Single Electricity Market

SEMO Revenue and Tariffs

&

TSO Dispatch Balancing Costs

for

October 2008 – September 2009

Consultation Paper

V1.2

24 June 2008

SEM – 08 - 079

1 EXECUTIVE SUMMARY

Background

The All-Island Single Electricity Market (SEM), commenced operation on 1 November 2007, and is administered by the Single Electricity Market Operator (SEMO), formed through a contractual joint venture between EirGrid and SONI.

SEMO needs to recover from market participants its operational costs, capital costs, constraint costs associated with the balancing of the transmission systems, and constraints costs associated with generator units which are being tested.

This consultation paper by the Regulatory Authorities includes proposals on the form of SEMO regulation, the allowed revenue for SEMO, the cost of constraints, and all associated tariffs.

Comments are invited from the public by Friday 18th July 2008, as detailed in Section 11. A Decision Paper on this issue is due to be published by the Regulatory Authorities in late August 2008

Form of Regulation

The Regulatory Authorities propose that the new tariff period runs for 12 months, from 1 October 2008 to 30 September 2009. Due to the short period of the new tariff period and in keeping with the initial tariff period, the Regulatory Authorities propose that SEMO continues to be subject to rate-of-return regulation, with the energy and capacity cash-flows being regarded as a cost pass-through.

In view of the start-up nature of SEMO and the associated uncertainty involved in estimating its costs, all costs allowed for the new tariff period will be subject to an *ex-post* review and determination by the Regulatory Authorities. This determination may result in an over or under-recovery of revenue being fed through to the subsequent tariff period.

SEMO Allowed Revenue

Applying the Regulatory Authorities’ proposed inflation assumptions; in April 2009 prices the total revenue sought by SEMO to cover its costs for the tariff period is €23.75 Million plus €1.98 Million for Energy Imbalances.

The Regulatory Authorities have carried out an analysis of the various cost categories (as detailed in Section 8) and propose a SEMO revenue of €22.31m for this period. In addition, the Regulatory Authorities propose that €1.98 Million for Energy Imbalances as requested by SEMO is allowed. A comparison between the costs sought by SEMO and those proposed by the Regulatory Authorities is shown below, in April 2009 prices.

All SEMO costs, including the Energy Imbalances for subsequent tariff periods (post September 2009) will be subject to a separate review by the Regulatory Authorities.

Cost Area	**SEMO Submission**	**Regulatory Authority Proposal**
Total Operating Cost	9,264,746	9,082,242
Discretionary Fund	260,689	0
Interconnector Administrator	316,787	316,787
Depreciation	11,462,221	11,462,221
WACC	2,447,285	2,447,285
Total Revenue	**23,751,728**	**23,308,535**

Table 1 – Summary of SEMO Allowed Revenue

SEMO Charges

The Regulatory Authorities propose the following tariffs to recover the proposed allowed SEMO revenue:

- Accession fee = €1,500
- Participation fee = €3,500
- Market Operator Fixed charge for Generator Units = €124 per MW
- Market Operator Fixed charge for Supplier Units = €385 per Supplier Unit
- Market Operator Variable charge for Supplier Units = €0.586 per MWh

Imperfections Charge

The proposed cost of constraints is €121.4 Million in mid-tariff period prices and the proposed cost of Energy Imbalances is €1.98 Million in April 2009 prices, resulting in an Imperfections charge to suppliers of €3.264 per MWh.

Generator-Under-Test Tariffs

For the original price control (November 2007 – September 2008), SEMO presented proposals for the recovery of costs associated with genset tests. However, following a proposal by the TSOs, the Regulatory Authorities have agreed that genset test costs will be dealt with separately, as part of the ancillary services consultation.

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3 INTRODUCTION

3.1 THE SINGLE ELECTRICITY MARKET

The Northern Ireland and Ireland governments, the Northern Ireland Authority for Utility Regulation and the Commission for Energy Regulation (together "the Regulatory Authorities"), and industry have worked together to create an All-Island Energy Market, as outlined in the All-Island energy market development framework paper.[1]

The first step in this process, the implementation of an All-Island wholesale electricity market, the Single Electricity Market (SEM) was completed on 1st November 2007 when the Market went live.

The SEM is a centralised or gross mandatory pool market, with electricity being bought and sold through the pool under a market clearing mechanism. Generators receive the System Marginal Price (SMP) for their scheduled dispatch quantities, capacity payments for their actual availability, and constraint payments for changes in the market schedule due to system constraints. Suppliers purchasing energy from the pool will pay the SMP for each trading period, capacity costs, and system support charges. The SEM market rules are set out in the Trading and Settlement Code (TSC).

3.2 ROLE OF SEMO

The development of the SEM led to the requirement for a Single Electricity Market Operator (SEMO) to administer the market. With this in mind the Regulatory Authorities approved the plans of EirGrid and SONI, the transmission system operators for the Ireland and Northern Ireland respectively, to establish SEMO on a contractual Joint Venture basis.

SEMO's role in the market is explicitly defined in the SEM Trading and Settlement Code (TSC), which sets out the rules, procedures and terms and conditions which all parties, including SEMO, must adhere to in order to participate in the SEM. In addition, both EirGrid and SONI must comply with the conditions imposed on this activity by their respective Market Operator (MO) Licences

As define in section 1.3 of the TSC, SEMO's role can be summarised as to facilitate the efficient, economic and coordinated operation, administration and development of the Single Electricity Market in a financially secure manner

[1] All-Island Energy Market: A Development Framework, Nov 2004, www.allislandproject.org
http://www.dcmnr.gov.ie/NR/rdonlyres/BCF98EC4-7321-4E3F8685BFFCA2BF2DF4/0/All_island_Energy_Market_Development_Framework.pdf

3.3 SEMO REVENUE & CHARGES

SEMO incurs operational costs while carrying out the above functions and recovers these costs, as well as capital related costs and a rate of return, through SEM tariffs and fees, which are levied on market participants. To facilitate this recovery of costs, the Market Operator Licence (Annex 1) requires SEMO to submit proposals on its allowed revenue and the charges required to recover this revenue to the Regulatory Authorities. Furthermore, SEMO must also present proposals on tariffs to recover costs associated with imperfections.

The current tariff period is due to end on 30 September 2008 i.e. it covers an 11 month period from 1 November 2007 to 30 September 2008. Therefore, the revenue and tariffs need to be determined for the next tariff period.

3.4 IMPERFECTIONS & DISPATCH BALANCING COSTS

In addition to SEMO's operational costs, the TSOs (Eirgrid and SONI) submitted a paper to the Regulatory Authorities on 17 April 2008 detailing the costs relating to Dispatch Balancing Costs. Dispatch Balancing Cost is a TSO-defined term and refers to the sum of Constraint Payments, Uninstructed Imbalance Payments and Generator Testing Charges. The details relating to these are covered in Section 9 of this Consultation Paper

3.5 REGULATORY APPROVAL PROCESS

The Regulatory Authorities have carried out an analysis and review of SEMO's submission and associated supporting information. On the basis of that review, the Regulatory Authorities now publish this consultation paper, detailing proposals for the allowed revenue for SEMO, the cost of Dispatch Balancing Costs, and all associated tariffs.

Comments on this consultation paper are invited from all interested parties as detailed in Section 11 below, and will be considered by the Regulatory Authorities prior to the publication of the final Decision Paper on this topic in late August 2008.

3.6 OBJECTIVE OF PAPER

The objective of this consultation paper is to solicit comments from interested parties on a range of proposals associated with SEMO's allowed revenue. These proposals cover:

- The appropriate length of the new tariff period,
- The allowable revenue for SEMO,
- The recovery of Dispatch Balancing Costs and,
- The form and magnitude of each tariff through which the revenue will be recovered.

4 STRUCTURE OF THE PAPER

This paper outlines proposals and seeks comments on issues related to SEMO's allowed revenue. It is structured as follows:

- **Section 3** outlines the background to the SEM, the role of SEMO within the market, and the process behind the approval of SEMO's allowed revenue. The objectives of this paper are also detailed.
- **Section 5** outlines the regulatory principles that will be adhered to during the decision making process.
- **Section 6** covers the length of the new tariff period.
- **Section 7** outlines the form of regulation for SEMO.
- **Section 8** covers SEMO's allowed revenue, including operating costs, depreciation, and the Weighted Average Cost of Capital (WACC).
- **Section 9** outlines Imperfection Charges and proposals from the TSO in relation to Dispatch Balancing Costs, which covers the net cost of constraints and uninstructed imbalances. In addition, proposals on the process to be used for the estimation of generator-under-test tariffs are also briefly discussed.
  For completion and consistency, the energy imbalances and make whole payments are also discussed in Section 9
- **Section 10** covers the form and magnitude of SEMO and market related charges.
- **Section 11** outlines the appropriate format and timeframe for the provision of comments on this paper.
- **Appendix 1** provides information on the application of k factors
- **Appendix 2** provides backup to the calculations of Depreciation and WACC
- **Appendix 3** provides a breakdown of the constraint costs; and
- **Appendix 4** provides the energy inputs used to determine the calculation of tariffs

Upon receipt of comments on this consultation paper, a decision document will be drafted and published by the Regulatory Authorities in late August 2008.

5 REGULATORY PRINCIPLES

This section outlines the principles behind the regulatory proposals contained in this paper. Any subsequent decisions relating to these proposals will also be evaluated against these principles.

Best practice regulation of the so-called natural monopolies, should be characterised as seeking to ensure that tariffs are:

- **Sustainable,**
- **Stable,**
- **Transparent,**
- **Predictable, and**
- **Cost-effective**.

The Regulators task essentially consists of creating a framework within which, in return for providing monopoly services to an acceptable quality, the regulated business receives a reasonable assurance of a revenue stream in future years that will cover its costs, including an appropriate rate-of-return on investments made and the recovery of capital invested.

Sustainability

The regulated business must be able to finance its operations, plus any necessary capital expenditure so that it can continue to operate in the future to the ultimate benefit of customers. Sustainability in the context of market operations also involves the sustainability of market arrangements and thus also entails avoiding barriers to market entry or market exit and avoiding any inconsistency or unfairness in the treatment of any participant, or class of participant

Stability

To be stable, the framework must also provide some certainty to all the parties affected by it, that is customers, the Governments and Regulatory Authorities (acting on behalf of customers), SEMO itself, the TSOs and generators and suppliers. Frequent complaints and disputes will lead to the regime being continually adjusted by the Regulators. This creates uncertainty in the industry and discourages investment and long-term planning. The stability of the regime is particularly important to privately owned businesses, if investors are to be encouraged to make long-term investments in the sector.

Transparent, & Predictability

The rules that govern the regulatory regime should also be transparent and unambiguous in their interpretation and predictable in the way they are applied. In particular, it should be clear how costs relate to prices. Regulations which are unclear will cause disputes, which will also create instability in the regulatory regime, add to the costs of regulation and are likely to raise the cost of capital, ultimately to the detriment of customers in the form of higher prices. An important corollary is that there should be "no surprises" for participants. This does not imply that the Regulators cannot change their view on issues, or revise the regulatory framework as necessary and in response to unforeseen developments, but it does mean that the Regulators will endeavour to:

- Avoid changes which apply retrospectively, with adverse consequences for the regulated businesses,

- Take decisions following a due process of consultation and consideration of the relevant issues, and,
- Publish a full account of the reasoning behind those decisions.

Cost-effectiveness

The costs of monitoring and enforcing compliance need to be low relative to the benefits of regulation. Ideally, the regulatory framework will involve minimum costs of data collection and analysis. The procedure for processing disputes should also be simple, although the more transparent and stable the regulatory system, the less often disputes will arise.

6 LENGTH OF PRICE CONTROL

The SEM is less than a year old and as such, it is recognised that both the SEMO Organisation and the associated costs are still bedding down. While the actual costs to date can be used as a gauge of the costs going forward, there is still insufficient real-time information to carry out a detailed cost analysis that can be relied upon for future determination of revenues.

Therefore, in order to reduce the risk of a large over or under-recovery of revenue during the tariff period, leading to the need for a mid-tariff period change, or the requirement for a large allowance to be made in the subsequent tariff period (k factor), it is currently preferable to set the new tariff period over a short (one year) rather than long (for example, three to five year) timeframe.

PROPOSAL 1

It is proposed that the new SEMO tariff period will run for a one year period from:

1st October 2008 to 30th September 2009

This is in agreement with the regulatory principles outlined in Section 5, and the benefits of a relatively short new tariff period as outlined above.

Thereafter throughout this document the proposed dates above will be referred to as *'the new tariff period'*

In addition, it should be noted that during the discussions with SEMO in the preparation of inputs for this consultation paper, a request was made that the subsequent price control period (from October 2009 onwards) be for a longer duration than one year. The Regulatory Authorities note the request; however any decision on future price control durations will be subject to full industry consultation

7 FORM OF REGULATION

7.1 FORMS OF REGULATION PREVIOUSLY CONSIDERED

In the Consultation[2] and Decision[3] papers for the initial SEMO revenue and tariffs period, a number of forms of regulation were discussed. These included:

- Rate-of-return regulation
- Price caps
- Yardstick regulation
- Key performance indicators
- Cost-pass-through

7.2 PROPOSAL ON FORMS OF REGULATION

Based on the outcome of that consultation process and the short time frame proposed for the new price control, it appears appropriate to keep the current rate of return regulation for the new price control period. This will ensure stability and predictability in the new market. For clarity the following is proposed:

- SEMO will be subject to rate-of-return regulation (that is, it will receive a rate-of-return on its asset base),
- For the energy and capacity cash-flows, these will be regarded as a cost pass-through.
- For the Imperfections Charge (Dispatch Balancing Costs + Energy Imbalance + Make Whole Payments), these will be regarded as a cost pass-through.

It should be noted that as discussed in the Decision Paper for the initial SEMO revenue and tariffs period, all SEMO costs which are allowed for the new tariff period, including capital-related costs, will be subject to an *ex-post* review and determination by the Regulatory Authorities. This determination of efficiently incurred costs may result in an over or under-recovery of revenue being fed through to the subsequent tariff period(s). This also applies to revenue covered under the imperfections charge.

Furthermore, this proposed form of regulation applies for the new tariff period only (from 1st October 2008 to 30th September 2009). Other forms of SEMO regulation, including the use of alternative pricing methods, performance incentives and cost benchmarking, will be considered separately for the subsequent tariff period(s) when there is more certainty and data on SEMO's operation, performance and costs.

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[2] SMO Revenue and Tariffs Consultation Paper - 11th June 2007 (AIP/SEM/246/07)

[3] SMO Revenue and Tariffs Decision Paper - 31st August 2007 (AIP/SEM/07/455)

SEMO reports quarterly to the Regulatory Authorities on its performance and financial status. It is the Regulatory Authorities' intention to use the various reports currently published by SEMO to build up information on a number of areas for setting Key Performance Indicators. Some of these may be used for incentive arrangements in future price control periods.

PROPOSAL 2

SEMO's Operation will be subject to **rate-of-return regulation** (that is, it will receive a rate-of-return on its Regulated Asset Base; RAB).

The **energy** and **capacity** cash-flows will be regarded as a **cost pass-through**.

The **Imperfections Charges** (Dispatch Balancing Costs + Energy Imbalance + Make Whole Payments) will be regarded as **cost pass-through**.

7.3 K FACTOR

A 'k-factor' is used to accommodate any over, or under, recovery of funds from a previous revenue allowance. Such a reconciliation of revenue should take account, not just of overall income as against outgoings, but should also take account of any interest earned or payable arising from working capital provisions.

The Regulatory Authorities intend to review the final outturn costs for the current tariff period (1 November 2007 to 30 September 2008) once these figures are available. A reasonable expectation is that these figures will be available in October 2008.

Following analysis and any necessary approval from these figures a k-factor will be applied to the revenue allowance for the tariff period beginning at 1st October 2009. Accordingly, there will be no k-factor available for application to the new tariff period. Further discussion of the application of the k-factor is provided in Appendix 1. For the avoidance of doubt, the k-factor will account for both SEMO costs and Imperfection cost variances.

8 DETERMINATION OF ALLOWABLE REVENUE FOR SEMO

This section makes proposals on SEMO's allowed revenue, and covers the operating costs of SEMO during the new 12 month tariff period, the capital costs involved with the establishment of the market, any new capital costs and the Weighted Average Cost of Capital (WACC) that is proposed as remuneration for the parent companies. The proposed costs/revenues are shown in detail from Section 8.1 below and are summarised in Section 8.11.

In addition, all proposed costs/revenues apply to the new tariff period only and will be separately reviewed for the subsequent tariff period(s) as SEMO's function beds down and its costs become more certain.

8.1 REGULATORY AUTHORITIES APPROACH TO THE DETERMINATION OF ALLOWABLE REVENUE

In order that the tariffs are sustainable, they must reflect all costs that are incurred for each of the relevant tariff areas (SEMO'S direct costs and imperfections). Therefore, some checks have been undertaken by the Regulatory Authorities to ensure that costs for the next tariff period are justified and that all activities are covered.

In order to ensure cost-effectiveness over the forthcoming tariff period, the baseline for the Regulatory Authorities analysis has been the actual costs incurred and available for inclusion in the SEMO revenue submission (from market opening on the 1 November, 2007, until the 29 February, 2008). From this baseline cost, some view on likely costs for the next tariff period can be established, taking the following into account;

- Comparison of approved tariff costs with actual spend,
- Comparison of approved tariff costs with potential outturn,
- Potential changes in requirements, or circumstances, in moving from the current tariffs to the next

Whilst the Regulatory Authorities recognise that the actual costs to the end of February, 2008 (4 months, which was the period for which data was available at the time of the RAs' consideration of the new tariffs) is a small sample on which to base trends or forecasts of future trends, these costs have been used to provide a sanity check of the proposed costs put forward by SEMO. In any areas in this consultation document where the Regulatory Authorities view of a suitable revenue level differs from the proposed costs submitted by SEMO, the Regulatory Authorities have endeavoured to fully explain the rationale for the proposals.

8.2 INPUTS FROM SEMO FOR THE DETERMINATION OF ALLOWABLE REVENUE

There have been a number of discussions between SEMO and the Regulatory Authorities during the first quarter of 2008 in preparation for the revenue submission. The first revenue submission was received from SEMO on 27 March 2008, in line with the agreed timetable. A number of meetings and email correspondence between SEMO and the Regulatory Authorities took place throughout April 2008, where SEMO provided further clarification and detail on the make up of their revenue submission. SEMO made a final submission on 2 May 2008. The final submission included a full set of management accounts with a comparison of costs against budget.

The above inputs have been used to determine the proposed allowed revenue details of which are included in this consultation paper.

8.3 OPERATING COSTS

Operating expenditure covers costs to be incurred by SEMO from 1st October 2008 to 30th September 2009. The figures provided by SEMO in their final submission and the suggested costs proposed by the Regulatory Authorities are detailed in the following sections. Unless otherwise stated, the costs in section 8 are in 2008 terms.

8.3.1 PAYROLL

SEMO'S Payroll costs seek to cover all staff costs, including salaries, bonuses, employer's PRSI/National Insurance, employer's pension contribution, overtime, on call/shift, cars and other benefits.

The organisation chart provided in the SEMO submission is detailed below. This was the structure as of the end of February 2008

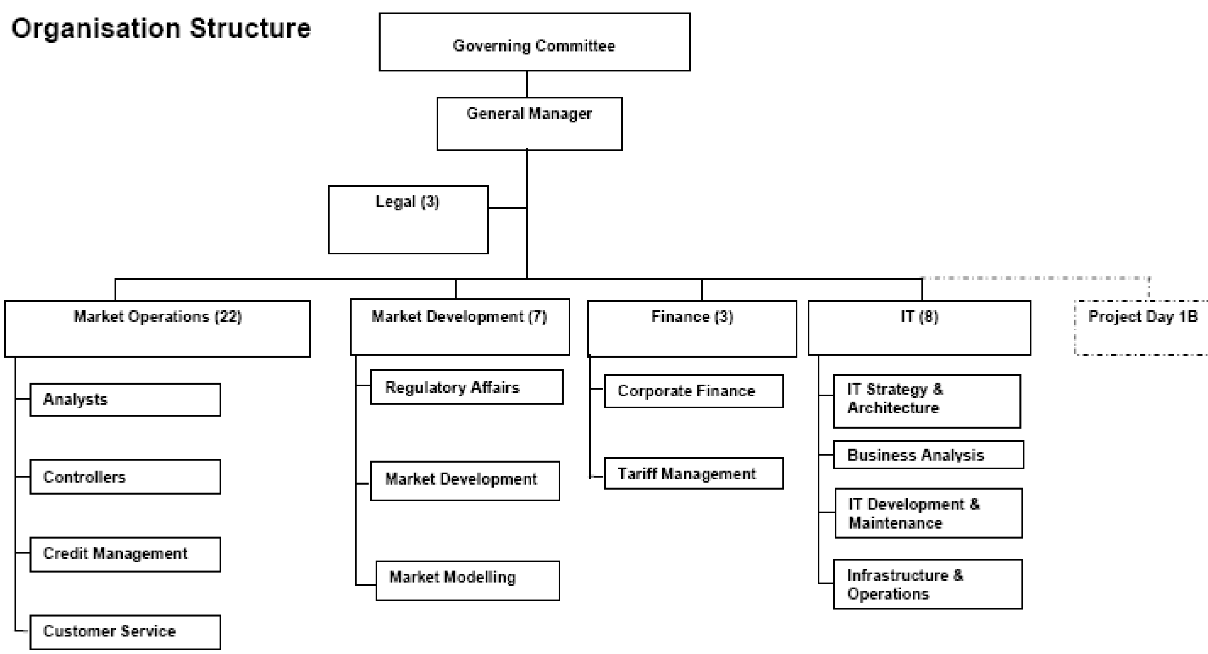

Figure 1: SEMO Organisation Chart – end February 2008

For the current tariff period, the approved headcount was set at 48 FTEs, with an average cost of €80k/year, per staff member, based on mid 2007 prices. The mid 2008 average payroll was estimated to be €83K using the inflation assumptions defined in the Decision Paper for the initial SEMO revenue and tariffs period.

Based on the actual costs for the first 4 months of the market, the average staff cost appears to be very close to the revenue allowance of €80k per annum. However, as the full complement of staff were not in place since November 2007 the real cost per head is likely to be higher.

The current staff complement (as of the end of February 2008) amounts to 44 FTEs, with one further position (Regulatory Affairs) being recruited for since then.

SEMO has identified that it anticipates a requirement for additional members of staff, but at the time of the meeting with the Regulatory Authorities on 14th April 2008 there was no clear plan as to what these requirements would be. In the submissions since then, the following areas have been suggested as possible areas for additional staff.

a. The work of the TSC secretariat is considerably more than could have been anticipated in the original revenue submission, SEMO has identified that further resources will be required to fully conduct the secretariat for the TSC. While Market Development's obligations under the TSC to manage market change are currently being met, the large number of TSC modifications and unforeseen number of emergency meetings have imposed a heavy workload on the team members managing market change and supporting the modifications committee including Supporting the Modifications Committee and Publishing of Market Information
b. With additional Settlement at M+4 just completed and M+13 yet to be conducted, there may be a requirement for additional resources

SEMO's final submission on 2 May 2008 requested funding for 48 members of staff. They have requested costs for payroll of €4,032K which equates to an average payroll cost of €84K.

The Regulatory Authorities have taken the current actual costs to date into consideration and consider the average payroll cost of €84K is too high, considering the small expected increase in staffing levels (3 new positions, which are unlikely to materially change the current average). It is therefore proposed that the average payroll cost as defined in the Decision Paper for the initial SEMO revenue and tariffs period, of €83,083 (in mid 2008 prices), should be used for the new tariff period. This results in a total cost of €3.988 Million for Payroll in the new tariff period.

The Regulatory Authorities also propose that a cap is not put on the headcount and SEMO can employ more than 48 resources provided that they remain within the proposed allowed revenue.

PROPOSAL 3

It is proposed that the allowed budget for Payroll is **€3.988 Million**

This is based on the following:

- SEMO to be allocated a headcount of **48**
- The average payroll cost per head is **€83,083**

8.3.2 IT & TELECOMMUNICATIONS

Considering the complex IT systems deployed to support the SEM, it is not surprising that a significant cost area within the SEMO operational costs is IT & Telecommunications. A breakdown of the proposed submission from SEMO is as follows:

Area of Support	**Cost (€)**
ABB system support:	400,000
Warrant Support & Maintenance: Market Systems:	675,000
Warrant Support & Maintenance: Corporate Systems:	400,000
Off site support:	200,000
Other system maintenance:	282,000
Total Support	**1,957,000**
Telecoms Costs	**311,000**
Total IT & Communication Costs	**2,268,000**

Table 2: IT & Telecommunications Submission proposed by SEMO

One point of note is the requirement to extend the ABB system support. This is additional support required to assist SEMO while the internal staff continue their familiarisation of the central market systems. SEMO states that due to the difficulty in recruitment of suitable resources, it is anticipated that these costs may still be required in the subsequent tariff period. For the current tariff period the cost of this support is expected to be €1,036k. For the new tariff period, SEMO are proposing €400k as a one of cost.

The other cost areas in the table above are described briefly below:

- **Warrant Support & Maintenance: Market Systems** – these costs are largely made up of 3 elements - Support contracts for base Vendor maintenance (ABB), third party software and hardware items.

- **Warrant Support & Maintenance: Corporate Systems** – these costs cover requirements such as Outsourcing of network and security IT services, Website Hosting, Hardware Support, Microsoft Licences, Oracle Licences, Antivirus, printers & Networks equipment.

- **Off site support** – This is continued support from the Prime contractor on a remote basis

- **Other system maintenance** - This covers the costs associated with the support agreement for Axapta, and other items such as Supportworks.

- **Telecoms Costs –** This covers the cost of the data links between the SEMO premises in Dublin and Belfast

It should be noted that the costs associated with the SEMO Help desk are included in the above submission. These costs also cover the cost of phone lines and software systems (Support Works) and are not significant.

The IT Support costs are regarded as high; however this is an area that is critical to the market. While the Regulatory Authorities are disappointed that the ABB System support needs to be extended, in the interests of ensuring that the needs of market participants are met, it is proposed that the figures submitted by SEMO are included in the revenue for the new tariff period.

PROPOSAL 4

It is proposed that the allowed budget for IT & Telecommunications is **€2,268M**

8.3.3 FACILITIES

SEMO has office space in both jurisdictions. SEMO will continue to co-locate on property provided by both parent companies and will be charged accordingly. Facilities costs cover all shared space and include cleaning services, maintenance, car parking, security, mail service, copy bureau, switch board and catering and canteen services as well as rent, insurance and utilities.

SEMO have been in recent discussions with Eirgrid and CER in relation to the costs associated with the Eirgrid move to the Oval offices and the payment required from SEMO. The outcome of the discussions is that in relation to facilities there will be a pro rata apportionment to SEMO of an amount of €1.006M on an attributable headcount basis. The previous submission of €360K for SONI remains the same. The net impact of this is an increase in the required revenue for premises and facilities giving a total Facilities charge of €1.336M

The Regulatory Authorities therefore propose that a value of €1.336 Million is used for the new tariff period

PROPOSAL 5

It is proposed that the allowed budget for Facilities is **€1.336 Million**

8.3.4 PROFESSIONAL FEES

Professional fees cover SEMO requirements for external professional services in respect of:

- General consultant and contractor support
- Disputes and Modifications Committee support
- Regulatory and legal support
- Market audit
- Corporate audit
- Communications
- Recruitment

Each of these areas are discussed below, detailing the SEMO requested costs and the Regulatory Authorities proposed costs, and are summarised in Table 3.

8.3.4.1 GENERAL CONSULTANT AND CONTRACTOR SUPPORT

SEMO have requested a tariff submission of €215K. SEMO provided the following rationale for this fund – *'Due to the difficulty in procuring suitable specialized personnel, particularly in the IT area, it is anticipated that SEMO will require consultancy and contracting assistance for a period of time which is longer than what was previously expected. '*

In the SEMO submission, it is stated that there will be a relatively small staff turnover, so any higher cost backfill requirement should be minimal. The Regulatory Authorities understand that there is currently a knowledge transfer program underway as part of the extended support contract from the Prime contractor. In addition, as detailed in the Market System Development Plan submission to the SEM Committee, SEMO have plans in place for knowledge transfer from the Client Side Advisors during the delivery of the Day 1+ program.

With these initiatives in mind and in the light of actual costs to date, the Regulatory Authorities propose a lower figure of **€192K** for General Consultant and Contractor support. It is recognised that it is difficult to predict where and when specialised skills will be required, but the Regulatory Authorities consider that the proposed figure is sufficient to meet the needs over the new tariff period. It is recognised that consultancy support is needed on an ad-hoc basis, but this requirement should reduce as permanent staff become more experienced.

8.3.4.2 DISPUTES AND TSC MODIFICATIONS COMMITTEE SUPPORT

There are two cost elements listed under this area covering the costs associated with the Disputes Resolution Board and the costs required to coordinate and run the TSC Modifications Committee.

In the SEMO submission, it is stated that the Regulatory Authorities have deemed all costs associated with the dispute resolution board as pass-through (to be recovered ex post) and therefore no provision is sought.

However for the new tariff period, the Regulatory Authorities suggest that provision is made for the Disputes Resolution Board. To date there have been no disputes so it is difficult to quantify the level of costs that should be allocated. Therefore the Regulatory Authorities estimate a cost for the Disputes Resolution Board of €100K. This provision should provide not only for the cost of meetings and the expenses of the Board members but also for the cost of administering the dispute, carrying out any specialist investigations or data analysis, and the cost of specialist legal advice in anticipation of any meetings, as well as the costs of any potential appeal. This can, and will, be reviewed for subsequent tariff periods in the light of experience.

In relation to the costs for the TSC Modifications Committee support, the actual costs for the meetings to date were used as a basis for proposing the new budget. Using the actual costs to date, the average cost per meeting may be taken as €1K. Assuming in the new tariff period, there will be in the region of 6 meetings and a similar number of working forums, the total meetings are estimated to be 12. As a result the suggested budget in relation to TSC Modifications Committee Support is €12KIn summary, the proposed costs to cover Disputes and TSC Modifications Committee support is **€112**

8.3.4.3 REGULATORY AND LEGAL SUPPORT

Based on the actual costs in the first four months, there has been a relatively low spend in this area. The Regulatory Authorities assume that that the majority of legal issues are being dealt with by the 3 legal staff members, as depicted in SEMO's organisation chart (see Figure 1). However, it is recognised that specialised advice may be required from time to time and with this in mind, the Regulatory Authorities propose costs of **€60K** to cover the costs associated with Regulatory and Legal Support. This is in line with the amount requested in the SEMO submission of 2 May 2008.

8.3.4.4 MARKET AUDITOR

The Regulatory Authorities have recently selected a vendor for completing the Market Audit. The agreement is in place for a 3 year period. Based on the scope agreed for the market audit planned for June/July 2008, the cost of the service is in the region of €200K. As the scope for year 2 of the market audit has not been completed and is dependent on the outcome of the market audit in June/July 2008, the Regulatory Authorities propose that a larger cost is allocated in year 2, to cover any potential scope increase. The Regulatory Authorities propose a cost of **€260K** for the market audit to be carried out in 2009.

It should be noted that the TSC provides for SEMO to recover the costs of the Market Auditor (TSC v4.2 2.143).

8.3.4.5 CORPORATE AUDIT

SEMO provided details of the numerous audits they are subject to. As they have two parent companies they have an additional overhead in this area as they need to fulfil the audit requirements of both parent companies. SEMO have had four internal audits to date:

- Internal audit on payments and security policy
- Internal audit on management account and budgetary process
- Central market systems Navita & Pomax
- Quality and data feeds

There are more internal audits planned in Q4/2008

In addition, SEMO have also gone through the EirGrid external audit and are currently going through the SONI external audit. They are expecting a VAT inspection from HRMC in UK and also from the Irish Revenue Commissioners. A security audit on building access and controls and personnel security has also been conducted and will continue into 2008/09.

Based on the above information, and the actual costs incurred to date, SEMO have requested a tariff submission of **€49K** to cover audit activity in the new tariff period. The Regulatory Authorities agree with this figure and propose that this be included for the new tariffs.

8.3.4.6 COMMUNICATIONS

SEMO intends to provide external communications and advice to the public. A figure of €11k is estimated as appropriate to cover advertising, printing and publishing.

The Regulatory Authorities have no basis to determine whether the requested tariff submission is appropriate. To date there has been minimal spend in this area, although this may be due to other areas taking priority and the re-branding of SEMO taking place recently.

Based on the above and the relatively small size of this area, the Regulatory Authorities propose that the figure of **€11K** is included for the new tariffs.

8.3.4.7 RECRUITMENT

SEMO highlighted to the Regulatory Authorities that the main recruitment drive took place in advance of SEM Go Live and the costs in their submission are to cover normal staff turnover levels. SEMO expects relatively little staff turnover during this price control period, and have submitted a figure of €30K as being appropriate for external recruitment agencies plus advertising.

Based on the actual costs for the first 4 months, where there were minimal costs associated with recruitment. The Regulatory Authorities take note of SEMO's expected small turnover of staff and therefore propose a reduced cost of **€20K** to cover the recruitment of new staff and any turnover that may occur.

8.3.4.8 SUMMARY OF PROFESSIONAL FEES

The costs associated with Professional Fees, as discussed in the previous sections, are summarised in the table below. The submission from SEMO and the proposal from the Regulatory Authorities are both shown to allow comparison

Cost Area	SEMO Submission (€)	Regulatory Authority Proposal (€)
Consultancy and Contractors	215,000	192,000
Committees	112,000	112,000
Regulatory Legal	60,000	60,000
Market Auditor	284,000	260,000
Audit	49,000	49,000
Communications	11,000	11,000
Recruitment	30,000	20,000
Total Professional Services Cost	761,000	704,000

Table 3: Professional Fees Submitted by SEMO and Comparison to Regulatory Authority Proposal

PROPOSAL 6

It is proposed that the allowed budget for Professional Fees is **€704K**

8.3.5 GENERAL AND ADMINISTRATIVE COSTS

This category covers the remaining expenses expected to be incurred in operating the SEMO business. It includes Travel & Subsistence, Office Supplies, Bank Charges and Staff Training. The costs associated with each of these areas are detailed below. SEMO have requested a tariff submission of €358K, as detailed in Table 4.

8.3.5.1 TRAVEL AND SUBSISTENCE

The SEMO submission stated that significant costs are expected, including those for user conferences and seminars (€227k). It is stated that the initial focus has been on delivery, but that going forward more conferences and user groups will be attended. This appears to be a reasonable assumption; however, the Regulatory Authorities consider that the requested tariff submission is too high. Based on the actual spend, the Regulatory Authorities estimate that a cost of €148k may be regarded as an appropriate provision.

The Regulatory Authorities propose a cost of **€148K** for Travel & Subsistence

8.3.5.2 OFFICE SUPPLIES

In consideration of the branded stationery as part of the brand development of SEMO, a figure of **€24k** is deemed appropriate by SEMO. The Regulatory Authorities agree that this is a reasonable cost and should be included in the new tariffs.

8.3.5.3 BANK CHARGES

SEMO have a requested a tariff submission of €20K for bank charges based on the following assumptions:

- Bank charges are €5 /£3.50 per transaction.
- It is estimated that there are approximately 50 - 75 payment transactions per week.
- Therefore the Annual cost could be up to €5 x 75 x 52weeks = €19,500

The Regulatory Authorities agree that this is a reasonable cost and a provision for **€20K** should be included in the budget for the new tariffs.

8.3.5.4 STAFF TRAINING

In their revenue submission SEMO state that, due to the newness of SEMO and the intensity of work required by staff in reaching steady state, training and development has been sacrificed over the first six month period of SEM. Staff development and competency is crucial to the development of the market and SEMO fully expect to use the budget that is currently in place.

A tariff submission of €87K was requested by SEMO using the following assumptions. With the high costs of courses and learning packages, a request of 45 people X €1500 = €67K plus €20K for staff development across the organisation is appropriate.

The Regulatory Authorities agree that there was limited time for training at the start of the market and consider that investment in training will improve the quality of the service SEMO provides to market participants and will reduce the dependency on external support.

The Regulatory Authorities consider that the training budget should be available to the full headcount proposed in this document (i.e. 48, as detailed in section 8.3.1). As a result, the Regulatory Authorities propose a cost of **€92K**. This uses the same assumptions as detailed above, but is based on 48, rather than 45 people.

8.3.5.5 SUMMARY OF GENERAL AND ADMINISTRATIVE COSTS

The costs associated with General and Administrative Costs, as discussed in the previous sections, are summarised in the table below. The submission from SEMO and the proposal from the Regulatory Authorities are both shown to allow comparison

Cost Area	SEMO Submission	Regulatory Authority Proposal
Travel & Subsistence	227,000	148,000
Office Supplies	24,000	24,000
Bank charges	20,000	20,000
Training	87,000	92,000
Total General & Admin Costs	358,000	284,000

Table 4: General and Administrative Costs Submitted by SEMO and Comparison to Regulatory Authority Proposal

PROPOSAL 7

It is proposed that the allowed budget for General and Administrative Costs be **€284K**

8.3.6 CORPORATE SERVICES

The SEMO submission made reference to corporate services being charged from the parent companies. Corporate services are provided by EirGrid and SONI to SEMO, for example HR. It is anticipated that this will be an annual charge on the SEMO business provided by EirGrid and SONI and will be available for the ex-post review. The costs to date for Corporate Services have not yet been agreed. SEMO has suggested an estimate of €100k.

The Regulatory Authorities propose that the figure of **€100K** provided by SEMO is included in the new tariff period. Inclusion of such a figure for the new tariff period is however without prejudice to any determination to be made by the Regulatory Authorities on any such costs in the *ex post* review to be carried out for the existing tariff period. It is however understood that there may be legitimate costs in this area in the new tariff period and it is correct and prudent to include an allocation in the new tariff perod. In the absence of any further data, the Regulatory Authorities can only accept that SEMO have made an informed estimate.

The Regulatory Authorities intend to follow up on this area with SEMO to ensure that proper mechanisms are in place regarding charges being made from the parent companies to SEMO.

PROPOSAL 8

It is proposed that the allowed budget for Corporate Services is **€100K**

8.3.7 SUMMARY OF OPERATING COSTS

The operating costs as discussed in section 8.3 are summarised in the table below.

Cost Area	SEMO Submission	Regulatory Authority Proposal
Payroll	4,032,000	3,987,979
IT & Communications	2,268,000	2,268,000
Facilities	1,365,856	1,365,856
Professional Fees	761,000	704,000
General & Administrative	358,000	284,000
Corporate Services	100,000	100,000
Total Operating Costs	**8,884,856**	**8,709,836**

Table 5: Operational costs sought by SEMO and proposed by the Regulatory Authorities (mid-2008 terms)

8.4 REGULATED ASSET BASE (RAB)

8.4.1 ASSESSMENT OF REGULATED ASSET BASE (RAB)

As discussed in the Decision Paper for the initial SEMO revenue and tariffs period, the Regulatory Authorities have decided that the book value method will be used for the valuation of the SEMO RAB. This method will allow SEMO to recover the costs incurred in a stable, sustainable and predictable manner, in line with the regulatory principles outlined in Section 5 of this document.

8.4.2 STATUS OF SEMO'S REGULATED ASSET BASE

During Q1/2008, the Regulatory Authorities worked with Eirgrid and SONI to determine the actual costs associated with the establishment of the SEM. The Shared costs of the SEM Establishment program make up the SEMO RAB. Following detailed analysis of the submission by the Regulatory Authorities, the SEM Oversight Committee approved the amounts in Table 6 below. The costs in the table have been adjusted for Interest during construction and inflation and this is reflected in Table 6.

Summary (000s)	**Actual**	**Adjusted for IDC & Inflation**
Shared Costs for SEMO	45,648	47,802

Table 6: Value of SEMO RAB in November 2007

A brief description of the background to each of the areas making up the SEM Establishment program can be found in the Decision Paper for the initial SEMO revenue and tariffs period (section 6.2.2) and comprises EirGrid's and SONI's project implementation costs, SEMO establishment costs and the costs of market trials.

The full value of the SEMO RAB at Go Live (1 November 2007) was €47,802,291. The depreciation for the first 11 Months of the market, assuming 5 year straight line is € 8,763,753. Therefore the value of RAB at the start of the new tariff period is: €47,802,291 - € 8,763,753 = **€ 39,038,538**

8.4.3 2008/09 CAPITAL EXPENDITURE

For any investment SEMO are required to present their expenditure plans to the Regulatory Authorities. This includes a requirement to prepare and maintain a Market System Development Plan (MSDP) which details the system development requirements for the following two years. The current MSDP covers the Day 1+ activities up to January 2009 and was approved by the SEM Committee. The Regulatory Authorities are awaiting the development of a 2 year plan from SEMO.

During Q1/2008, SEMO undertook a consultation process with Market Participants to determine the scope to be included in the MSDP. This resulted in the Day 1+ Project which involves a number of logical groupings that will be delivered to allow some of the requirements from Section 7 of the TSC to be replaced by enduring solutions. As the project has already started, it is prudent to include the value in the SEMO RAB and apply the appropriate depreciation in the new tariff period. The SEM Committee approved a capital budget of €10,738,258 for the Day 1 + Project. This includes an allowance for Interest during construction, contingency and the costs of retaining key client side advisor resources during the consultation period.

In addition to the MSDP SEMO are also in the process of consulting on the enduring solution for the SEMO website. SEMO's plans are as follows:

> *Following on from the public discussion with Market Participants on the SEMO website, there will now follow, over the coming months, detailed requirements analysis with internal users, market participants and industry. An initial SEMO website presentation / consultation has been conducted from which it was considered that a further public consultation would be appropriate. SEMO intends to conduct this ahead of a full scoping exercise prior to proceeding to tender. The timescale is such that a detailed costing would not be available until the summer of 2008 with tender negotiations to follow. It is expected that the cost recovery approval from the Regulators will not be sought until Autumn 2008.*

8.4.4 DISCRETIONARY FUND FOR SMALL CAPITAL PROJECTS

During discussions with the Regulatory Authorities in early 2008, SEMO raised the proposal of having a discretionary fund available to allow them to spend on small capital projects without incurring delays in gaining regulatory approval before proceeding. The Regulatory Authorities stated that in principle this appeared a practical approach and suggested SEMO include a request in their Revenue Submission. SEMO included the following in their submission:

'As has already been agreed in principle, SEMO believes a provision of €250,000 should be available for capital requirements without prior discussions with the SEM Committee, subject to no finding of imprudence ex-post…'

'….While it is understood that this expenditure may or may not occur, if a server or such equipment were to break down, SEMO would require immediate replacement and it would be inappropriate if this replacement was delayed due to the requirement of budget approval etc. SEMO needs funds at its disposal in the unlikely, but highly critical market impacting event of equipment failure.

Further unplanned expenditure would include requests from participants for data analysis to be provided which would require dedicated resources.'

'…The principle being proposed is that SEMO will identify requirements and spend efficiently and effectively within this approved capital envelope. There will be visibility of this expenditure available to the SEM Committee through the quarterly financial reporting structure that has been agreed, and the normal ex-post regulatory scrutiny.'

The Regulatory Authorities have given due consideration to the above proposal and assume that majority of capital costs are captured in the MSDP. SEMO have made some suggestions of possible areas of expenditure for the discretionary fund, but have no firm plans or proposals. With this in mind, the Regulatory Authorities propose that any capital expenditure required by SEMO is submitted to the Regulatory Authorities for consideration on a case by case basis. The Regulatory Authorities propose that no allocation is allowed in relation to the discretionary fund for small capital projects.

The Regulatory Authorities recognise that there will be occasions where approvals may be required on an urgent basis and will liaise closely with SEMO as these situations arise.

PROPOSAL 9

It is proposed that a **no discretionary fund** of is allowed. SEMO are required to submit any requests for capital expenditure to the Regulatory Authorities for consideration on a case by case basis.

8.5 INTERCONNECTOR ADMINISTRATION

A new area of cost is in relation to the role of Interconnector Administrator. SEMO, in association with SONI, have provided the following information:

Currently SONI acts as Interconnector Administrator (IA) on behalf of Moyle. There are discussions under way between SEMO and the System Operators on charges yet to be established that will be harmonised across the island. These are:

1. *Under section 7 of the TSC, SEMO as Market Operator have an obligation to calculate the Modified Interconnector User Nominations (MIUNs). This may be done contractually by the IA on behalf of SEMO.*
2. *SEMO and System Operators to discuss the "pass on" of general Interconnector Administration charges and differences in the UK and SEM Interconnector Error Account charges in order to ensure harmonisation of charges across the island.*

The TSO's have held joint discussions with SEMO and following completion of a number of actions, a report will be drafted for the SEM Governing Committee. It is likely that the report will recommend some changes to the TSC which will aim to socialise the administration, error account and energy transportation costs of Moyle (and any future East-West interconnector).

For budgetary purposes it would be prudent to allow a budget as follows:

- *£220k (sterling) for SEM vs BETTA error account differences*
- *£20k (sterling) for annual admin & GB Use of System charges*

For transportation costs (essentially capacity) for SO trading, the cost will most likely be treated as a constraint, so there is no need to allow this cost in the SEMO price control. A likely timescale for all approvals including a SEM Modification would be November 2008.

In the absence of a full agreement, the Regulatory Authorities propose that the costs suggested by SEMO are included in the new tariff period. In order to convert the sterling figure above to Euro, an exchange rate of €0.79 has been assumed. This results in a cost of €304K.

These costs allowed will be subject to an *ex-post* review and determination by the Regulatory Authorities.

PROPOSAL 10

It is proposed that the allowed budget for Interconnector Administration is **€304K**

8.6 DEPRECIATION

8.6.1 METHOD AND TIMEFRAME FOR DEPRECIATION

As described in the Decision Paper for the initial SEMO revenue and tariffs period, the Regulatory Authorities have decided that in common with other Market Operator functions and for IT functions more generally, straight-line depreciation over a five-year period will be adopted.

When assessed against the principles outlined in Section 5 this decision is seen to be sustainable, stable, unambiguous and predictable. The capital costs will be recovered by SEMO in a manner that is consistent with current international best practice and the method currently employed by the parent companies.

The Regulatory Authorities propose that the above principle is maintained during the new tariff period, but revisited in future periods.

Other projects such as the Day 1+ project which come into live operation during the 2008/09 tariff period will be depreciated on the same basis.

One point to note is that in line with the parent companies policies, the Regulatory Asset Base (RAB) for SEMO has been set using a replacement cost approach. The valuation of the RAB has been approximated by taking the historic (acquisition cost) value of the assets, revaluing them to nominal values using inflation, and depreciating using straight-line depreciation.

It could be questioned that considering that the majority of SEMO's Assets are of an IT nature and have a relatively short useful life, a historical cost method of calculating the RAB could be implemented, rather than using the replacement cost methodology.

8.6.2 TREATMENT OF NEW CAPITAL INVESTMENT

As highlighted above actual project capital spend figures, such as those for Day 1+ and the SEMO Website will be submitted for approval separately. Cost recovery would be to the same time frame originally approved by the

Regulatory Authorities. Interest during construction would continue to be applicable where EirGrid and SONI carry the cost of financing capital expenditure. The rates of IDC to be applied will be based on the cost of debt element from the WACC calculations for the respective parent companies. This equates to a rate of 3.73% for Eirgrid and a rate of 3.55% for SONI.

8.6.3 VALUE OF DEPRECIATION FOR NEW TARIFF PERIOD

The two key areas of capital expenditure are related to the SEM Establishment Costs and the Day 1+ Project.

The total value of the SEM implementation (the SEM set-up costs, SEM establishment costs and the costs of the Market Trials) is €47,802,291. Assuming this will be depreciating over a five-year period on a straight–line, book value basis the depreciation for the new tariff period is €9,560,458.

Likewise the Day 1+ Project (€10,738,258) will use a five-year period straight–line depreciation. This project is due to be completed in January 2009 so it is assumed that depreciation will be applied from February to September 2009 (8 months inclusive). This results in a depreciation value of €1,431,768.

Therefore the proposed total depreciation in the new tariff period is €10,992,226. The calculation of depreciation is detailed in Appendix 2

It should be noted that the adoption of a policy of crystallising regulated assets at the point in time when they begin operation will require the Regulatory Authorities to establish a detailed asset register (similar to Appendix 2, but requiring more detail) in order to track the depreciation of each set of assets. This requirement also arises from the existence of the discretionary fund, which may give rise to assets that would not form part of the RAB (i.e. capital assets in management accounts, but not regulated as assets, since they will have been fully funded through discretionary spend) and would need to be explicitly excluded. Such an asset register will also allow for any writing-off of regulated assets. This may be of particular significance where purchases using the discretionary fund may be used to replace assets that formed part of the RAB. Further it should be noted that, given this approach to crystallisation of assets, some objective test should be available to determine at what point in time new assets become part of the RAB. This type of decision requires not just a policy to adopt an asset at the month end or month beginning, but also requires a defined point when such assets become operational. It is considered that future Audits will require some certainty on this point.

In relation to the application of inflation to depreciation (see sections 8.10 & 8.11), in the initial price control period, depreciation was adjusted for inflation which implies a form of Replacement Cost Accounting (RCA) to regulated capital expenditure and is consistent with the treatment of the initial RAB and regulated assets generally by the Regulatory Authorities. It is recognised that this type of accounting approach is typically applied to tangible assets that would ultimately need to be replaced with equivalent assets, following some useful period of operation.

However, SEMO assets are largely intangible, which tend to have a particular useful life (possibly with some enhancements over time), after which, new and different assets are required. This asset type may be more suited to a Historical Cost Accounting (HCA) approach; i.e. without any inflation adjustment.

PROPOSAL 11

It is proposed that the depreciation to be charged in the new tariff period will be **€10,992,226**

The Regulatory Authorities also welcome comments on whether replacement cost methodology or the historical cost methodology is more appropriate in determining the value of SEMO's RAB

8.7 OTHER COSTS

Although not specifically addressed in recent discussions with SEMO, the Regulatory Authorities consider that the decision relating to 'other costs', as defined in the Decision Paper for the initial SEMO revenue and tariffs period (Section 6.1.9) are applicable to the new tariff period.

PROPOSAL 12

In the interests of clarity, the Regulatory Authorities propose the following processes are maintained for the new tariff period:

- In relation to financing interest payments to generators for underpayments related to the settlement reallocation process, the Regulatory Authorities propose that the cost associated with this process will be reviewed *ex-post* with allowed costs feeding into the subsequent tariff period(s).
- In relation to costs incurred due to the VAT arrangements that are in place, the Regulatory Authorities propose that the costs associated with the VAT arrangements will be reviewed *ex-post*, with allowed costs feeding into the subsequent tariff period(s).

8.8 INTEREST PROVISIONS

In the Decision Paper for the initial SEMO revenue and tariffs period (Section 6.1.10), the Regulatory Authorities' decided that working capital provided by the parent companies should be treated as outlined below. This is consistent with that currently in place for working capital provided by the parent companies in carrying out their transmission system operator functions.

Mechanism for Under or Over Recovery of Revenue relating to Eirgrid:

For EirGrid, the following approach has been used for determining the interest rate (I) that is applied to allowed under and over-recoveries of transmission revenue for the previous year (t-1), and has been in use by the Commission since 2002:

> *I_{t-1} is the mean of the twelve monthly average three month Euribor rate between April and March of the year t-1 (that is, April of year t-2 to March year t-1) and adjusted for the difference in the mean of the twelve point to point Euro zone harmonised index of consumer prices and the Irish harmonised index of consumer prices between April and March of the year t-1.*

Mechanism for Under or Over Recovery of Revenue relating to SONI:

For SONI the following interest rate is used, as defined in the SONI System Operator Licence (Annex 1):

> *The arithmetic mean of the daily base rates of Northern Bank Limited (or such other bank as the Authority shall specify from time to time) current from time to time during the period in respect of which the calculation falls to be made.*

The Regulatory Authorities propose that working capital provided by the parent companies to cover fluctuations during the tariff period, and allowed under-recovery of revenue during the tariff period, will be paid back in the subsequent tariff period(s) with the appropriate amount of interest determined using the above methodology.

The current tariff period has the mechanism that working capital will be provided by the parent companies on a 3:1 basis, this means that the “Euribor rate” will be applied to three quarters, and the “Northern Bank Limited” rate will applied to one quarter, of the working capital provided. This reflects the cost of short-term financing required to provide SEMO’s working capital needs. It is assumed that this ratio still applies

PROPOSAL 13

The Regulatory Authorities propose that the same process for interest provisions, as described above, is maintained for the new tariff period.

8.9 WEIGHTED AVERAGE COST OF CAPITAL (WACC)

As detailed in the Decision Paper for the initial SEMO revenue and tariffs period (Section 6.1.10), the Regulatory Authorities agree that SEMO should be allowed to recover reasonably incurred capital costs, and that the recovery of these costs should include fair remuneration for the parent companies, that is, a fair WACC.

For the initial tariff period, the WACC for the parent companies was used for SEMO. This approach does not take the different risk levels between a Market Operator activity and a System Operator activity into account but provides an indication on the returns which stakeholders require. The question to be considered for the purposes of the SEMO revenue submission is whether the application of the parent companies’ WACCs is appropriate in the context of SEMO. It is possible, for example, to use a differentiated WACC for a part of a business where there is a different level of risk.

If the risks across various regulated activities are materially different, the use of a single rate of return may have an adverse impact on the ability of the Regulatory Authorities to simultaneously encourage efficient investments and protect customers from excessive pricing. On the other hand, if the systematic risk faced by a firm only differs slightly across its different products, it may not make a significant difference to WACC estimation and the Regulatory Authorities may appropriately use a single risk factor

Similar to the initial tariff period, and due to the relatively short tariff period, the Regulatory Authorities propose that the cost of capital for the parent companies be used for SEMO for the new tariff period. It is envisaged however, that the level of WACC that would be appropriate to SEMO will be fully reviewed and considered as part of the subsequent, perhaps longer period of price control.

These proposals lead to a pre tax WACC for SEMO as defined in the table below. The blended rate is based on the assumption of a 3:1 ratio between the WACCs for Eirgrid and SONI respectively.

WACC	**Split of RAB**	**WACC 08.09**
Eirgrid	75%	5.63%[4]
SONI	25%	6.30%[5]
Blended Rate for SEMO WACC		**5.80%**

Table 7: Value of pre tax WACC for SEMO

Using the updated capital costs as outlined in Section 8.4.3, and based on the 3:1 ratio by which EirGrid and SONI fund these costs, the proposed WACC results in a total figure:

WACC = € 2,346,937

See Appendix 2 for a breakdown of the calculation of WACC

It should be noted that, while it is proposed that the total WACC provided to the parent companies during the new tariff period be calculated on the basis of a 3:1 split of funding between EirGrid and SONI, this proposal will not affect the calculation of the WACC in subsequent tariff periods.

PROPOSAL 14

It is proposed that the allowed WACC be **€2,346,937**

[4] WACC as defined in 2006-2010 Transmission Price Control Review Decision Paper

[5] WACC as defined in SONI Price Control 2007 2010 Decision Paper

8.10 INFLATION

The final figures provided by SEMO on 2 May 2008 are in mid-2008 prices. In order to increase these figures to end of March 2009 prices, that is the mid-point of the new tariff period, the Regulatory Authorities increased these figures by the current value in the Consumer Price Index (CPI) (April 2008) as per the Irish Central Statistics Office website, and the current value in the Retail Price Index (RPI) (April 2008) as per the UK National Statistics Office website. This approach of using current rather than forecast inflation rates is typically used where given the difficulty of forecasting future inflation.

Based on the April 2008 values, the Consumer Price Index (CPI) as per the Irish Central Statistics Office website (http://www.cso.ie/) has value of 4.31% and the current value of the Retail Price Index (RPI) as per the UK National Statistics Office website (http://www.statistics.gov.uk) is 4.19%. This results in a combined value of 4.28% by weighting the values from each jurisdiction (that is, the CPI value for Ireland and the RPI value for Northern Ireland) according to the 3:1 financing split used by SEMO.

This methodology may be updated prior to the publication of the Decision Paper using the most up to date data from the sources above. As with all costs the inflation rate will also be reviewed *ex-post*.

PROPOSAL 15

It is proposed that the blended rate of inflation to be applied is 4.28%

8.11 SUMMARY OF ALLOWABLE REVENUE

The total revenue proposed by SEMO in its submission is €22.78 Million for the new tariff period in 2008 terms, covering its proposed operational costs, capital costs, depreciation and WACC. The Regulatory Authorities have carried out an analysis of these categories and propose total SEMO revenue of €22.50 Million for the new tariff period. The differences are summarised in the table below (detail is provided in preceding sections).

Cost Area	**SEMO Submission**	**Regulatory Authority Proposal**
Total Operating Cost	8,884,856	8,709,836
Discretionary Fund	250,000	0
Interconnector Administrator	303,797	303,797
Depreciation	10,992,226	10,992,226
WACC	2,346,937	2,346,937
Total Revenue	**22,777,817**	**22,352,796**

Table 8: Total Revenue Submission (April 2008 Prices)

Applying the inflation rate proposed by the Regulatory Authorities to bring the these figures to mid-tariff period prices (end March 2009 - see Section 8.10) the total allowed revenue sought by SEMO is €23.2 Million and the total allowed revenue proposed by the Regulatory Authorities is €22.9 Million.

Cost Area	**SEMO Submission**	**Regulatory Authority Proposal**
Total Operational Cost	9,264,746	9,082,242
Discretionary Fund	260,689	0
Interconnector Administrator	316,787	316,787
Depreciation	11,462,221	11,462,221
WACC	2,447,285	2,447,285
Total Revenue	**23,751,728**	**23,308,535**

Table 9: Total Revenue Submission (April 2009 Prices)

All SEMO costs allowed for the new tariff period will be subject to an *ex-post* review and determination by the Regulatory Authorities. This determination of efficiently incurred costs may result in an over or under-recovery of revenue being fed through to the subsequent tariff period(s). Furthermore, all proposed costs/revenues apply to the new tariff period only and will be separately reviewed for the subsequent tariff period(s).

9 IMPERFECTIONS CHARGE

9.1 OVERVIEW

The costs associated with Imperfection Charges are depicted in the diagram below. Three of the costs covering constraint costs, uninstructed imbalance costs and testing charges (collectively known as Dispatch Balancing Costs) are provided by the System Operators, Eirgrid and SONI. In addition to these, there are also Energy Imbalances and Make Whole payments. The budget required for these two costs is provided by SEMO.

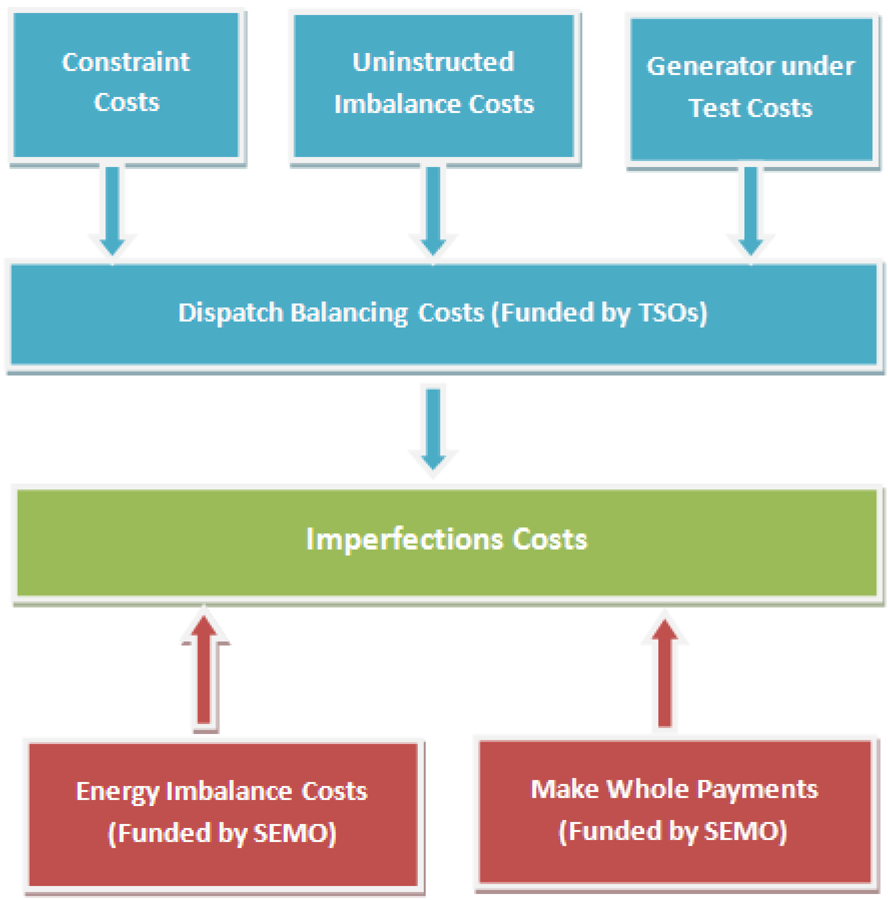

Figure 2: Make up of Imperfection Charges

The Transmission System Operators (TSOs) submission was prepared jointly by the Eirgrid and SONI, and captured an all-island estimate of constraint costs, uninstructed imbalance costs and testing charges, collectively known as Dispatch Balancing Costs. The forecast of Dispatch Balancing Costs is for the period from October 1st 2008 to September 30th 2009.

All these costs are estimated *ex-ante* and recovered from Suppliers on a MWh basis through the Imperfections Charge.

9.2 CONSTRAINT COSTS

The constraints portion was largely modelled by the TSOs' using the simulation package PLEXOS which captured some of the key transmission and reserve constraints. This was then supplemented with specific analysis of factors, which it is not possible to capture in the model as well as factors affecting Dispatch Balancing Costs as a whole.

Essentially, by performing multiple runs of the PLEXOS model, adding in key reserve requirements and specific transmission constraints, the effect in terms of increases in total production cost was analysed. This difference in production cost between these simulations represented the constraint costs associated with the modelled transmission and reserve constraints. This built on the PLEXOS modelling described above and also looked at the effect and impact of:

- perfect foresight,
- market modelling assumptions,
- specific transmission system constraints,
- specific reserve constraints, and,
- Other factors.

The TSOs' forecast of Constraint Costs is €114.4 million (in 2007 values) for the 12 month period from October 1st 2008 to September 30th 2009. Where possible, data from the first five months of the new Single Electricity Market was used to review figures submitted and assumptions made in the previous year's submission. The breakdown of the cost of constraints is detailed in Appendix 3

When converted to mid 2009 terms, using the assumptions detailed in section 8.10, the constraint costs are **€121.4 million**

9.3 UNINSTRUCTED IMBALANCE COSTS

In the TSO submission the cost of uninstructed imbalances is estimated to be zero, with most attention being paid to the cost of constraints

Uninstructed imbalances (positive or negative) require corresponding constraining (down or up) of other generators. It is assumed that the uninstructed imbalance payment parameters (DOG and PUG)are set sufficiently far apart to allow recovery of the additional constraint costs incurred and no extra provision is made in the TSO submission.

The Regulatory Authorities have undertaken some high level of analysis of Uninstructed Imbalance Costs for the first five months of operation and it is apparent that these costs are not currently netting out to zero. However, the volatility and uncertainty of this cost is such that the implied budget of zero will be assumed for the new tariff period.

The Regulatory Authorities will continue to assess this cost over time.

9.4 GENERATOR UNDER TEST TARIFFS

Testing of a new generating unit, or an existing generating unit returning from major overhaul, is generally required in advance of the plant becoming fully operational. During a test the generator commonly requires that it be run at certain levels of output or a certain profiled output. It may not be possible to accurately predict the actual level of output of the unit at any specific time and there may be a significantly higher risk of a fault than for a fully commissioned generator.

These factors lead to increased system operating costs for the Transmission System Operator (TSO) for several reasons.

- The TSO will not be able to predict the output of the unit under test in advance with any degree of confidence, as it is common for tests to be cancelled at short notice or to vary significantly from their nominated level of output. To match supply and demand, the TSO will generally have to commit extra units to ensure a rapid response to changes from the unit under test's scheduled output and to ensure that the system would remain within normal security standards following the loss of the unit.
- As the unit under test is at a significantly higher risk of tripping, the TSO will carry additional operating reserve to ensure that security of supply is not compromised. This leads to additional costs associated with constraints, increased reserve premium, additional run hours, and trips and fast wind downs.

Under the TSC, a testing generator must pay a generator-under-test tariff, which reflects the increased constraint cost (not other costs such as increased reserve) that they are causing to the system.

For the original price control, SEMO also presented proposals for the recovery of costs associated with genset tests. The tariffs detailed in the Decision Paper for the initial SEMO Revenue and Tariff period will continue to apply until December 2008. Following a proposals by the TSOs, the Regulatory Authorities have agreed that new genset test costs will be dealt with separately, as part of the ancillary services consultation.

9.5 ENERGY IMBALANCES

It had been assumed during the design of the SEM that SEMO would simply administer payments to generators and receipts from suppliers for energy, and that these monies would always equal. However, it is recognised that there is an energy imbalance in the SEM. This energy imbalance means that money received from suppliers will not equal the money paid out to generators and SEMO is required to finance any differences, ensuring that generators are paid for their loss adjusted market schedule quantities.

The imbalance arises from the implementation of loss factors in SEM, which it is expected will lead to differences between losses arising from meter quantities and actual market schedule quantities. Generators will be paid SMP times the loss adjusted market schedule quantities, however payments from suppliers will be based on loss adjusted meter quantities.

SEMO have provided an estimate of €1.9 Million for the cost associated with the energy imbalance with the following rationale:

'As anticipated, SEMO has incurred costs in matching energy payments to generators and receipts from suppliers. However, this can't be balanced until the end of the current tariff year. Given the lack of data at this point in time, SEMO is not in a position to provide analysis of a more complete nature than was previously submitted. While EirGrid and SONI will continue to finance this imbalance out of their own working capital provisions, SEMO continues to seek ex-ante recovery of these costs.'

In the absence of any detailed analysis by SEMO, it is not clear what this amount will outturn at. With this in mind the Regulatory Authorities propose that the full €1.9 Million be allowed for the new tariff period, subject to a full *ex-post* review.

The figure provided is in 2008 terms. It is also proposed to inflate this to end of March 2009 prices, i.e. the mid-point of the tariff period, using the methodology outlined in Section 8.10. This leads to a total figure in end of March 2009 prices of **€1.98 Million**.

9.6 MAKE WHOLE PAYMENTS

In the SEMO submission the cost of make whole payments was not referenced. Based on the small values of make whole payments seen in the market to date, it is assumed that a value of zero should be used in the new tariff period.

9.7 RECOVERY OF IMPERFECTION COSTS

As stated previously, the dispatch balancing costs are estimated *ex-ante* and this estimate is recovered during the relevant tariff period through the imperfections charge.

However, it is almost certain that differences between the costs being recovered and paid out will lead to instances where SEMO will:

- require working capital to fund constraints payments that exceed revenue collected through the imperfections charge, or,
- have collected revenue through the imperfections charge that exceeds the amount being paid out on constraints.

To allow for the first scenario, the mechanism described in the Decision Paper for the initial SEMO Revenue and Tariffs is that the funding required covering fluctuations during the tariff period, and any allowed under-recovery of revenue during the tariff period will be paid back, in the subsequent tariff period(s), with the appropriate amount of interest as determined using the methodology outlined in Section 8.8. This reflects the cost of short-term financing required to provide SEMO's working capital needs.

Similarly, for situations where the revenue recovered by the SEMO through the Imperfections Charge is greater than that paid out in constraints (second scenario above), the Imperfections Charge in the following tariff period(s) will be reduced by an appropriate amount to reflect the allowed over-recovery and the associated interest as determined using the methodology outlined in Section 8.8.

It is proposed that this mechanism is continued in the new Tariff period

PROPOSAL 16

The Regulatory Authorities propose that the full estimate provided for the net value of Dispatch Balancing Costs, that is **€121.4 Million** (in March 2009 prices), be recovered through the imperfections charge during the new tariff period.

The Regulatory Authorities propose that the full estimate provided for the Energy Imbalance Costs, that is **€1.98 Million** (in March 2009 prices), be recovered through a new specific charge during the new tariff period.

9.7.1 PROVISION OF WORKING CAPITAL FOR IMPERFECTION CHARGES

The Regulatory Authorities propose that, as is currently the case, the funding of working capital requirements be provided by EirGrid and SONI.

In addition, the Regulatory Authorities propose that funding required to cover fluctuations during the tariff period, and any allowed under-recovery of revenue during the tariff period be paid back in the subsequent tariff period(s) with the appropriate amount of interest as determined using the methodology outlined in Section 8.8. This reflects the cost of short-term financing required to provide SEMO's working capital needs.

Similarly, for situations where the revenue recovered by SEMO through the Imperfections Charge is greater than that paid out, it is proposed that the Imperfections Charge in the following tariff period(s) will be reduced by an appropriate amount to reflect the allowed over-recovery and the associated interest as determined using the methodology outlined in Section 8.8.

10 FORM AND MAGNITUDE OF CHARGES

As part of its role in the administration of the market there are charges which SEMO must levy in order to recover its own allowed costs and allowed market related costs (see Sections 8 and 9). These charges consist of:

- energy and capacity charges,
- the accession fee,
- the participation fee,
- the Imperfections Charge,
- the Market Operator charges, and,
- the generator-under-test tariff.

In order to be sustainable and cost-effective, the tariffs should seek to accurately recover the costs identified in a broadly cost-reflective way and to reflect an optimal regulatory approach. For the next tariff period, given its short duration, it is proposed that the same approach as used in the current tariff is continued in order to ensure appropriate stability.

For imperfections and genset tests, the allocation of the costs to participants is dictated by the TSC. However, for SEMO costs, the TSC allows for allocation of costs to a number of fees and charges. In respect of this allocation, as with the cost analysis, stability is considered to be delivered given the proposal that the current split between the SEMO variable and fixed charges is maintained and that the Accession and Participation Fees continue to reflect the costs of accession and registration.

It is proposed that the decisions made in the Decision Paper for the initial SEMO revenue and tariffs period, in relation to the forms of charges will be applicable in the new tariff period.

10.1 ENERGY AND CAPACITY CHARGES

The structure and detail of charges for energy purchased from the "pool" is defined in the TSC. It will be a per MWh charge, the amount of which will be set for each half hour. This paper does not make any new decisions in relation to the form and magnitude of energy charges.

The detail for capacity charges is being dealt with as part of another consultation process and so no decisions are made here in relation to capacity charges.

10.2 ACCESSION FEE

The TSC states that the accession fee will be a fee paid to the SEMO by each applicant for accession to the TSC, to cover the SEMO's costs incurred in assessing the application. SEMO have proposed that the current charge of €1500 for Accession should continue.

However, no information has been provided by SEMO on the actual effort required to execute an accession and so it is difficult to determine if the charge above is cost reflective. If these fees are not cost reflective, there is a risk that a barrier to entry is created and this should be remedied.

The Regulatory Authorities take into consideration that an analysis of these costs was not carried out by SEMO due to the small amount of actual costs available and the pressures of getting the systems and processes up and running following Go Live. This is an area that the Regulatory Authorities will require an analysis of as part of the ex-post review in Q4/2008, with an aim of having a more accurate tariff for the subsequent longer price control.

Therefore the Regulatory Authorities propose that the accession charge of **€1500** is applied to the new tariff period

10.3 PARTICIPATION FEES

In the TSC the participation fee is defined as “the fee payable with an application to register and become a Participant in respect of any Unit”. SEMO have proposed that the current charge of €3500 for Participation should continue.

Similar to the Accession fees, no information has been provided by SEMO on the actual effort required to execute a new participant. The Regulatory Authorities will require an analysis of as part of the ex-post review in Q4/2008, with an aim of having a more accurate tariff for the subsequent longer price control.

Therefore the Regulatory Authorities propose that the participation charge of **€3500** is applied to the new tariff period

10.4 IMPERFECTIONS CHARGE

The TSOs have submitted a paper detailing that the full estimate provided for the net value of Dispatch Balancing Costs, that is €114.4m (in 2007 prices), be recovered through the imperfections charge during the new tariff period. This cost allowed will be subject to review and determination ex-post, with allowed under or over-recoveries feeding into the subsequent tariff period(s).

Given that this figure is in 2007 terms it is also proposed to inflate this to end of March 2009 prices, that is the mid-point of the tariff period, using the methodology outlined in Section 8.10, leading to a total figure in end of March 2009 prices of €121.4 Million.

In the previous price control, the energy imbalance costs were included in the variable market operator charge. As the TSC does not appear to recognise a separate ‘Energy Imbalance Charge’, but does state that energy imbalances should be netted off the cost of Imperfections; clause 4.155 refers, it is proposed that it may be more appropriate to incorporate this charge into the Imperfection Charge.

In relation to the €1.98 Million (April 2009 term) caused by energy imbalances, as outlined in Section 9.5, this is added to the €121.4 Million above to give a total sum of €123.3 Million

Using the Forecasted Demand Figures for 2009 (37, 788GWh), as specified in Appendix 4, the resulting imperfections charge is €3.264 per MWh. (i.e. 123.3M/37, 788 = 3.264)

10.5 MARKET OPERATOR CHARGES

The TSC states that the Market Operator Charge shall comprise of:

- a Fixed Market Operator Generator Charge, which may be different for each Generator Unit,
- a Fixed Market Operator Supplier Charge, which may be different for each Supplier Unit , and,
- a Variable Market Operator Charge applicable to all Participants in respect of their Supplier Units, expressed in €/MWh.

During the new tariff period, these charges will recover SEMO's operational costs, discretional spend, the appropriate amount of depreciation associated with the SEM related capital costs incurred by EirGrid and SONI, and the appropriate WACC. These proposed costs are detailed in Section 8 (see section 8.11 for summary of costs).

However, the TSC does not specifically state what proportion (or type) of costs should be allocated to either the fixed or the variable element of the charge for recovery. For the purposes of this consultation, due to the short duration of the tariff period, it is proposed the same proportions as were used in the initial tariff period will continue to apply in the new tariff period. These are detailed below.

The Regulatory Authorities propose that the majority of costs, 95%, be recovered through the Variable Charge. Applying this methodology to the costs proposed by the Regulatory Authorities, for the new tariff period, results in a variable charge of €0.586 per MWh to suppliers.

The Variable Market Operator Tariff is calculated as follows:

- The Total Costs to be recovered by the MO Charges is € 23,308,535
- Allocating 95% of the cost to the Variable Charges results in € 22,143,108
- Using the Forecasted Demand Figures for 2009 (37, 788GWh), as specified in Appendix 4, the variable market operator tariff is €0.586 per MWh. (i.e. 23.31M/37, 788 = 0.586)

It is proposed that the fixed charges to Generators and Suppliers will recover the remaining 5% of all costs between them in a 95:5 ratio. That is, the revenue recovered through the Fixed Charges will be weighted to ensure that for each Generator Unit registered the revenue recovered through the Fixed MO Charge to Generators will be 19 times the revenue recovered through the fixed MO charge to Suppliers for each Supplier Unit registered.

Furthermore it is proposed that the Fixed Market Operator Charge to Generator Units varies by MW of installed capacity. This is accommodated by the TSC, which states that the Fixed Market Operator Charge to Generator Units may be different for each Generator Unit.

The Fixed Market Operator Tariff for Generator Units is calculated as follows:

- The Total Costs to be recovered by the MO Charges is € 23,308,535
- Allocating 5% of the cost to the fixed charges results in € 1,165,427

- Using the 95:5 ratio above, and Generator Units of 158 and Supplier Units of 28, as specified in Appendix 4, the costs allocated to Generator Units make up 99% of the fixed costs. This results in € 1,154,657
- Using the Installed capacity on the Island of Ireland (MW) figure of 9,300MW, as provided by SEMO, the Fixed Market Operator Tariff for Generator Units is €124 per MW. (i.e. 1.15M/9,300 = 124)

It is proposed that the Fixed Market Operator Charge to Supplier Units varies, based on the number of Supplier Units.

The Fixed Market Operator Tariff for Supplier Units is calculated as follows:

- The Total Costs to be recovered by the MO Charges is € 23,308,535
- Allocating 5% of the cost to the fixed charges results in € 1,165,427
- Using the 95:5 ratio above, and Generator Units of 158 and Supplier Units of 28, as specified in Appendix 4, the costs allocated to Supplier Units make up 1% of the fixed costs. This results in €10,770
- Using the Supplier Units figure of 28, as provided by SEMO, the Fixed Market Operator Tariff for Supplier Units is €385 per Unit. (i.e. 10.8K/28 = 385)

In summary, the proposals lead to:

- A Variable MO Charge of €0.586 per MWh for the new tariff period;
- A Fixed MO Charge to Generator Units of €124 per MW installed capacity. In other words, a total charge of €124 per MW installed capacity for the new tariff period; and,
- A Fixed MO Charge to Supplier Units of €387 per Supplier Unit - that is, a total charge of €385 per Supplier Unit for the new tariff period.

This allows the total revenue proposed by the Regulatory Authorities for the SEMO, €23.31 Million in mid-tariff 2009 period prices, to be recovered: €22.14 Million through the Variable Charge, €1.17 Million through the Fixed Charge to Generators, and €10,770 through the Fixed Charge to Suppliers.

It should be noted that the small allocation of fixed costs to Suppliers may not be fully beneficial when the administration effort is considered. The Regulatory Authorities intend to look at the tariff structure in more detail for the subsequent tariff period when more actual data is available to allow a full analysis. As detailed in section 5 it is important that stability is maintained considering the infancy of the SEM.

As per the initial tariff period, it is proposed that the Fixed Market Operator charge be billed on a monthly basis.

These proposals are sustainable, stable, unambiguous and predictable, and are in agreement with the regulatory principles outlined in Section 5.

The avoidance of barriers to entry which could be caused by high Fixed Charges to Generator and Supplier Units, is essential in maintaining a sustainable regulatory environment. In addition, the above proposals will allow the regulated business to finance its allowed operational costs, and any necessary capital expenditure, so that it can continue to operate in the future to the ultimate benefit of customers.

10.6 SUMMARY OF TARIFFS

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The following Tariffs are proposed for the new tariff period

- Accession fee = €1,500
- Participation fee = €3,500
- Imperfections Charge = €3.264 per MWh
- Market Operator Fixed charge for Generator Units = €124 per MW
- Market Operator Fixed charge for Supplier Units = €385 per Unit
- Market Operator Variable charge for Supplier Units = €0.586 per MWh
- Generator-under-test tariff = N/A (see section 9.4)

11 PROVISION OF COMMENTS

The Regulatory Authorities request comments on the proposals set out in this consultation paper. All comments received will be published, unless the author specifically requests otherwise. Accordingly, respondents should submit any sections that they do not wish to be published in an appendix that is clearly marked “confidential”.

Comments on this paper should be forwarded, in electronic form, to Kevin O’Neill at kevin.o’neill@niaur.cov.uk by 17:00 on Friday 18th July 2008.

12 APPENDIX 1 – APPLICATION OF K FACTOR

The Regulatory Authorities assumption is that the process used for the application of a k factor should be similar to any other regulated business. The current allowable SEMO revenue and tariffs set for the initial tariff period will come to an end on 30 September 2008. Following the end of this period, it is intended that SEMO submit a report to the Regulatory Authorities detailing the actual spend during the period and a comparison to the budget for the price control period. At this point there is an opportunity for SEMO to explain any variances (in greater or lesser detail depending upon the scale of the variance). As part of the review the Regulatory Authorities would expect to see a line-by-line analysis, and detailed figures in respect of interest paid or received. This analysis should include not only the direct SEMO costs, but also any costs associated with imperfections and genset tests (if any genset tests have been undertaken)

It is assumed that SEMO will need sufficient time to collate the figures (including any input on imperfections and genset tests from the TSO) and provide the appropriate commentary and obtain any necessary internal sign off on the report. At present it is assumed that the report would be available by the end of October 2008

On receipt of the report the Regulatory Authorities will carry out a review and anticipate having at least one meeting with SEMO to discuss any areas requiring clarification. Once all open issues have been closed, the Regulatory Authorities will make their report to the SEM Committee who will make a decision on the K factor. The Regulatory Authorities will share their report with SEMO prior to submission to the SEM Committee. In terms of when the K factor will be applied, the proposed time lines are demonstrated below.

Price Period	Dates	K factor	Application of K factor
Price Period 1	1 November 2007 – 30 September 2008	K factor 1	
Price Period 2	1 October 2008 – 30 September 2009	K factor 2	
Price Period 3	1 October 2009 – 30 September 201x (TBD)	K Factor 3	K factor 1 K factor 2 will be applied in year 2 of any extended time period.
Price Period 4	1 October 201x– 30 September 201y (TBD)	K factor 4	K factor 3 will be applied in year 2 of any extended time period.
Price Period 5	1 October 201y– 30 September 201z (TBD)	K factor 5	K factor 4 will be applied in year 2 of any extended time period.

Table 10: Application of K Factor Example

13 APPENDIX 2 – CALCULATIONS OF DEPRECIATION AND WACC

Table 11: Calculation of Deprecation and WACC based on a monthly basis over the tariff period

RAB (orig value)	**Oct-08**	**Nov-08**	**Dec-08**	**Jan-09**	**Feb-09**	**Mar-09**	**Apr-09**	**May-09**	**Jun-09**	**Jul-09**	**Aug-09**	**Sep-09**
SEM Establishment (Phase 3)	47,802,291	47,802,291	47,802,291	47,802,291	47,802,291	47,802,291	47,802,291	47,802,291	47,802,291	47,802,291	47,802,291	47,802,291
Day 1+					10,738,258	10,738,258	10,738,258	10,738,258	10,738,258	10,738,258	10,738,258	10,738,258
Total Value of RAB	**47,802,291**	**47,802,291**	**47,802,291**	**47,802,291**	**58,540,549**	**58,540,549**	**58,540,549**	**58,540,549**	**58,540,549**	**58,540,549**	**58,540,549**	**58,540,549**

Depreciation	**Oct-08**	**Nov-08**	**Dec-08**	**Jan-09**	**Feb-09**	**Mar-09**	**Apr-09**	**May-09**	**Jun-09**	**Jul-09**	**Aug-09**	**Sep-09**
SEM Establishment (Phase 3)	**796,705**	**796,705**	**796,705**	**796,705**	**796,705**	**796,705**	**796,705**	**796,705**	**796,705**	**796,705**	**796,705**	**796,705**
Day 1+	**-**	**-**	**-**	**-**	**178,971**	**178,971**	**178,971**	**178,971**	**178,971**	**178,971**	**178,971**	**178,971**
Monthly Depreciation	**796,705**	**796,705**	**796,705**	**796,705**	**975,676**	**975,676**	**975,676**	**975,676**	**975,676**	**975,676**	**975,676**	**975,676**
Cumulative	**9,560,458**	**10,357,163**	**11,153,868**	**11,950,573**	**12,926,249**	**13,901,924**	**14,877,600**	**15,853,276**	**16,828,952**	**17,804,628**	**18,780,303**	**19,755,979**

Depreciation (Cumulative)	**Oct-08**	**Nov-08**	**Dec-08**	**Jan-09**	**Feb-09**	**Mar-09**	**Apr-09**	**May-09**	**Jun-09**	**Jul-09**	**Aug-09**	**Sep-09**
SEM Establishment (Phase 3)	9,560,458	10,357,163	11,153,868	11,950,573	12,747,278	13,543,982	14,340,687	15,137,392	15,934,097	16,730,802	17,527,507	18,324,212
Day 1+	-	-	-	-	178,971	357,942	536,913	715,884	894,855	1,073,826	1,252,797	1,431,768
Cumulative	**9,560,458**	**10,357,163**	**11,153,868**	**11,950,573**	**12,926,249**	**13,901,924**	**14,877,600**	**15,853,276**	**16,828,952**	**17,804,628**	**18,780,303**	**19,755,979**
Value for Tariff Calc												**10,992,226**

NBV of RAB	**Oct-08**	**Nov-08**	**Dec-08**	**Jan-09**	**Feb-09**	**Mar-09**	**Apr-09**	**May-09**	**Jun-09**	**Jul-09**	**Aug-09**	**Sep-09**
SEM Establishment (Phase 3)	38,241,833	37,445,128	36,648,423	35,851,718	35,055,013	34,258,309	33,461,604	32,664,899	31,868,194	31,071,489	30,274,784	29,478,079
Day 1+	-	-	-	-	10,559,287	10,380,316	10,201,345	10,022,374	9,843,403	9,664,432	9,485,461	9,306,490
NBV of RAB	**38,241,833**	**37,445,128**	**36,648,423**	**35,851,718**	**45,614,300**	**44,638,625**	**43,662,949**	**42,687,273**	**41,711,597**	**40,735,921**	**39,760,246**	**38,784,570**

WACC	**Split of RAB**	**WACC 08.09**
Eirgrid	75%	5.63%
SONI	25%	6.30%
Blended Rate		5.80%
Monthly Rate		0.483%

WACC	**Oct-08**	**Nov-08**	**Dec-08**	**Jan-09**	**Feb-09**	**Mar-09**	**Apr-09**	**May-09**	**Jun-09**	**Jul-09**	**Aug-09**	**Sep-09**
monthly	184,756	180,907	177,058	173,209	220,374	215,660	210,947	206,233	201,519	196,805	192,092	187,378
cumulative	2,471,110	2,652,016	2,829,074	3,002,283	3,222,657	3,438,317	3,649,264	3,855,497	4,057,016	4,253,821	4,445,913	4,633,291
Value for Tariff Calc												**2,346,937**

14 APPENDIX 3 – BREAKDOWN OF CONSTRAINT COSTS FOR 2008/09

The table below shows the breakdown of cost types for Constraints as detailed in the TSO submission

Description	Cost (€m)	Total (€m)
PLEXOS constraints		**88.0**
PLEXOS modelled constraints for 12 Months	88.0	
Perfect Foresight Effects		**16.89**
UUC market schedule – perfect foresight	9.64	
Wind – variability and forecastability	6.75	
Moyle schedule set D-1	0.50	
Specific Transmission System Constraints		**2.73**
Radially connected wind	1.43	
TX Scheduled and Forced Outages (including specific tie line restrictions)	1.30	
Specific Reserve Constraints		**4.53**
Turlough Hill	2.90	
Replacement reserve	0.80	
Increased regulation at night	0.83	
Market Modelling Assumptions		**2.13**
UUC Modelling Simplifications (block loading, single ramp rates, forbidden zones)	1.46	
Inter Unit Dependencies	0.17	
Warm starts only used in PLEXOS	0.50	
Uninstructed Imbalances and Testing Charges		**0.00**
Uninstructed Imbalances for Over and Under Generations	0.00	
Testing Charges to Generators	0.00	
Other factors		**0.13**
Wind – Curtailment	0.45	
Moyle: SO-SO trades daily	-0.50	
Moyle: SO-SO trades emergency	0.18	
Generator Constraints	0.00	
Settlement issues	0.00	
Within-day testing	0.00	
Participant behaviour	0.00	
Total Forecast 2008/2009		**114.4**

Table 12: Breakdown of Cost Types for Constraints

15 APPENDIX 4 - DETERMINATION OF THE DEMAND FIGURE USED IN SEMO'S REVENUE SUBMISSION

This Appendix explains the determination of the demand figure used in this year's revenue submission.

Republic of Ireland - Total Electricity Requirement

In the table below, SEMO provides the current best forecast of the Total Electricity Requirement (TER) for the Republic of Ireland in 2009. This was based on EirGrid's forecast of the TER as part of its Generation Adequacy Reporting. Different growth forecasts are presented based upon low, median and high forecasts of general economic activity. The most recent Generation Adequacy Report (2008 – 2014) was published in November 2007: http://www.eirgrid.com/EirgridPortal/uploads/Publications/GAR%202008-2014.pdf.

In light of recent changes in the Irish economy, the Economic and Social Research Institute (ESRI) provided a more up-to-date forecast to EirGrid for GAR 2008 – 2014. The ESRI also provided alternative scenarios of higher and lower than median growth. Compared with last year, these boundaries are now tighter as the economic situation has become clearer.

For the purpose of determining the Market Operator charges, SEMO, based on discussions with EirGrid, is currently of the opinion that the low forecast for the TER presented in the Generation Adequacy Report of November 2007 represents the most likely scenario for 2009.

	2009
Total Electricity Requirement	30,561

Table 13 – EirGrid's Forecast of the Total Electricity Requirement (ROI) for 2009 (GWh)

The TER represents the total energy exported from generators connected to the transmission and distribution system plus any additional self-consumption – i.e. from those parties who produce energy and consume on site.

Northern Ireland - Units Sent Out

2008/09 NI Energy forecast figures were provided from SONI 2008 – 2014 generation adequacy assessments (statement not yet published).

	2009
Units Sent Out	9,544

Table 14 – SONI's Forecast of the Total Units Sent Out (NI) for 2009 (GWh)

Units Sent Out represents the total energy exported from generators connected to both the transmission and distribution system and is net of self-consumption.

Total Electricity Traded in SEM - All Island

Total Electricity Traded in the SEM is electricity traded by units participating in the SEM at the trading point. The trading point is at the transmission boundary.

TER and Units Sent Out are converted to Total Electricity Traded in SEM by removing:

- an estimation of transmission losses (~2%),
- an estimation of self consumption (2% ROI, 0% NI) and,
- an estimation of demand met by units outside the market.

The calculation of transmission losses, self consumption and generation outside of the market is not without its difficulties. The RAs should be aware that these numbers are at very best rough estimates as it is difficult for SEMO to accurately assess the likely scale of self-consumption (in ROI), the scale of transmission losses in the absence of bulk supply point metering and the likely scale of generation outside of the market.

Based upon these assumptions SEMO provides an indication of the likely number of units upon which Market Operator charges are to be based upon, although this may be subject to revision later in the year should further updated data become available.

	2009
Market Operator Charging	37, 788

Table 15 – Estimate of Number of Units Charged for Market Operator Charging Purposes (GWh)

In addition to the above, the following inputs were also provided by SEMO:

	2007/08 *(11 months)*	**2008/09 *(12 months)***
Energy	35,100 GWh	37, 788 GWh
Supplier Units	23	28
Generator Units	102	158
Generator Capacity	9,050 MW	9,300 MW

Table 16 – Additional Energy Inputs from SEMO

Supplier Unit and Generator capacity data is based on current expected numbers for 2008/2009.