since SEMO has de-prioritised this project and been unable to clarify or provide assurances on the expected deliverables by September 2021, the SEM Committee has been left with little choice but to reduce the project allowance to zero. The SEMC is disappointed with SEMO re-prioritising its workplan mid-revenue recovery process and therefore expects SEMO to fully scope this project as part of its capex submission for the 2021-24 price control with priority given to the website development in the early part of the next price control period.

Table 12 below summarises the SEMC decision for this project.

Website Development	2018/19	2019/20	2020/21	
	Tariff Year	Tariff Year	Tariff Year	Total
	€m	€m	€m	€m
SEMO Submission	0.000	0.000	0.230	0.230
SEMC Proposal	0.000	0.000	0.230	0.230
SEMC Decision	0.000	0.000	0.000	0.000

Table 12: Project Costs within SEMO Capex Submission, SEMC Proposal and Decision

2.10 I-SEM Project: Post Production Support

Description of project based on SEMO's submission

I-SEM Post Production Support (PPS) activities were required to stabilise the complex and interdependent market systems and business processes that support the SEM. The focus of this project was to manage participant queries and system incidents; and fix, test and deploy high priority defects. Key activities included providing heightened support across the market applications and increased market participant and vendor engagement. The consultation paper (SEM-20-086) provided more detail on this project for which SEMO is seeking to recover €2.04m which relates to the period October 2018 to April 2019.

Summary of SEMC consultation proposals

This project was originally driven by the TSOs and SEMO as part of the I-SEM project. However, as these costs extended to April 2019 the I-SEM cost recovery framework was no longer available and so the RAs confirmed in May 2019 that the recovery mechanism for these I-SEM Post-Production Support costs would be via the SEMO price control, and be subject to a final outturn review on the same basis as other SEMO capex under the process outlined in SEM-18-003.

Outturn costs of €2.04m are (together with the I-SEM Day 1+ project in the next section) additional to the I-SEM total implementation costs[13] currently being recovered by EirGrid and SONI (75:25 split) via their respective TSO Regulatory Asset Bases (RABs).

PPS costs are 'one-off' I-SEM project costs which the TSOs and RAs' engaged on. Outturn costs of €2.04m, are within the forecast provided, therefore the RAs' proposed to allow recovery of these costs in full.

Summary of responses

SSE welcomed the transparency of this project and while acknowledging the need for it were not clear on how this project is eligible for capex recovery. In their view the experience of similar high volumes of issues and disputes at the start of the old SEM in 2007 should have been reflected in the planning and development of the new market arrangements from the outset. Whilst this work was necessary it was not unanticipated and therefore it needs to be confirmed that the initial outlay during scoping and development did not include any expenditure relating to this activity. If not, SSE would not be supportive of additional allowances being awarded for something they consider should have been included in the early stages of scoping.

SEMO acknowledged the proposed allowances for the Post Production Support project is consistent with the full amount requested and expect the RAs' position on these to be upheld through the consultation process.

SEMC decision

The TSOs and SEMO had engaged with the RAs in relation to these PPS costs during 2018 and 2019. The final outturn costs are below the estimated cost of €2.32m provided to the RAs' in December 2018.

In response to SSE's query, the revenue recoverable by the TSOs in respect of the I-SEM project[14] captures actual costs incurred during implementation of the I-SEM project rather than estimated scoping allowances outside of the I-SEM cost recovery framework and therefore these post production costs are considered additional to the I-SEM project costs already being recovered by the TSOs.

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[13] SEM Committee 2019 Annual Report https://www.semcommittee.com/sites/semc/files/media-files/SEM-19-071%20SEM%20annual%20report%20-%20October%202018%20-%20September%202019.pdf

[14] Outlined in an Agreed Approach Document, as agreed by the RAs, EirGrid and SONI): SEM-15-004 Published Agreed Approach Document | SEM Committee

Therefore, the SEM Committee has decided to allow recovery of these I-SEM PPS costs of €2.04m in full as shown in Table 13 below.

I-SEM Project: Post Production Support	2018/19 Tariff Year €m	2019/20 Tariff Year €m	2020/21 Tariff Year €m	Total €m
SEMO Submission	2.041	0.000	0.000	2.041
SEMC Proposal	2.041	0.000	0.000	2.041
SEMC Decision	2.041	0.000	0.000	2.041

Table 13: Project Costs within SEMO Capex Submission, SEMC Proposal and Decision

2.11 I-SEM Project: Day 1+

Description of project based on SEMO's submission

The I-SEM Day 1+ project was to address a number of outstanding actions. The scope of the Day 1+ project included work on priority defects, priority systems augmentations, critical modifications and certification of the Balancing Market and Capacity Market algorithms. Two major releases were delivered, the first in January 2019 (52 priority defects) and the second in March 2019 (42 priority defects). In addition, approximately 30 hot fixes were also delivered. SEMO is seeking to recover €2.37m in relation to this project which relates to the period October 2018 to April 2019.

Summary of SEMC consultation proposals

Originally driven by the TSOs and SEMO as part of the I-SEM project, this project extended until after the I-SEM cost recovery framework had ended. It was decided that the recovery mechanism for the I-SEM Day 1+ project would, similarly to the I-SEM Post Production Support project, be via the SEMO price control, and be subject to a final outturn review on the same basis as other SEMO capex.

Outturn costs of €2.37m are (along with the I-SEM Post Production Support project in the section above) additional to the I-SEM total implementation costs currently being recovered by EirGrid and SONI (75:25 split) via their respective TSO Regulatory Asset Bases (RABs).

These Day 1+ costs are 'one-off' I-SEM project costs which the TSOs and RAs engaged on. Outturn costs of €2.37m are broadly in line with the estimated cost of €2.35m provided to the RAs in December 2018. Therefore, the RAs proposed to allow recovery of these costs in full.

Summary of responses

SSE's concern is that the defects resolved by this project resulted from an incomplete delivery of the market system prior to go-live and a concern that this is scoped as a separate project with additional costs. Such defects should be the responsibility of the vendor to remedy as a result of their contractual arrangements to deliver a specific and accurate system in compliance with specific design.

SEMO acknowledged the proposed allowances for the Day 1+ project is consistent with the full amount requested and expect the RAs' position on these to be upheld through the consultation process.

SEMC decision

SSE's comment above is valid and should act as a lesson learnt for future SEM project management.

The TSOs and SEMO had engaged with the RAs in relation to these Day 1+ costs during 2018 and 2019. The final outturn costs are broadly in line with the estimated cost previously provided to the RAs' in December 2018.

Therefore, the SEM Committee has decided to allow recovery of these I-SEM Day 1+ costs of €2.37m in full as shown in Table 14 below.

I-SEM Project: Day 1+	2018/19 Tariff Year €m	2019/20 Tariff Year €m	2020/21 Tariff Year €m	Total €m
SEMO Submission	2.371	0.000	0.000	2.371
SEMC Proposal	2.371	0.000	0.000	2.371
SEMC Decision	2.371	0.000	0.000	2.371

Table 14: Project Costs within SEMO Capex Submission, SEMC Proposal and Decision

2.12 Summary and General Commentary on 2018-2021 SEMO Capex

In summary, this SEM Committee decision is providing SEMO with €16.66m across eight projects. The allowances provided, particularly for tariff year 2020/21, are generally for those projects which the SEM Committee views as priorities in respect of market development and to address market participants' concerns. To aid this prioritisation, the SEM Committee has deferred allowances of two projects which have not been viewed as necessary for 2020/21 and has reluctantly withdrawn the proposed (full) allowance for the Website Development project to ensure that it is better scoped for the next price control submission from SEMO. Appendix A provides a summary of allowances across each of the projects profiled across the three year period.

For tariff purposes, the allowances provided are based on a mid-tariff (March) price base within the year they have been allocated to. Chapter 3 of the SEMO 2018-21 Capex Consultation Paper (SEM-20-086) provided an overview on the treatment of these allowances and SEMO's final outturn costs within their tariffs. The 2020/21 SEMO tariff information paper[15] mentioned that depreciation and return figures associated with 2018/19[16] had been included within tariffs, but these would be subject to costs being accepted for inclusion on SEMO's Regulatory Asset Base (RAB) and in addition subject to this final outturn review in consultation with stakeholders. This decision paper now allows for a final adjustment to close off the 2018/19 year within tariffs which represents the first year of the new SEM arrangements. Tariff year 2019/20 will also be trued-up as part of the k-factor process when setting SEMO's 2021/22 tariff later this year.

The 2020/21 allowance of £8.1m provided in this decision paper represents an estimated allowance across the various projects; this will be subject to a final outturn review as part of the 2021-24 price control as indicated in the 2018 price control decision paper (SEM-18-003) and adjusted in line with actual expenditure through the annual tariff process.

As mentioned in our consultation paper (SEM-20-086) the SEM Committee sees value in SEMO providing a mid-year progress report for the 2020/21 year in April 2021 on both project status and costs incurred, and suggested the possible inclusion of this through a presentation at the regular Market Operator User Groups (MOUG). A number of respondents were also in favour of this recommendation for April 2021 and also as a regular bi-annual update. We see value in improved engagement with market participants about SEMO's work programme to ensure more meaningful dialogue and opportunity for feedback, appreciating that SEMO provides information in the public domain for consultation already.

Respondents were concerned that the SEMO's capex submission did not include specific projects/ allowances relating to the Clean Energy Package requirements (including Articles 12 and 13 of Regulation EU 2019/943), or any necessary changes relating to Brexit. SEMO has indicated that together with the Electricity Balancing Guideline (EBGL) requirements, these areas will be considered separately when there is greater clarity.

Concern has been raised both by the SEM Committee and respondents in relation to the level of detail provided by SEMO for each capex project with some noting that the lack of detail and clarity was impacting on the proposed allowances for projects which would be welcomed by market participants. SEMO should in future submissions aim to provide greater detail as to the costs and also the deliverables expected.

It is worth noting that SEMO's current 2018 – 2021 price control decision (SEM-18-003) ends on 30 September 2021. SEMO has provided its 2021-2024 opex submission to the RAs which is currently under review and subject to engagement with SEMO. Upon publication of this decision for 2018-21 capex, SEMO will then submit its 2021-2024 capex submission in February 2021. The RAs intend to carry out a 2021-2024 price control consultation in Quarter 2 2021 and will aim to publish a decision in August/September 2021 to inform SEMO's 2021/22 tariff.

SEMO, in its response to this decision paper, raised the importance of regulatory principles to apply to these capex allowances for the period 2018-2021. Some of these have been

[15] SEMO Revenue Requirement and K factor 2020/21 Information Paper https://www.semcommittee.com/publications/sem-20-051-semo-revenue-requirement-and-k-factor-202021-information-paper
[16] As part of the k-factor true-up mechanism

clarified in this decision paper. The regulatory principles and overall regulatory framework will form an important part of the forthcoming 2021-2024 SEMO price control process that will apply to both opex and capex for that period and discussions between the RAs and SEMO will commence in the very near future. The RAs are also mindful of comments made by market participants in their responses to be aware of lessons learnt from the I-SEM project and the importance of continuing to improve regulatory incentives and appropriate deliverables for allowances.

SEMC Decision

To summarise the above the SEM Committee has decided the following:

- Total of €16.66m for the three year period across eight projects (three complete; remaining five to be prioritised);
- 2020/21 capex allowance will be subject to a final outturn review as part of the 2021-24 price control and adjusted in line with actual expenditure through the annual tariff process;
- SEMO 2021/22 tariff to include final adjustments to close out 2018/19 and 2019/20 tariff years;
- SEMO to endeavour to provide project status and cost updates to the Market Operator User Group (MOUG) commencing in April 2021 and on bi-annual basis thereafter;
- SEMO's future cost submissions should provide greater detail as to the costs and also the expected deliverables with a robust evidence-base;
- SEM Committee to review the regulatory principles and overall regulatory framework for the forthcoming 2021-2024 SEMO price control process, including regulatory incentives and appropriate deliverables, and engage with SEMO in advance of consultation.

3. Timing of Allowances

With this consultation and decision being predominantly an ex-post review of SEMO's capex it has revealed a difference in approaches and assumptions between the RAs and SEMO in relation to the timing and profiling of the allowances. This issue relates to the range of projects but is experienced particularly in the Market System Release Capital project, Release Support Capital project and the Settlement Support and Resettlement project timings.

This issue is a key reason for the decisions being taken in this paper and therefore this section aims to explain the difference in approach and assumptions between SEMO and the RAs and to provide clarification and justification for the decisions in this paper, some of which stem purely from changes in timing/profiling across the years.

Within the Market System Release Capital and the Release Support Capital projects in the consultation the RAs raised a concern with the timing of allowances and so the consultation mentioned that the RAs would further engage with SEMO on this. The RAs have carried out a detailed review of the approach taken by SEMO in the past and have also engaged with SEMO to understand in more detail their position.

SEMO has given an overview of their position in their response which states the following:

- *"A number of the projects included as part of the CapEx 2018 -2021 submission are impacted by the software releases.*
- *From 2020 SEMO has moved to a regular Bi-Annual Release cycle.*
- *Although the releases will be twice a year, the work required for each Release begins well in advance of each new release date.*
- *Costs in SEMO's Regulated Asset Base are added from when they are incurred. This differs from the Fixed Asset Register to which assets are added once a project is complete.*
- *As such, the majority, if not all, of the work required for releases in SEMO is carried out prior to the date of deployment.*
- *Any change to the current Regulatory Asset Base arrangements, when costs are added to same and thus recovery of costs commenced would be a change in SEMO's core regulatory framework".*

It is worth being reminded of the purpose of setting capex allowances in general. In normal price control arrangements SEMO would be asked to submit forecast capex profiled across a number of years. Following the RAs' assessment of these the capex decision on these ex-ante allowances would be applied to each of the tariff years. This allows SEMO to begin recovering an estimated amount of capex (in the form of estimated depreciation) and an estimated WACC return within the year the expenditure was expected to take place. At a later stage (generally two years lag), tariffs are adjusted to true up the estimated capex allowances provided to agree with the actual capex spend which has been capitalized and placed on SEMO's Fixed Asset Register and Regulatory Asset Base (RAB) in order to calculate actual depreciation and actual return associated with each tariff year.

The key difference between the consultation and this decision is that it is ex-post and more is known about the actual capex spend, particularly for the 2018/19 year, for which SEMO provided its Fixed Asset Register to the RAs in March 2020. This is an important year as it represents the first year of the revised SEM arrangements and it is vital to be clear on the capex approach which is to apply for 2018/19 and future years.

To best explain this, 2018/19 is worked through in detail. In October 2020, SEMO made a submission for €6.26m of capex in relation to the year 2018/19 which related to five projects. It is important to note that the 2018/19 tariff year did not include any capex allowance (estimated depreciation) in relation to these five projects as SEMO considered there to be too much uncertainty to include capex projects when the 2018-2021 price control was being progressed.

Given that this is an ex-post review for 2018/19, SEMO's actual capitalized costs for tariff year 2018/19 are now known. The RAs, as part of their internal review on this issue, compared SEMO's request for €6.26m with SEMO's Fixed Asset Register. This shows SEMO's capex additions for 2018/19 being €4.41m. Table 15 below shows the difference between what SEMO are seeking to recover (€6.26m), as being the costs incurred during the year, compared to the projects (€4.41m) which have been completed and now form capital additions to SEMO's Fixed Asset Register.

Project Description	SEMO Oct 2020 Capex Submission Oct 18 - Sept 19 €m	SEMO Fixed Asset Register (Capital Additions) Oct 18 - Sept 19 €m
Market System Release Capital	0.135	0.000
Release Support Capital	1.369	0.000
Settlement Support & Resettlement	0.346	0.000
I-SEM: Post Production Support	2.041	2.041
I-SEM: Day1+	2.371	2.371
Total CAPEX	**6.262**	**4.412**

Table 15: Comparison of SEMO's Submission and Fixed Asset Register for tariff year 2018/19

The issue is then which of these two values should be applied to SEMO's Regulatory Asset Base. SEMO has indicated in its response to the 2018-21 capex consultation that it should be the costs incurred during the year of €6.26m. However, the RAs and SEM Committee differ on SEMO's view for the following reasons.

As outlined above, the purpose of setting these capital allowances is ultimately to determine the final[17] depreciation and WACC return amounts to be recovered within tariffs. Therefore both depreciation and return should commence when a project/asset is commissioned and the total costs of the project/asset have been capitalised and included on the Fixed Asset Register. The RAB is simply the mechanism used by regulators and regulated businesses to calculate the final depreciation and WACC return amounts.

In light of this issue the RAs have carried out a fresh detailed review of the approach taken by SEMO in relation to the legacy SEM tariffs. The RAs can clearly demonstrate, across a wide range of tariff years, that SEMO's Fixed Asset Register, containing the capital

[17] By adjusting the estimated amounts included in tariffs via the ex-post k factor mechanism

additions, has informed the capital costs to be added to SEMO's RAB which is then used to calculate the final depreciation and WACC return that has been applied through to the last SEMO's tariff relating to the legacy SEM. For example, in many of the tariff years recently reviewed by the RAs, SEMO had included both their Fixed Asset Register within the same spreadsheet tab as their RAB, making it very easy to link the additions included on the RAB back to SEMO's Fixed Asset Register. The Fixed Asset Register records the historical cost of the asset which is then included on SEMO's RAB and indexed annually over the relevant period using a blended indexation rate[18].

SEMO's approach adds complexity and introduces a lack of consistency between the Fixed Asset Register and the Regulatory Asset Base and also represents a change from the legacy SEM. SEMO neither in its submission nor other engagement with the RAs' had documented nor made explicit to the RAs this change in approach. It has since been addressed in SEMO's consultation response.

Given the concern and the impact that this could potentially have on consumers it is important that this approach is made clear in this paper so as year 2018/19, being the first year of the revised SEM, and future years can be appropriately regulated and remain consistent with the approach taken by SEMO and the SEM Committee in relation to legacy SEM.

<u>SEMC decision</u>

The purpose of setting these allowances is ultimately to determine the final[19] depreciation and WACC return amounts to be recovered within tariffs. Therefore, both depreciation and return will commence when a project/asset is commissioned and the total costs of the project/asset have been capitalised and included on the Fixed Asset Register.

The Fixed Asset Register informs, in a consistent manner, the capital additions to be included on the Regulated Asset Base to be used by SEMO and the RAs to calculate the final depreciation and WACC return amounts to apply to tariffs. The RAB will continue to be indexed annually using the blended indexation rate (75% CPI:25% RPI) currently in place.

Continuing this approach from legacy SEM to the revised SEM arrangements continues to incentivise SEMO to complete projects so as they can be treated as additions on the RAB and attract a WACC return.

Applying this approach, the SEMC is therefore approving €4.412m for tariff year 2018/19 consistent with the capital additions included on SEMO's Fixed Asset Register. This creates differences in the profiling for years 2018/19, 2019/20 and 2020/21, compared with SEMO's submission, in this decision paper. However, it is important that a robust approach is applied to the revised SEM arrangements and therefore applied for 2018/19 onwards. Table 16 below sets out the decision for tariff year 2018/19.

[18] Eirgird 75% share indexed using CPI; SONI 25% indexed using RPI.
[19] By adjusting the estimated amounts included in tariffs via the ex-post k factor mechanism

Project Description	SEMO Oct 2020 Capex Submission Oct 18 - Sept 19 €m	SEMO Fixed Asset Register (Capital Additions) Oct 18 - Sept 19 €m	SEM Committee Decision Oct 18 - Sept 19 €m
Market System Release Capital	0.135	0.000	0.000
Release Support Capital	1.369	0.000	0.000
Settlement Support & Resettlement	0.346	0.000	0.000
I-SEM: Post Production Support	2.041	2.041	2.041
I-SEM: Day1+	2.371	2.371	2.371
Total CAPEX	**6.262**	**4.412**	**4.412**

Table 16: Comparison of SEMO's Submission, SEMO Fixed Asset Register and SEMC Decision for tariff year 2018/19

APPENDIX A: Summary of SEMO Submission, SEM Committee Proposals and Final Decisions

Project Description	SEMO Oct 2020 Capex Submission				SEM Committee Proposals				SEM Committee Decisions			
	Oct 18 - Sept 19 €m	Oct 19 - Sept 20 €m	Oct 20 - Sept 21 €m	Total €m	Oct 18 - Sept 19 €m	Oct 19 - Sept 20 €m	Oct 20 - Sept 21 €m	Total €m	Oct 18 - Sept 19 €m	Oct 19 - Sept 20 €m	Oct 20 - Sept 21 €m	Total €m
Market System Release Capital	0.135	2.065	6.400	8.600	0.135	2.065	4.164	6.364	0.000	2.200	4.164	6.364
Release Support Capital	1.369	2.103	1.262	4.734	1.369	2.103	0.821	4.293	0.000	1.369	2.103	3.472
Settlement Support & Resettlement	0.346	0.268	0.000	0.614	0.000	0.000	0.000	0.000	0.000	0.614	0.000	0.614
Market System Data Archiving	0.000	0.000	1.128	1.128	0.000	0.000	1.128	1.128	0.000	0.000	1.128	1.128
Additional Market Environments	0.000	0.005	0.138	0.143	0.000	0.000	0.000	0.000	0.000	0.000	0.143	0.143
MMS Performance Enhancements	0.000	0.267	0.303	0.570	0.000	0.267	0.259	0.526	0.000	0.000	0.526	0.526
Market Analysis Tools	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Compliance Management	0.000	0.000	0.140	0.140	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Website Development	0.000	0.000	0.230	0.230	0.000	0.000	0.230	0.230	0.000	0.000	0.000	0.000
Sub Total	1.850	4.708	9.851	16.409	**1.504**	**4.435**	**6.602**	**12.541**	**0.000**	**4.183**	**8.064**	**12.247**
I-SEM: Post Production Support	2.041			2.041	2.041			2.041	2.041			2.041
I-SEM: Day1+	2.371			2.371	2.371			2.371	2.371			2.371
Total CAPEX	**6.262**	**4.708**	**9.851**	**20.821**	**5.916**	**4.435**	**6.602**	**16.953**	**4.412**	**4.183**	**8.064**	**16.659**