Single Electricity Market

SEMO Revenue and Tariffs

for

October 2009 – September 2010

Consultation Paper

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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 their operational and capital costs from market participants, as well as the imperfection (constraint) costs associated with the balancing of the transmission systems.

This consultation paper by the Regulatory Authorities (RAs) 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 15th August 2009, as detailed in Section 11. A Decision Paper on this issue is due to be published by the RAs in late August 2009.

Form of Regulation

The RAs propose that the new tariff period runs for 12 months, from 1 October 2009 to 30 September 2010. Due to the short period of the new tariff period and in keeping with the previous tariff period, the RAs 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. A form of incentivisation is to be included for CAPEX (Major Market Changes) and Key Performance Indicators (KPI) are to be applied.

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

RAs approach to determination of allowable revenue

The economy in both countries, Northern Ireland and Republic of Ireland, is facing extremely challenging times. The exceptional nature of the recession which the world is currently experiencing inevitably has very serious consequences for companies and individuals. Most businesses are currently optimising their operations in order to find opportunities for more cost-effective processes and organizational structures. Therefore, in order to ensure cost-effectiveness and sustainability over the forthcoming tariff period, the baseline for the RAs analysis has been the allowed revenue for the current price control corrected by the verified inflation/deflation rate within the current tariff period.

SEMO Allowed Revenue

The total revenue sought by SEMO to cover its costs for the tariff period is **€24,902,000**. The RAs have carried out an analysis of the various cost categories (as detailed in Section 7) and propose a revenue of **€ 21,678,846** for this period. A comparison between the costs sought by SEMO and those proposed by the RAs is shown below.

Summary of proposed revenue

	Allowed 08-09 Price Control (€)			09-10 Price Control (€)	
OPEX	**April 2008 Prices**	**March 2009 Prices (+4.87%) Recovered Through Tariffs**	**May 2009 Prices (-3.10%)**	**SEMO Submission**	**RA Proposal**
Payroll	4,032,000	4,228,358	3,907,008	4,741,000	3,867,938
IT & Communications	2,268,000	2,378,452	2,197,692	2,194,000	2,194,000
Facilities	1,365,856	1,432,373	1,323,514	1,406,000	1,323,514
Professional Fees	761,000	798,061	737,409	925,000	680,000
General & Administrative	358,000	375,435	346,902	446,000	346,902
Corporate Services	100,000	104,870	96,900	50,000	50,000
Total OPEX Cost	**8,884,856**	**9,317,548**	**8,609,425**	**9,762,000**	**8,466,046**
Cost of Capital	**April 2008 Prices**	**Mid 2009 Prices (+4.87%) Recovered Through Tariffs**	**May 2009 Prices (-3.10%)**	**SEMO Submission**	**RA Proposal**
Depreciation	11,201,215	11,746,714	10,853,977	12,980,000	11,360,541
WACC	2,392,545	2,509,062	2,318,376	2,160,000	1,852,259
Total Cost of Capital	**13,593,760**	**14,255,776**	**13,172,353**	**15,140,000**	**13,212,800**
Total Operational Cost	**22,478,616**	**23,573,325**	**21,781,779**	**24,902,000**	**21,678,846**
Imperfections Charge	**April 2008 Prices**	**Mid 2009 Prices (+4.87%) Recovered Through Tariffs**	**May 2009 Prices (-3.10%)**	**SEMO Submission**	**RA Proposal**
DBC Cost (Constraints)	116,378,642	122,046,282	112,770,904	106,000,000	106,000,000
Energy Imbalance	1,900,000	1,992,530	1,841,100	-	-
Make whole payments	500,000	524,350	484,500	311,652	311,652
Total Imperfections Charge	**118,778,642**	**124,563,162**	**115,096,504**	**106,311,652**	**106,311,652**
Predictable CAPEX Alowance				**SEMO Submission**	**RA Proposal**
SEMO Website Project				1,200,000	571,714
K Factor (Over Recover within 07/08 Price Control)				**SEMO Submission**	**RA Proposal**
k factor adjustment applied to due to 07/08 Ex-Post Review of SEMO's costs and revenues (Over-recovery)				1,926,376	1,926,376
k factor applied due to 07/08 Ex-Post Review of the imperfections and Energy Imbalance Costs (Over-Recovery)				3,678,938	3,678,938
Total k factor				**5,605,314**	**5,605,314**
Total Costs to be recovered	**141,257,258**	**148,136,486**	**136,878,283**	**125,608,338**	**122,956,898**

Table 1 – Summary of SEMO Allowed Revenue

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3 INTRODUCTION

3.1 THE SINGLE ELECTRICITY MARKET

The Northern Ireland and Republic of Ireland Governments together with the energy regulators - the Northern Ireland Authority for Utility Regulation and the Commission for Energy Regulation ("the RAs") - and industry 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 was 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 RAs 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 defined 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

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 Market Operator tariffs and fees, which are levied on market participants. To facilitate this recovery of costs, the Market Operator Licence requires SEMO to submit proposals

[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

on its allowed revenue and the charges required to recover this revenue to the RAs. 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 2009 i.e. it covers a 12 month period from 1 October 2008 to 30 September 2009. Therefore, the revenue and tariffs need to be determined for the next tariff period.

3.4 IMPERFECTIONS CHARGE & DISPATCH BALANCING COSTS

In addition to SEMO's proposed operational costs, the TSOs (EirGrid and SONI) submitted a paper to the RAs on 30 April 2009 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, Energy Imbalances and Make Whole 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 RAs have carried out a detailed analysis and review of SEMO's submission and associated supporting information. On the basis of that review, the RAs now publish this consultation paper, detailing proposals for the allowed revenue for SEMO, 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 RAs prior to the publication of the final Decision Paper on this topic in late August 2009.

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 (Through Imperfection Charges)
- The form and magnitude of each tariff through which the revenue will be recovered and,
- Incentivisation

4 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, which are customers, the Governments and RAs (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.

5 SEMO SUBMISSION

SEMO submitted their revenue proposal on 30 April 2009. There were a series of correspondences between SEMO and the RAs where additional backup information was sought on some elements of the SEMO submission. Some preliminary comments on SEMO's submission were as follows:

- Payroll is the largest single item within OPEX, and SEMO is proposing a significant increase in its revenue submission. Compared with the last allowed revenue (in current prices) SEMO's proposal represents a 22% increase.
- IT and communications is the next largest item within OPEX. SEMO's revenue submission proposes slightly lower figures for this cost area than were allowed in the previous price review.
- Facilities is another major item within OPEX. Provided that these inter-company payments are netted off revenue requirements in the Eirgrid and SONI price controls, they should be neutral across the SEMO, Eirgrid and SONI price controls considered in total. The charges levied upon SEMO in the Eirgrid building are as a proportion of the cost based upon headcount of the oval building. The RAs aim to keep those costs constant in real terms for the next price control.
- SEMO's proposed allowance for professional fees is significantly above its actual historic spend in both of the previous periods.
- SEMO has made a over recovery in both of the previous price control periods, due to actual spend being less than that allowed for within price limits. Given that both previous price controls were based on cost pass-through, this over recovery will be returned to Market Participants through the k-factor over the next price control period.

6 FORM OF REGULATION

The current price control is based on rate of return regulation. Energy and capacity cash-flows and the imperfections charge are treated on a pass-through basis. The current rate of return regulation provides limited incentive for SEMO to reduce its costs. The main incentive for cost control is regulatory oversight and the possibility of costs being disallowed in the *ex post* review carried out by the RAs – a mechanism which suffers from a lack of predictability from the perspective of SEMO. There also appears to be little or no financial incentive on SEMO to improve the service it provides to market participants.

In its submission to the RAs, SEMO suggests that the next price control period should be set for 3 years and should be based on incentive regulation (i.e. it should incentivise SEMO to achieve efficiencies by allowing it to retain a proportion of the savings), rather than on rate of return regulation.

While the RAs are open to a longer-term price control based on incentive regulation being applied in the future, they are proposing that a further one-year price control should apply for the next 12 months from 1 October 2009 to 30 September 2010. This reflects a number of factors, including: the fact that SEMO is still a relatively new organisation with an evolving work programme; the current economic and financial turmoil, which makes it difficult to project SEMO's future costs; and the need for better cost reporting procedures to be put in place to underpin a longer term revenue-setting process.

Due to the short length of the new tariff period and in keeping with the previous tariff period, the RAs 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. However, as discussed below, the RAs propose to include a form of incentivisation for CAPEX (Major Market Changes) and Key Performance Indicators (KPI).

In the last decision paper on the current price control, the RAs stated that in setting future tariffs, some form of incentivisation would be considered. In this Consultation Paper the RAs consider three types of incentive:

- Incentives for OPEX efficiency.
- Incentives for cost efficiency in relation to Major Market Change CAPEX
- Incentives for good performance as measured by Key Performance Indicators (KPI)

In its submission, based on the assumption of a three year price control, SEMO proposed that it should retain OPEX savings on a rolling five-year basis. However, the RAs do not consider that this would be practicable or appropriate in the context of a one-year price control. The RAs propose to retain the current rate of return approach in which any over- or under-spending by SEMO relative to its cost allowances is passed back to market participants through the k factor, subject to the findings from the RAs' *ex post* review.

SEMO's submission also proposes that for Major Market Changes it should be rewarded for the delivery of a project on time and within the regulatory allowance. The incentive scheme proposed by SEMO would involve the RAs approving an amount of CAPEX on a project by project basis, with SEMO retaining 25% of savings if the project is delivered on time and within the regulatory allowance.

The RAs agree that an incentive scheme along these lines should be included for Major Market Change CAPEX, but are proposing that only 10% of savings should be retained by SEMO given that cost efficiency incentives are not being proposed in the next tariff period for other areas of cost. The details of how the RAs propose to implement the scheme can be seen in Section 10.

Finally, in its submission SEMO has suggested the introduction of incentives to reward the achievement of pre-established performance targets. These targets would be based on Key Performance Indicators agreed with the RAs. The RAs support this initiative and the details of its proposed implementation are outlined in Section 10.1.

All SEMO costs are subject to an *ex post* review and determination by the RAs, with any over- or under-recovery of revenue being fed through to subsequent tariff periods (k Factor).

The RAs consider that the k-factor should have the following purpose: To adjust allowed revenues for each price control account of any over- or under-recovery of revenue in the previous price control compared to the revenue allowance set by the RAs. Such over- or under-recoveries would arise when market volumes differed from expectations, such that the agreed set of tariffs did not yield the anticipated level of revenues.

In relation to the operating costs for SEMO, the RAs have determined the basis of the operating costs by scrutinizing the individual cost categories proposed. SEMO is therefore expected to keep its expenditure within the limits established for each item of the OPEX allowed expenses.

Any exceptional unforeseen over expenditure in OPEX or CAPEX will be subject to RAs approval. Following ex post review all costs that the RAs accept as reasonable would be provided for.

7 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.

In addition, all proposed costs/revenues apply to the new tariff period only and will be separately reviewed for the subsequent tariff period(s).

7.1 RAS APPROACH TO THE DETERMINATION OF ALLOWABLE REVENUE

The economy in both countries, Northern Ireland and Republic of Ireland, is facing extremely challenging times. The exceptional nature of the recession which the world is currently experiencing inevitably has very serious consequences for companies and individuals. Most businesses are currently optimising their operations in order to find opportunities for more cost-effective processes and organizational structures.

Therefore, in order to ensure cost-effectiveness and sustainability over the forthcoming tariff period, the baseline for the RAs analysis has been the allowed revenue for the current price control corrected by the verified inflation/deflation rate within the current tariff period. Apart from the Payroll component of the operational costs (which it is proposed to be reduced above and beyond the verified deflation), all allowances have been frozen to April 2008 (real) levels.

There have been a number of discussions between SEMO and the RAs during the first quarter of 2009 in preparation for the revenue submission. The first revenue submission was received from SEMO on 30 April 2009, in line with the agreed timetable. A number of meetings and email correspondence between SEMO and the RAs took place between May and July 2009, where SEMO provided further clarification and detail on the make up of their revenue submission.

Despite the relative merit of some of SEMO's proposals which would ultimately increase the next revenue allowance, the RAs are of the view that the next revenue period should be kept at least in the same (real) levels of the current price control. Nonetheless the RAs would welcome the Market Participants to comment on this approach.

7.2 INDEXATION

In the Decision Paper on the current price control, the RAs used the inflation rate prevailing at the time to increase the final figures provided by SEMO, which were in April-2008 prices to end of March 2009 prices (the mid-point of the current tariff period). Current rather than forecasted inflation was used due to the difficulties of forecasting inflation.

The inflation assumption employed was based on the accumulated inflation from June 2007 to June 2008, values of the Consumer Price Index (CPI) from the Irish Central Statistics Office and of the Retail Price Index (RPI) from the UK National Statistics Office. The CPI and RPI figures were weighted in the ratio 3:1, reflecting the financing split used by SEMO, in order to produce a blended inflation figure of **4.87%** which was applied to SEMO's revenues.

However, the verified inflation within April 2008 to March 2009 presented a very different behaviour from what was initially expected by the RAs. Actually, the accumulated inflation rate from within this period is –3.10%. The graph bellow depicts the inflationary behaviour (Forecasted and Verified)

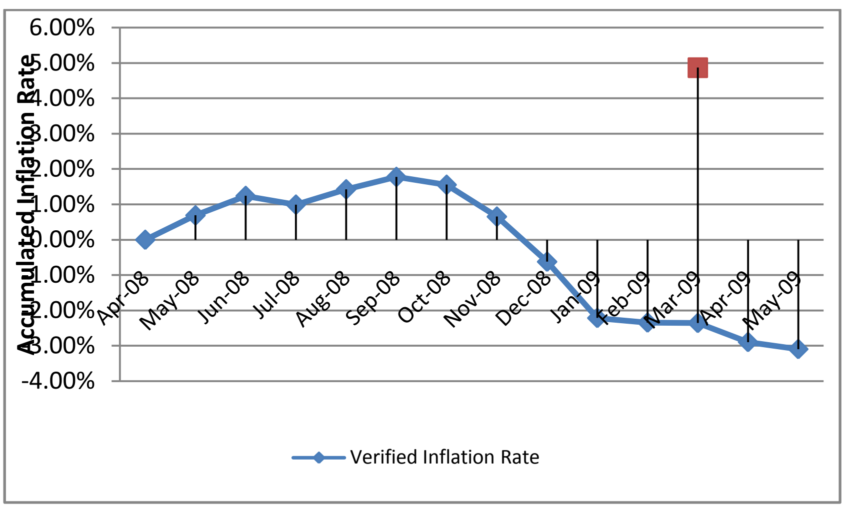

Figure 1 – Verified x Forecasted Inflation

The tariffs for the current price control were set based in the forecasted inflation rate for March 2009. The over recovery on tariffs arisen from the approach described above will be subject to the RAs scrutiny and eventually will be treated as a K Factor on the next price control.

In its submission SEMO proposes the maintenance of the current approach (Ex-Ante Inflation Assumption). SEMO proposed an inflation assumption of 2.64%. However, the RAs understands that the sharp fall in inflation between April 2008 and May 2009 suggests that SEMO's figure for inflation is likely to yield a significant over-estimate of inflation over the forthcoming price control period.

The fact that SEMO's inflation assumption represents a significant over-estimated of future inflation is further stabilised by considering inflation forecasts. Figures for actual and forecast CPI inflation for the Republic of Ireland, taken from two different sources, are presented in the table below.

Source	2007	2008	2009	2010
ESRI	4.9	4.1	-4.6	0.0
Department of Finance			-3.9	0.3

Source: ESRI, Quarterly Economic Commentary, Spring 2009, Research Bulletin 09/1; Department of Finance, "Macroeconomic and Fiscal Framework 2009-2013"

Table 2: *Actual and forecast CPI inflation in the Republic of Ireland (%)*

Having given substantial consideration to this matter, the RAs propose that SEMO's revenues should be indexed by an inflation expectation of 0% for the next price control.

PROPOSAL 1

SEMO's revenues will be indexed with an inflation expectation for the next price control period of 0%

7.3 K FACTOR

The k factor to be applied to the SEMO's next Revenue allowance is €1,926,376. The k factor to be applied to the Imperfections charge and energy costs is €3,678,938.

The RAs propose that the k-factor applied in the next tariff period should adjust SEMO's revenue downwards to take account of the excess income that SEMO earned (over and above its actual costs) in the first price control period. The downward k factor adjustment to be applied to the SEMO's next revenue allowance is **€1,926,376**.

This figure does not include any interest earned by SEMO on the excess income they received. Any additional interest earned on these funds from October 2008 onwards will be included in the ex post review for tariff year 08/09. The same principle will apply to the imperfections charge.

The k factor to be applied to the imperfection allowance is a downward adjustment of **€3,678,938**, which represents the net effect of an under recovery on imperfections and an over recovery on energy.

The eventual k factor which will arise from the current price control will be applied in the price control beginning in September 2010 (See the Appendix 3 for details on K factor application).

7.4 OPERATING COSTS

7.4.1 PAYROLL

SEMO'S Payroll costs seek to cover all staff costs, including Salaries, Contractors, Bonus, Employer's PRSI/National Insurance, Employer's Pension Contribution, Overtime, On Call/Shift, Car, and Other Benefits. The activities of these staff are determined by the legislation, licenses, and TSC.

SEMO is currently operating with a headcount of 50 employees and 2 contracted staff. The organisation chart provided in the SEMO submission is detailed below. This was the structure as of the end of April 2009.

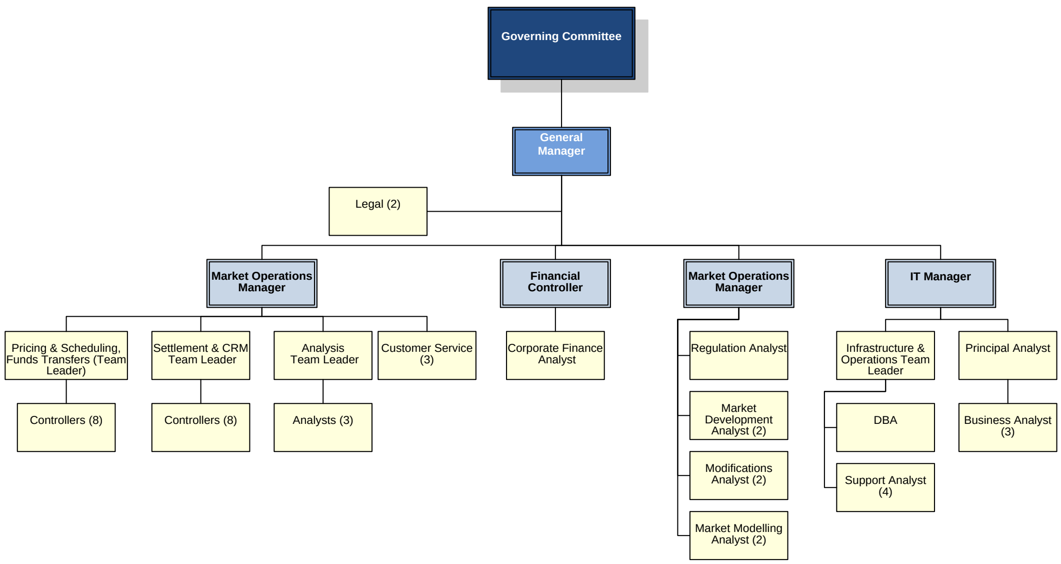

Figure 2 – SEMO's Organisational Structure

The allowance for payroll costs, according the Decision Paper on the current price control, was increased by 4.87% in line with inflation assumptions prevailing at the time of the RAs' decision. However, as described in the previous section, the verified accumulated inflation from April 2008 (Date of SEMO submission) to May 2009 (Last available figure) is -3.10%. The table below describes the approved payroll allowance, and the corrected values for the assumed and verified inflation (i.e. no change in real terms). The RAs propose as a baseline for the payroll allowance for the next price control the allowed figure for the current price control (April 2008 prices) corrected by the verified inflation within April 2008 to September 2009 (date for the beginning of the next price control).

	Approved payroll allowance (2008/09) in April 2008 prices	**Approved payroll allowance (2008/09) in March 2009 prices +4.87% (forecasted CPI/RPI)**	**Approved payroll allowance (2008/09) in current prices -3.10% (CPI/RPI)**
Total Cost	€ 4,032,000.00	€ 4,228,358.40	€ 3,907,008

Table 3 – Approved payroll derived from forecasted and verified inflation

For the current tariff period, the RAs decided that a cap is not to be put on the headcount and SEMO can employ resources provided that they remain within the approved revenue. The approved revenue for payroll in the 2008/2009 price control was €4.032 Million and the headcount at that time was 48, leading to an average cost per head of €84,000 (April 2008 prices). Having applied the deflation factor (-3.10%) the average per head should be €81,396 (current prices). However SEMO has a current headcount of 50 employees rather than 48 as assumed by the RAs in setting the payroll allowance in the current price control. The fact that SEMO has been able to recruit additional staff under the current price control suggests that in fact average payroll cost per head may be lower than was assumed last time by the RAs. Adjusting for this suggests that the average cost per head (in current prices) should be €78,140 (current prices).

The RAs undertook research on the staff costs of other market operators around the world. This research was not meant to be a rigorous bench-marking analysis but aimed to provide a sense check on the RAs proposed figures. The RAs were able to provide cost comparisons to SEMO based on a sample of Electricity Market Operators (EMOs) from Great Britain (Elexon), the Czech Republic (OTE), Eastern and Southern Australia (including Tasmania; NEMMCO), and the Nordic electricity market (Nord Pool Spot, encompassing Sweden, Norway, Denmark, and Finland). The RAs computed labour unit cost levels using both nominal and purchasing-power adjusted (PPP) exchange rates, using the € as the benchmark currency since SEMO's costs are provided in €. The table below shows the estimated unit costs:

Unit staffing cost (€ 000s)	**Nominal unit cost**	**PPP unit cost**
Elexon GB	76	77
OTE CZ	40	58
NEMMCO AUS	85	84
Nord Pool Spot N/DK/S/FIN	102	74
Average		**73.25**
SEMO Revenue 08/09 (current prices)	78,1	78,1
SEMO Revenue Submission 09/10	87.7	87.7

Table 4 – Benchmark of payroll costs

The costs outlined above are represented in (2008/2009 prices).

The RAs understand that comparisons with salary costs for other market operators have to be treated with great caution, due to the substantial differences that exist between the responsibilities of these organisations (e.g. NEMMCO is a system operator as well as a market operator), the markets that they operate (e.g. some countries use bilateral contracting with residual balancing markets, rather than a pool system), and the broader context in which they carry out their activities (e.g. different labour markets and regulatory systems). Nonetheless, these comparisons suggest that a payroll cost per head of **€78,100** for SEMO would be somewhat higher than the average payroll cost per head of a sample of international comparators.

In addition, figures for CPI inflation and wage growth in the Republic of Ireland published by ESRI forecast that wages will decline (in real terms) by 1.6% in 2010.

ESRI figures for CPI inflation and wage growth (%) (Forecast)	**2007**	**2008**	**2009**	**2010**
CPI inflation	4.90%	4.10%	-4.60%	0%
Wage growth	4.80%	1.90%	-3%	-1.60%
Real Wage Growth	-0.1%	-2.2%	1.6%	-1.6%

Table 5 – Inflation and wage growth (ESRI)
Source: ESRI, Quarterly Economic Commentary, Spring 2009, Research Bulletin 09/1

Data for the UK from the UK Office of National Statistics[2] shows that average weekly earnings in the first quarter of 2009 fell by 2.9% compared with the previous year. The private sector exhibited an even steeper fall in weekly earnings of 4.3%. The downwards pressure on wages in the UK is further illustrated by findings from surveys – for instance, a survey of 400 companies across the UK carried out by the British Chambers of Commerce (BCC) showed that 58 per cent of businesses are planning wage freezes this year and twelve per cent are planning to cut wages.[3]

Given the evidence presented above on the labour market in Ireland and the UK, the RAs propose that SEMO's payroll for the next price control should be reduced above and beyond the rate of verified deflation within the period comprising the current price control. The RAs propose that a further 1% cut in real terms should be applied to the payroll allowance for the next price control. In order to achieve this real cut, SEMO's nominal payroll allowance will need to be reduced by 4.07%.[4]

In its submission, SEMO proposes a payroll allowance of **€ 4,741,000** for the next price control. In real terms, this figure is 20% above that allowed by the RAs in the last price control. The rationale given by SEMO for the increase in payroll expenditure is an increment in its current headcount of 50 employees to 54 plus a 2% pay increase. These four new positions are associated with various proposed capital investments. However, the RAs will only consider any requirement for additional OPEX along with the related capital proposals, which are to be reviewed separately outside this price control process.

Given the reasoning stated above, the RAs propose an allowance of **€ 3,867,938** for SEMO's payroll. Assuming a headcount of 50, the average cost per head should be **€ 77,358**

PROPOSAL 2

It is proposed that the allowed budget for Payroll is **€ 3,867,938**

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2 http://www.statistics.gov.uk/downloads/theme_labour/AWE_Tables_Updated.xls

3 http://www.britishchambers.org.uk/zones/policy/press-releases_1/majority-of-firms-plan-to-freeze-wages-as-recession-continues-to-bite.html

4 This figure has been calculated using the formula: percentage change in nominal wage = (1 + rate of inflation) x (1 + percentage increase in real wage) – 1.

7.4.2 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 & Communications. Nevertheless this is an area that is critical to the market. The cost components associated with IT & Communications are as follows:

- **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

In its submission SEMO has proposed the following allowance for IT & Communications:

IT & Telecommunications	
Total IT Support & Maintenance	1,735
SEMO Communications Requirements	459
	2,194

Table 6: Total IT and Telecoms Costs proposed by SEMO

The back up provided by SEMO for the suggested allowance was as follows: *"A significant operational cost for SEMO is the ongoing support and development of SEM Central Market systems and its underlying communication links. This is due to complexity, security and resilience required to support a 24*7 market. Additional communications links are required over the coming months to secure system availability and provide the performance levels that Market participants have come to expect. "*

The approved allowance for IT & Telecommunication for the Current Price Control is 2,378 Million. This figure when brought to present values, applying the verified deflation rate and deduction the inflation assumption of the current price control, the current figure should be **2,197** Million. Therefore, the RAs accept the proposed values presented by SEMO.

PROPOSAL 3

It is proposed that the allowed budget for IT & Telecommunications is € 2,194 Million

7.4.3 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 in its submission has proposed an allowance for Facilities of **1,406 Million**. However, in absence of any substantial change in the facilities occupied by SEMO, the RAs can't see any reason for any increase in this area. Therefore the RAs propose that the approved allowance for the current price control correct by the verified inflation should be used on the next price control.

PROPOSAL 4
It is proposed that the allowed budget for Facilities is € 1,323Million

7.4.4 PROFESSIONAL FEES

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

- General Consultant support
- Disputes and Modifications Committee support
- Regulatory and Legal support
- Market Audit
- Corporate Audit
- Communications and Recruitment

SEMO have requested a tariff submission of €370,000. This figure is substantially higher than the €192,000 allowed for the current price control. SEMO provided the following rationale for this increase:

"The proposed professional fees have increased due to the need for detailed knowledge and experience to assist in the following:

- *To assess the significant impact that additional Interconnectors will have on the SEM*
- *To build an enduring renewable solution that is fair, equitable and transparent to all Market Participants.*
- *To investigate the optimal solution for regional market coupling and*
- *To investigate the possibility of the implementation of a satisfactory global aggregation solution for the SEM."*

SEMO's proposal for Professional Fees and the respective RA proposals are summarised in the table below.

Professional Fees	SEMO Submission
Consultancy	370,000
Committees	120,000
Regulatory Legal	60,000
Market Auditor	250,000
Internal Audit	50,000
Communications	11,000
Recruitment	64,000
Total Professional Services Cost	**925,000**

Table 7: Summary of Professional Fees submitted by SEMO

The RAs appreciate the value of the initiatives proposed by SEMO on consultancy projects; however it is the RAs understanding that the volume of work and its associated cost may not be justified. Therefore, the RAs propose € 200,000 as opposed to € 370,000 proposed by SEMO. In addition the expenditure with recruitment may not be justifiable as the RAs will approve separately the costs relative to additional OPEX expenditure related to the recruitment of personnel. Therefore € 20,000 would be a more appropriate figure and should be used to cover eventual costs associated with the turnover of personnel. Hence the RAs suggest € 680k for professional fees allowance.

PROPOSAL 5

It is proposed that the allowance for Professional Fees of: €680,000

7.4.5 GENERAL AND ADMINISTRATIVE COSTS

This category covers the remaining expenses expected to be incurred operating the SEMO business. It includes Travel & Subsistence, Office Supplies, Bank Charges and Staff Training. SEMO's proposals for General and Administrative Costs are as follows:

Description	Costs (€,000)
Travel and Subsistence	154
Office Supplies	50
Bank Charges	30
Staff Training	118
Miscellaneous / Conferences	94[5]
Total General & Administrative Costs	**446**

Table 8: Summary of General and Administrative Costs

[5] 60k is to be use for hosting the APEX conference

The figure of 446k is substantially above the allowance for the current revenue. The RAs understands that in the absence of significant fluctuations on SEMO's headcount, this cost component should be constant throughout the years. Therefore, the RAs propose that the approved allowance for the current price control corrected by the verified inflation should be used on the next price control.

PROPOSAL 6

It is proposed that the allowance for General and Administrative Costs: €346,902

7.4.6 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 RAs propose that the figure of **€50K** 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 RAs 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 RAs can only accept that SEMO have made an informed estimate.

The RAs 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 7

It is proposed that the allowed budget for Corporate Services is €50,000

7.5 REGULATED ASSET BASE (RAB)

7.5.1 ASSESSMENT OF ASSET BASE

As discussed in the Decision Paper for the initial SEMO revenue and tariffs period, the RAs 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 4 of this document.

7.5.2 STATUS OF SEMO'S RAB

The table below shows a summary of the SEMO RAB since Market Go Live. There have been two major items on the SEMO RAB:

1) The SEM Establishment project which were the costs in relation to the introduction of the Central Market System
2) The Day 1+ Project which were the costs in relation ot her delivery of majority of the Section 7 of the TSC

In addition, the SEMO website is planned to be implemented in Q1/2010. For all elements on the RAB, a 5 year straight line depreciation has been applied. This results in a final Net Book Value (NBV). The NBV for each entity has been calculated for the end of each tariff year.

For the tariff year 09/10, the inflation has been determined. The midpoint in the tariff year has been used to calculate the level of inflation to be applied. The depreciation to be used in the new tariff period is € 11,360,541. Based on the inflation adjusted NBV, the WACC for the tariff year has been calculated as €1,852,259.

SEM Establishment	47,802,291	Nov-07	
Day 1+	9,363,359	Mar-09	
SEMO Website	571,714	Apr-10	
Acquisition Value	**Y07/08**	**Y08/09**	**Y09/10**
SEM Establishment	47,802,291	39,038,538	29,478,079
Day 1+		9,363,359	8,270,967
SEMO Website			571,714
Total	**47,802,291**	**48,401,897**	**38,320,761**
Depreciation	**Y07/08**	**Y08/09**	**Y09/10**
SEM Establishment	8,763,753	9,560,458	9,560,458
Day 1+		1,092,392	1,872,672
SEMO Website			57,171
Total	**8,763,753**	**10,652,850**	**11,490,301**
NBV	**Y07/08**	**Y08/09**	**Y09/10**
SEM Establishment	39,038,538	29,478,079	19,917,621
Day 1+	-	8,270,967	6,398,295
SEMO Website	-	-	514,543
Total	**39,038,538**	**37,749,047**	**26,830,459**
Inflation Adjusted			**Y09/10**
SEM Establishment (Inflation from Nov 07 May 09)			**-1.21%**
Day 1+ (Inflation from Mar 09 to May 09)			**-0.76%**
Depreciation			11,360,541
NBV (at midpoint of year)			31,935,493
WACC	**5.80%**	**Summary**	**Y09/10**
WACC Value	1,852,259	Depreciation	11,360,541
		WACC	1,852,259

Table 9: Status of SEMO's RAB

7.5.3 MAJOR CAPITAL EXPENDITURE

CAPEX amounts for major strategic developments are usually conducted under Project arrangements i.e., major changes to the Trading and Settlement Code and supporting systems which will be provided for on a cost pass through basis. For any major capital expenditure SEMO are required to present their expenditure plans to the RAs. The RAs propose that SEMO is to be incentivised to deliver this form of CAPEX (See Section 10.2).

7.5.4 PREDICTABLE CAPITAL EXPENDITURE

In its submission, SEMO have proposed an allowance for predictable capital expenditure. This allowance would enable SEMO to spend on capital projects without being subjected to the approval process conducted by the RAs. This proposal could avoid eventual delays in gaining regulatory approval. The table below outlines SEMO's proposals for predictable capital expenditure:

Business CAPEX Item	**Business Justification**	**Cost (k)**
Axapta Upgrade	Current version of SEMO accounting system, Axpata, is out of support	100
Upgrade Servers / Network	The current Storage Area Network (SAN) is rapidly running out of capacity and requires immediate replacement	1,000
Upgrade Comms Links	The current Communication links connecting Belfast and Dublin have reached capacity and are starting to impact on market system performance	800
Printing / Enveloping Machine	Time saving of valuable resources, also reduces errors and potential repetitive stress injury.	50
SEMO Website	Capital component of the SEMO's new Website which is required by market participants and Regulators to provide prompt and accurate information	571
Administered Settlement System	Based on the AS review currently ongoing it appears very difficult to produce the schedules manually so a system is required.	100
Treasury System	The treasury function in SEMO is vital. Given the volume of money flowing through the market, the seasonal variances in cash balances and the nature of a dual currency, a proper treasury system for SEMO is recommended.	50
Electronic Fax Solution	Currently if there is a LCF or a GCF SEMO has to fax all market participants. Faxing is very manual and can be prone to errors, this solution would ensure that all data faxed is recorded and the resources utilised during a Communications failure could be utilised more efficiently	100
Discretionary Fund	For small capital projects	250
Hardware Replacement	Market participants have requested an on-line help desk system to facilitate readily available updates on logged calls	50
Total Business CAPEX		**3,700**

Table 10: Summary of the Business CAPEX Items Year 1

The RAs, having given due consideration to the above proposal, have decided that **3.7 Million** would represent a major capital investment and therefore such projects should be subject to a rigorous scrutiny separately from the next revenue allowance. With this in mind, the RAs propose that any capital expenditure required by SEMO is submitted to the RAs for consideration on a case by case basis. The RAs 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.

Nonetheless, due to the advanced stage of the Website procurement process and as the RAs were satisfied that the Capital Component of this project has been sufficiently assessed, the RAs propose that the CAPEX component associated with the Website project should be approved within the next price control. The CAPEX figure associated with this project is € 571,714. The OPEX and Central Market System component of this project will be subject to further analysis and shall be approved separately from this price control.

PROPOSAL 8

SEMO's allowance for predictable capital expenditure should fixed in € 571,714

7.5.5 WEIGHTED AVERAGE COST OF CAPITAL (WACC)

The RAs 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 into account any different risk levels between a Market Operator activity and a System Operator activity 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 RAs 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 RAs may appropriately use a single risk factor

SEMO is proposing a WACC of 5.8 per cent, based on a blended average of the WACC figures applied by the CER for Eirgrid and NIAUR for SONI. The weights used in calculating the blended average are based on funding for SEMO being supplied in the ratio 3:1 from Eirgrid and SONI respectively. SEMO's calculation of this blended WACC is shown in the table below.

WACC	**Split of RAB**	**WACC 08.09**
Eirgrid	75%	5.63%[6]
SONI	25%	6.30%[7]
Blended Rate for SEMO WACC		**5.80%**

Table 11: Value of pre tax WACC for SEMO

The RAs (through their consultants) undertook research in order to ascertain whether any convincing evidence existed of a difference in risk exposure between system operators and market operators. The conclusion of this research was that there is not any compelling qualitative case for concluding that market operation involves lower underlying exposure to systematic risk. There are a number of systematic risk factors which are potentially

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

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

relevant to SEMO. While market operation may involve a different set of systematic risk factors from system operation, the RAs do not see any convincing basis for concluding that overall exposure to systematic risk is either lower or higher, based on the nature of the business activity. Based on the 3:1 ratio by which EirGrid and SONI fund these costs, the RAs proposes a WACC of **€ 1,852,259**

PROPOSAL 9

It is proposed that the allowed WACC be **€ 1,852,259**

7.5.6 DEPRECIATION

Depreciation forms the largest single component of SEMO's requested revenue, exceeding both total operational cost and the WACC allowance. SEMO's depreciation allowance includes amounts both for depreciation on its existing RAB and for depreciation associated with its proposed CAPEX. In its submission, SEMO has calculated depreciation using a straight-line methodology and an asset life of five years in line with the approach taken by the RAs in setting the two previous price controls.

In the RAs view, SEMO's depreciation methodology appears reasonable. Straight-line depreciation is often used by regulators, and five years does not seem an unreasonable asset life for IT-related assets. Its approach also has the advantage of consistency with past SEMO price controls.

Further, if the WACC has been set at SEMO's true market cost of capital, then it can be argued that the choice of depreciation period is NPV-neutral from the perspective of SEMO and its customers. Where this condition holds, once the RAs have allowed CAPEX into the RAB the choice of depreciation period only affects how that amount is recovered through time rather than the total amount which is recovered.

Therefore the RAs propose that the above principle is maintained during the new tariff period, but revisited in the future.

PROPOSAL 10

It is proposed that the allowed Depreciation be € 11,360,541

8 IMPERFECTIONS CHARGE

8.1 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.

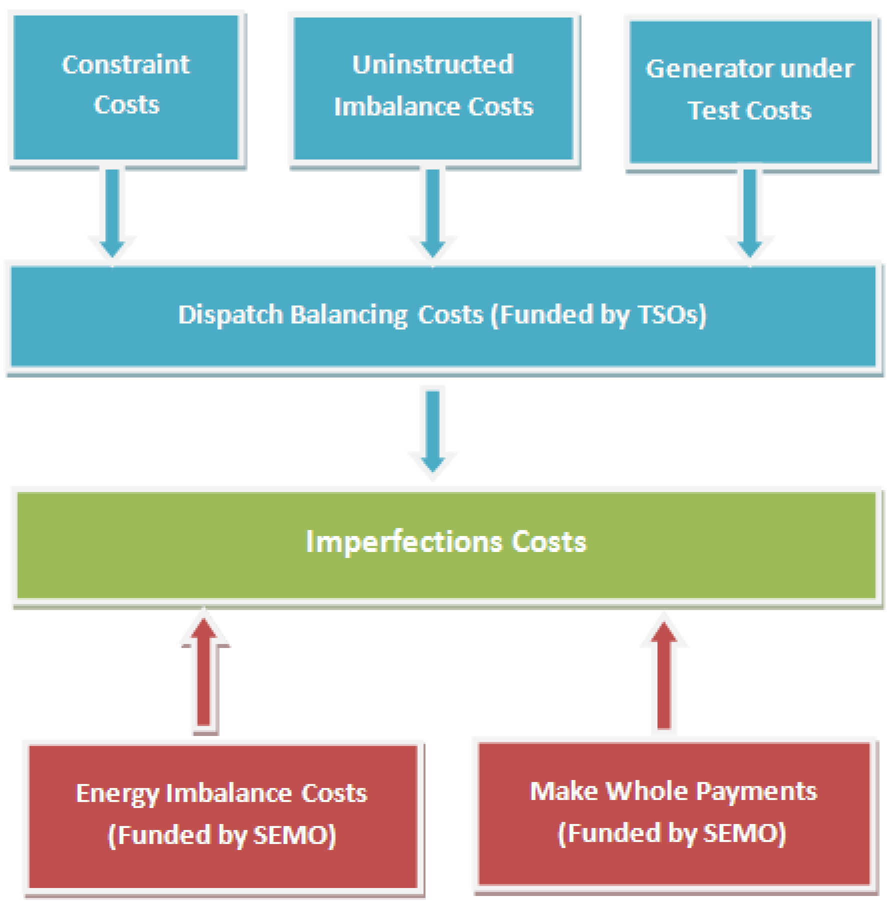

Figure 3: Make up of Imperfection Charges

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 2009 to September 30th 2010.

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

8.2 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 Nominal Cost is €106 million for the 12 month period from October 1st 2009 to September 30th 2010. Where possible, data from the first five months of the 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 2

8.3 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 RAs will continue to assess this cost over time.

8.4 GENERATOR UNDER TEST TARIFFS

The testing tariffs have been set at a level that should, on average, recover the additional costs imposed. Therefore a zero provision has been made for the net contribution of Generator Testing Charges to Dispatch Balancing Costs.

8.5 ENERGY IMBALANCES

It is assumed that the costs of uninstructed imbalances (for over and under generation) will, on average, be recovered by the uninstructed imbalance payments for the forecast period. Therefore, a zero net cost has been provided for this.

8.6 MAKE WHOLE PAYMENTS

For the first 12 months of the market Make Whole Payments amounted to €311,652 i.e. 12 months to 31st October 2008. Therefore the proposed provision for Make Whole payments is €311,652.

8.7 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 7.3 and in the Appendix 3. 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 outlined in 7.3 and in the Appendix 3.

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

PROPOSAL 11

The RAs propose that the full estimate provided for the net nominal value of Dispatch Balancing Costs, that is **€106 Million**, be recovered through the imperfections charge during the new tariff period.

The RAs propose that the full estimate provided for the Make Whole Payments Costs, that is **€ 311,652** (nominal value), be recovered through a new specific charge during the new tariff period.

8.7.1 PROVISION OF WORKING CAPITAL FOR IMPERFECTION CHARGES

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

In addition, the RAs 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. 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.

9 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. These charges consist of:

- energy and capacity charges,
- the accession fee,
- the participation fee,
- the Imperfections Charge,
- the Market Operator charges, and,

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, 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.

9.1 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.

9.2 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. In response to a query made by the RAs, SEMO has provided the following rationale for the definition of the accession fee:

"*SEMO believes it should be allowed to retain a coss reflective fee. Currently these fees are simply netted off overall SEMO costs. The workload in SEMO for processing a Party registration is approximately 4 days work. With an estimate cost of €382 per day (Based on the revenue decision paper last year which allowed an average salary of €84,000, divided by 220 working days) the average cost is €1528 per party registration.*"

The RAs understands (as discussed in the Payroll section) that the appropriate level for the average salary for the whole organisation is **€77,358** (in opposition to €84,000). However, this figure probably does not reflect the cost of the personnel involved in the registration process. With this in mind the RAs requested to SEMO information on the distribution of the staff per grade and salary band. It was possible to possible to calculate the weighted average cost per resource which is **€ 61,000**. The RAs understand that the weighted average reflects more appropriately the cost of the personnel involved in the registration process as it accounts for the fact that most of the SEMO staff are allocated in grades which the remuneration is below to **€77,358.** Substituting the figure € *84*,000 by € 61,000 and using the same process proposed by SEMO, the value for the accession should be € 1,115 in opposition to € 1,500 suggested by SEMO.

PROPOSAL 12
SEMO's accession fee should fixed in € 1,115

9.3 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 €3,500 for Participation should continue. Similar to the Accession fees, SEMO has provided the following rationale for the determination of the participation fees.

"The workload in SEMO for processing unit registration (Legal review, administration, application checks, credit risk analysis, setting up bank details, setting the unit up in the system, managing the interactions with internal and external parties etc) is approximately 10 days work. With an estimated cost of €382 per day (Based on the revenue decision paper last year which allowed an average salary of €84,000, divided by 220 working days), the average cost is €3820 per unit registration."

Following the same principle assumed to calculate the Accession Fee proposed by the RAs (which assumes a cost of €61,000 in opposition to *€84,600* proposed by SEMO, the participation fee should be fixed at €2,800 in opposition to the €3,500 proposed by SEMO.

PROPOSAL 13
SEMO's Participation Fee should fixed at € 2,800

9.4 IMPERFECTIONS CHARGE

The TSOs have submitted a paper detailing that the full estimate provided for the net value of Dispatch Balancing Costs, that is €106 Million to 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).

Using the Forecasted Demand Figures for 2009 (34,858 GWh), as specified in Appendix 1, and the DBC specified in the Appendix 2, the resulting imperfections charge is €3.045 per MWh. (i.e. 106.3M/34,858 = 3.045)

9.5 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, 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 7.

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.

The RAs propose that the majority of costs, 95%, be recovered through the Variable Charge.

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

In summary, the proposals lead to:

- A Variable MO Charge per MWh for the new tariff period;
- A Fixed MO Charge to Generator Units per MW installed capacity. In other words, a total charge
- A Fixed MO Charge to Supplier Units per Supplier Unit

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

The final values of the MO tariffs will be published in the Decision Paper on the next Price Control.

10 INCENTIVISATION

In the SEMO submission, a section was included on possible options for introducing forms of incentivisation for SEMO. The 3 areas under consideration are:

- **Key Performance Indicators** – 4 operational performance indicators that will deliver superior service levels and will benefit market participants.
- **Major Market Change CAPEX** – An incentive for SEMO to deliver projects on time and within budget.
- **OPEX Savings**.

The RAs have assessed the submission provided and have detailed some proposals below in relation to appropriate levels of incentivisation.

10.1 KEY PERFORMANCE INDICATORS

10.1.1 SEMO PROPOSAL ON KPIS

SEMO proposed 4 KPIs for consideration in their revenue submission. These were labelled:

- Ex-Ante
- Ex-Post Initial
- Invoicing
- Credit Cover Increase Notice (CCINs)

Each of these KPIs is described briefly below.

KPI	Description
Ex-Ante	The Ex-Ante publication targets refer to the percentage of occurrences where the Ex-Ante Pricing reports are published on time. Currently the target time for publication is 13:00 every day, seven days a week. The Ex-Ante pricing runs are carried out on D-1 and give an indicative forecast of MSQs (Market Scheduled Quantities) and SMPs (System Marginal Price) for all units. The Ex-Ante is also important for setting the Interconnector Unit Nominations for all Interconnector Units. Unlike the prices and quantities, the Interconnector nominations are fixed and cannot be re-priced after the Ex-Ante is published.
Ex-Post Initial	The Ex-Post Initial publication targets refer to the percentage of occurrences where the Ex-Post Initial pricing reports are published on time. Currently the target time for publication is 17:00 every day, seven days a week. The Ex-Post Initial pricing runs are carried out on D+4 and give the final SMPs and MSQs for all participants. These figures are used for the final settlement of all market participants.
Invoicing	The Invoicing targets refer to the percentage of occurrences where Invoices to all participants are published on time. Currently for the weekly energy market and Variable Market Operator Charge (VMOC) invoices the target is Fridays at 12:00. Capacity is invoiced at 12:00 seven working days after the end of the month, and the Fixed Market Operator Charge (FMOC) invoices are published on the first Friday after the end of the month at 12:00. The Invoicing KPI is a good example of a "downstream" measure that captures the

	performance of all settlement activities preceding it. For example, if there is significant delay in publication of daily settlement statements this will usually have a knock-on effect on invoicing and thus will impact the Invoicing KPI.
Credit Cover Increase Notice (CCINs)	The credit cover increase notice targets refer to the percentage of occurrences where the CCINs are published on time. Currently the target time for publications is 17:00 every working day. CCINs reports are used to inform market participants that their posted collateral cover is less than their required collateral cover. They then have two working days in which to rectify this on receipt of the CCIN.

The Assumptions relating to these KPIs are

1. The metric is delivered within one hour of the targeted time;
2. External factors outside the Market Operators direct control are excluded e.g. Limited Communication failure by Market participant, late provision of data by System Operators or the Meter Data Provider, Government policy changes, RA policy changes etc; and
3. The first two weeks after a System release are excluded from the annual target.

SEMO proposed that a risk / reward mechanism approximating to 2.5% of total internal costs should be the maximum risk that SEMO be exposed to. Based on the internal costs proposed by SEMO in its submission, this would amount to a risk/reward pot of approximately €250k per annum (although the pot is smaller when the RAs proposed internal cost allowances are used instead). Each of the KPI's are weighted equally and symmetrical risk reward scale has been applied. A summary of the SEMO proposal of the KPIs is in the table below.

Metric	Weighting	Lower Bound	Target	Upper Bound
Ex-Ante	0.25	95%	97%	99%
Ex-Post Initial	0.25	95%	97%	99%
Invoicing	0.25	85%	90%	95%
Credit Cover Increase Notices	0.25	94%	96%	98%

Our understanding of SEMO's proposal is as follows:

- The weighting gives the proportion of the total risk/reward pot which would be allocated to this KPI;
- For each KPI, there would neither be any penalty or reward if SEMO's performance is at the target level. If performance is above target, SEMO would earn rewards which would increase linearly up to the maximum level (i.e. total pot multiplied by weighting on that KPI) at the specified upper bound. Conversely, if performance is below target, SEMO would be subject to penalties which would increase linearly with under-performance up to the maximum level (i.e. total pot multiplied by weighting on that KPI) at the specified lower bound.

10.1.2 RA ANALYSIS & PROPOSAL ON KPIS

The RAs have carried out analysis of the 4 KPIs proposed by SEMO. The RAs initial assessment is that the choice of the 4 KPIs appears to be appropriate and broadly covers the main areas of SEMOs responsibilities.

With regard to the risk/reward proposal, the RAs are minded to use a reward only mechanism for this one year period. The RAs do not wish the potential for financial penalties to distort the behaviour of SEMO or to have a negative impact on the energy market. The RAs therefore propose to have a Target KPI and an Upper Bound Metric only.

The RAs carried out analysis of SEMO's past performance against the proposed KPIs using actual data for the calendar year 2008. Based on this analysis, the RAS believe that the targets set by SEMO for some of the metrics are below what has been achieved in the past. In addition, the measured data used included periods of system upgrades and system faults, suggesting that the target KPIs should be higher than measured past performance. With this in mind, the RAs have proposed alternative target and upper bound metrics for the 4 KPIs.

In terms of the weighting used, the RAs believe that a heavier weight should be applied to the invoicing KPI. The RAs recognise that this is an area of improvement that will benefit all market participants. The RAs propose a weighting of 40%. The weights, targets and upper bounds proposed by the RAs are detailed in the table below:

Metric	**Weighting**	**Lower Bound**	**Target**	**Upper Bound**
Ex-Ante	0.2	n/a	98%	100%
Ex-Post Initial	0.2	n/a	99%	100%
Invoicing	0.4	n/a	90%	100%
Credit Cover Increase Notices	0.2	n/a	99%	100%

Based on the proposed OPEX allowance of €8,375,757, using the proposed 2.5% for KPI incentiviation, the maximum reward available will be € 210,000.

In terms of assessing the KPIs, the RAs propose that a measurement is taken at the end of the tariff year, using the average value of each KPI over the full year. A calculation of the amount of reward to be allocated to SEMO can then be determined. It is assumed that this work will make up part of the ex post review of the tariff period.

The RAs welcome comments from market participants on the proposed KPIs. Specific comments are welcomed on the following:

- Are the 4 KPIs proposed appropriate?
- If not, what other areas should be considered?
- Are the weightings proposed appropriate?
- Is the reward mechanism of 2.5% of OPEX costs appropriate?

10.2 MAJOR MARKET CHANGE CAPEX

10.2.1 SEMO PROPOSAL ON INCENTIVE MECHANISM FOR MAJOR CAPEX PROJECTS

In the SEMO submission, they proposed a basic incentive mechanism for major CAPEX projects. The SEMO Proposal was that for Major Market Changes, SEMO should be rewarded for the delivery of a project on time and within the regulatory allowance. The process would work as follows:

1. The RAs would approve an amount on a project by project basis.
2. If the project is delivered on time and within regulatory allowance, SEMO will then retain 25% of savings made.

10.2.2 RA ANALYSIS & PROPOSAL ON INCENTIVE MECHANISM FOR MAJOR CAPEX PROJECTS

The RAs believe that an incentive mechanism could be introduced for major CAPEX projects. The proposed incentives would only apply to CAPEX projects with a value in excess of € 500,000

The RAs believe that 25% is too high in terms of the amount to be retained and have proposed that 10% is more appropriate. In addition, the RAs have included a brief description of the process that should be used in terms of determining the value of the incentive. A worked example is provided below for illustrative purposes only. The process should run as follows:

1. SEMO submit business case to the RAs for CAPEX approval. The business case should detail all areas of expenditure and all assumptions used. Any contingency allowance should be clearly defined and identified.
2. The RAs complete a full analysis of the submission ensuring close scrutiny of costs and assumptions in the business case and seek clarification where necessary.
3. The RAs approve the appropriate budget allowance for the project.
4. On completion of the project, a full report of expenditure should be submitted to the RAs by SEMO
5. The RAs should check for the following in relation to the incentive calculation:
   - Was the scope of the project fully delivered? if not, the areas of the approved budget not delivered should be removed from the incentive calculation
   - Was the contingency fund used?

The worked example below shows how the incentive calculation would work.

Values in €000's	**Amount Approved**	**Amount for Incentive Calculation**	**Final Project Costs**
Project Hardware	400	400	385
Project Software	300	300	320
External Resources	350	350	360
Internal Resources	200	45	45
Other Expenses	50	50	20
Sub Total	**1,300**	**1,145**	**1,130**
Contingency (0%)	130		
Total CAPEX	**1,430**	**1,145**	**1,130**
Saving			15
Saving retained by SEMO (10% of saving)			1.5
Saving Returned to Customers (90% of saving)			13.5

A budget of 1.3M was approved by the RAs plus a contingency fund of 10%. In the example, the contingency fund is removed from the incentive calculation. In addition to this, any internal resources planned but not used or charged to the project are also removed from the incentive calculation, as it is assumed these cost are incurred under OPEX and therefore no efficiencies have been achieved. This adjusted budget amount is then compared with the final project costs and the savings determined. In the above example a saving of 15K was achieved, with SEMO being rewarded with 10% of this saving. There will be no funding provided for CAPEX overspend.

10.3 OPEX SAVINGS

In its submission, SEMO proposes the following mechanism for incentivisation of OPEX savings:

"SEMO propose that any Internal Operational savings are to be retained by SEMO for a period of 5 years and returned to the customer during the subsequent price control. Potential OPEX savings are fed back using a 5 year rolling retention mechanism in the subsequent price control. This incentive will encourage SEMO to minimise operational spend."

To illustrate the issue under discussion, the chart below shows how the proportion of the PV of an ongoing OPEX saving which is retained by the company varies depending on how many years the company is allowed to retain the saving. As the answer depends on the discount rate used in calculating PV figures, we have carried out calculations based on a discount rate of 5.8 per cent (the WACC proposed by SEMO) and, as sensitivities, discount rates 1 per cent either side of this central figure.

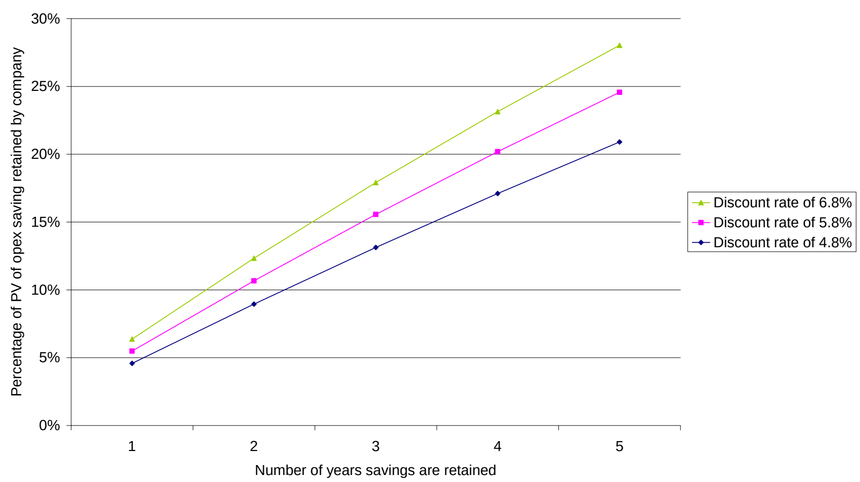

Figure 4: Proportion of PV of OPEX saving retained by company

The chart shows that the strength of the efficiency incentive varies depending on how long a regulated company is permitted to keep OPEX efficiency savings. If OPEX efficiencies are only retained for one year, then the incentive to make savings is weak, since only around 5 per cent of the PV of the saving is retained by the company (based on a discount rate of 5.8 per cent). On the other hand, the chart confirms that 5 year retention of OPEX savings equates to the company keeping around 25 per cent of the PV of the savings, as stated by SEMO (again based on a discount rate of 5.8 per cent).

Given careful attention to SEMO's proposal, the RAs propose that no incentives in relation to OPEX savings should be applied to SEMO for this price control period. The RAs have carried out a full analysis of the SEMO OPEX submission and have proposed reduced values where deemed appropriate. With this in mind, the RAs do not believe there is scope for significant efficiency savings to be made in a one year period.

The RAs believe that OPEX efficiencies may be achievable in the future as part of a longer price control period.

The RAs welcome views on any possible OPEX incentives that should be considered now or in the future.

11 PROVISION OF COMMENTS

The RAs 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 Jean Pierre Miura at jeanpierre.miura@niaur.gov.uk by 17:00 on Friday 15th August 2009.

12 APPENDIX 1 - 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.

In the tables below, provided by SEMO, shows the current best forecast of the energy at the trading point (transmission boundary) for the Republic of Ireland and Northern Ireland for the period 1 October 2009 – 30 September 2010

	2009/10
Energy at the trading point	27,350

Table 13: EirGrid's Forecast of the Energy at the trading point (RoI) for the period 1 October 2009 – 30 September 2010 (GWh)

	2009/10
Energy at the trading point	8,819

Table 14: SONI's Forecast of the energy at the trading point (NI) for the period 1 October 2009 – 30 September 2010 (GWh)

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 Market Participants should be aware that these numbers are at very best rough estimates as it is difficult 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 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.

	2009/10
Market Operator Charging	34,910

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)**	**2009/10 (12 months)**
Energy	35,100 GWh	37, 788 GWh	34,858 GWh
Supplier Units	23	53	59
Generator Units	102	126	128
Generator Capacity	9,050 MW	9,300 MW	10,193 MW

Table 16: Summary table showing the number of Supplier and Generator units and the Generator capacity.

13 APPENDIX 2 - 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 modelled constraints for 12 months			**70.46**
System Operator Interconnector Trades			**5.64**
			Specific Constraint Modelling
Specific Transmission System Constraints			**4.52**
	Radially connected generation	0.81	
	Transmission scheduled and forced outages	3.71	
Perfect Foresight Effects			**15.24**
	Changes to demand and generator availability	8.84	
	–Impact of wind variability and forecastability	6.18	
	Moyle schedule set D-1	0.22	
Specific Reserve Constraints			**3.01**
	Turlough Hill	3.01	
	Replacement reserve	0.00	
	Increased regulation at night	0.00	
Market Modelling Assumptions			**1.58**
	UUC and RCUC differences	1.13	
	Hydroelectric generator constraints	0.45	
	Generator constraints	0.00	
	Within-day testing	0.00	
	Start up costs in PLEXOS	0.00	
Other			**5.55**
	Wind Dispatch and System Security	3.07	
	Capacity Tests for System Security	2.48	
Total Forecast 2009			**106.00**

Table 17: Breakdown of Cost Types for Constraints

14 APPENDIX 3 - APPLICATION OF K FACTOR

The RAs 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 2009. Following the end of this period, it is intended that SEMO submit a report to the RAs 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 RAs 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.

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 2009

On receipt of the report the RAs 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 RAs will make their report to the SEM Committee who will make a decision on the K factor. The RAs 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 2010	K Factor 3	K factor 1
Price Period 4	1 October 2010– 30 September 201y (TBD)	K factor 4	K factor 2 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 18: Application of K Factor Example