



Single Electricity Market

Decision on Generation and Transmission Outage Planning

AIP-SEM-236-07

January 2007

1 Introduction

Generation Outage Planning and associated Transmission Outage Planning in NI and the RoI are presently undertaken by the respective TSOs mainly on a regional basis to meet the different security and operational standards in the particular jurisdiction. The NI and RoI existing outage planning processes take into account the mutual support that the cross-border interconnectors can give to each jurisdiction, but the processes are not formalised or optimised.

On the 19th October 2006 the Regulatory Authorities (RAs) published two consultation papers prepared by EirGrid/SONI entitled "*Generation Outage Planning Harmonisation*" and "*Transmission Outage Planning Harmonisation*". The RAs invited industry participants to comment on the EirGrid/SONI proposals outlined in the papers focussing on the practicality of implementing the processes and whether the processes would deliver the benefits that should result from the harmonised outage planning.

Eight industry participants responded to the consultation process by 9th November 2006 and the EirGrid/SONI responses to comments on the consultation papers were submitted to the RAs on 24th November 2006.

This paper presents the views obtained from the consultation, the responses of the TSOs to the comments received and the RAs decisions on the main issues raised.

2 Background

Analysis of the benefits of SEM has identified potential savings from more efficient use of the existing cross-border interconnector and from potentially 400 MW of reserve savings from a joint all-island capacity margin requirement. The benefits are estimated to be worth respectively €8 million per annum with the existing cross-border interconnector capacity constraints, and in terms of reserve savings, an additional €32 million without any cross-border interconnector constraints. Accordingly there is a significant benefit to be gained if the SONI and EirGrid Generation Outage Planning processes are harmonised with the objective of achieving, as far as possible, the same benefits that would accrue from the enforcement of an all-island generation capacity margin. Such an all-island generation capacity margin is lower than the sum of the individual regional capacity margins, whilst maintaining security of supply in both regions.

There will also be benefits accruing from the harmonisation of the SONI and EirGrid Transmission Outage Planning processes, with the objective of minimising both regional and inter-regional transmission constraints, thereby facilitating as far as possible the optimal generation outage plan from which the significant benefits arise.

In the longer term, when the cross-border interconnector capacity is reinforced to the extent that inter-regional constraints are removed, the generation

security standards themselves can be harmonised and generation and transmission outage planning undertaken on an all-island basis.

3 Summary of initial proposals

3.1 Generation

The EirGrid/SONI approach taken to Generation Outage Planning Harmonisation is characterised by the following features:

- Given that outage plans will be developed regionally according to individual regional processes and based on a regional security assessment, no fundamental changes are required to the Generation Outage Planning Process in each region;
- Furthermore, the within year timing of the EirGrid and SONI processes line up sufficiently to allow the development of an all island outage plan without excessive change to the current processes (bearing in mind that the all island outage plan will be the simple collation of outages from the two regional plans);
- The principles governing the harmonisation approach were developed with the objective in mind of maximising the potential benefit of increased co-operation and co-ordination in the Generation Outage Planning Processes of both regions. This will be implemented by the regular and formal interchange of generation outage schedules and increased co-operation in relation to any outages which potentially impact on constraints on the Louth-Tandragee circuits and of generation outages which have a significant impact on the capacity margin for the island.
- The System Operator Agreement will include detailed procedures to reflect the co-ordinated generation outage planning process and the increased liaison arising from harmonisation.

3.2 Transmission

The EirGrid/SONI approach taken to Transmission Outage Planning harmonisation is summarised as follows:

- Transmission Outage plans will continue to be developed on a regional basis with increased liaison between operational planning departments in SONI and EirGrid.
- SONI and EirGrid Transmission Outage plans will be compared on an ongoing basis to identify outages that may constrain inter-area power flows. Overlapping outages in both jurisdictions which may affect system security will be assessed in conjunction with the other TSO to ensure that system security is maintained at all times. This may require re-scheduling of particular outages as agreed by both TSOs.

- SONI and EirGrid will assess the implications of unplanned transmission outages as and when they occur.
- SONI and EirGrid will assess Transmission Outage plans in conjunction with Generation Outage plans to ensure sufficient all island and regional generation capacity margin is maintained.
- Transmission outages on radial transmission feeders which feed only load will not affect inter area load flows. These outages can be programmed without the need for harmonisation.
- The System Operator Agreement will include detailed procedures to reflect the co-ordinated transmission outage planning process and the increased liaison arising from harmonisation.

4 Summary of responses

Eight responses to the initial proposals were received by the 9th November 2006, The respondents were as follows:

- AES Kilroot
- Airtricity
- ESB Regulatory Affairs
- ESB International
- ESB Power Generation
- Northern Ireland Electricity plc
- Premier Power (via SONI and not directly to the RAs)
- Synergen

4.1 Review

No major issues were raised about the overall generation and transmission outage planning processes and commentators welcomed the scope and the opportunity to participate in the consultation process.

4.1.1 Commercial implications of rescheduled generation outages

Several commentators raised a number of commercial issues associated with the rescheduling of a planned generation outage at the request/instruction of the TSO from a position previously determined in accordance with the requirements of Operating Code No 2 (OC2 - Operational Planning). The commercial issues arising from rescheduling outages are stated by the commentators to be:

- Increased costs (eg staff and/or contractor)
- Lost opportunity cost (ie revenue)
- Increased contracts for differences (CfDs)
- Lost Capacity Payment Mechanism (CPM) revenue

The commentators consider that there needs to be a fuller examination of the interaction between generation outage planning and the CPM with the objective

of determining payment mechanisms to cover increased costs and/or loss of revenue.

Response

The RAs accept that changes to costs and revenues may result from the rescheduling of generation outages but consider that many of the generators arguments for compensation are fundamentally flawed as they are based on the concept that the TSOs have the power to reschedule outages against the wishes of the generator. Under OC2 of the EirGrid and NIE Grid Codes, the TSOs coordinate generation outage planning based on the outage requirements as advised by the generators.

In the RoI the TSO is not empowered to instruct generators to reschedule previously determined outages but can only request that generators reschedule outages and generators are not obliged to accept the change. Under the present market arrangements in the RoI generators do not get compensated if they agree to rescheduling outages at the request of the TSO.

In NI generators are incentivised under GUA/SSSA to define outages as "flexible" which can at the request of the TSO be deferred by a period or advanced by a period. Under the Ancillary Services Decision Paper¹ the incentives for flexible outages will remain in place for "Day 1".

Further RA points are:

- a. A generator has argued that revenue will be lost if it moves an outage from a low to a high priced period. The RAs consider this to be unlikely if the generator has a CfD covering 100% of the output that effectively fixes the floating pool price for a fixed contract price. If the Pool price falls below the CfD strike price then the supplier pays the generator the difference between the Pool and Strike price. If the Pool price is higher than the strike price then the generator pays the supplier the price difference. The CfD makes the generator relatively immune to changing daily prices where the generator gets the fixed contract price. Accordingly a generator will not incur reduced CfD payment costs if it is requested to move an outage to a high priced period if the CfD is effective when the plant is on outage - this may or may not be the case depending on the terms of the individual CfDs.
- b. Considering the situation where a generator does not have a CfD and moves its outage from a low priced period to a high priced period then the generator may suffer a loss of revenue. On the other hand if the generator responds to market signals or agrees to a TSO request and moves its planned outage to a period when the capacity payment (and energy price) is low, then the generator is likely to benefit from the higher prices. This could be in response to market signals which is arguably a good thing.

¹ Day 1 Decision for System Support Services in NI and Ancillary Services, Short Notice Redeclaration Charges and Trip/Fast Wind-down Charges in the RoI, AIP-SEM-160-06, 29th September 2006

- c. If no agreement on changing outage plans can be reached between a generator and the TSO then a "Capacity Shortfall Warning" may be issued by the TSO that should signal to the market the need for capacity to be made available. This should lead to a corresponding increase in the market prices and generators can respond to this opportunity by making plant available.
- d. Whilst the RAs are sympathetic to the TSO view that an incentive/penalty mechanism for generation outage rescheduling would be a useful tool for the TSOs to manage system security situations where there is a potential capacity shortfall, this raises another issue in that the TSOs will then need to manage the scheduling of outages in a least cost manner. Accordingly there may also be a need to be additional provisions introduced so that the TSO can manage this processes in an equitable and efficient manner.
- e. Although the RAs accept that changes to costs and revenues may result from the rescheduling of generation outages the expected extent of rescheduling and cost/revenue impact have not been quantified. In view of this the RAs are not minded to put in hand a process for a fuller consideration of the interaction between the CPM and outage planning until the extent and cost/revenue impact can be established based on actual market operation.

Overall, in view of the above, the RAs consider that for "Day 1" market operation there should not be any compensation to generators outside of the SMP/CPM market mechanisms and GUA/SSA provisions when outages are rescheduled. Generators do not have to agree to outage rescheduling requests² from the TSOs and they may not always be disadvantaged when outages are rescheduled. Should actual market operation following "Day 1" indicate that the extent of outage rescheduling has a significant impact on generators costs/revenues and/or overall system security then the RAs might be minded to put in hand a process for a fuller consideration of the interaction between the CPM/SMP and outage planning.

4.1.2 Generation Planning Information Exchange Dates

A commentator has indicated that it is not clear whether the date at which TSOs exchange information is "Year 1" or "Year 0".

Response

The TSOs have indicated that further clarity is required and the RAs expect that the TSOs will set the information exchange date timing in a clear and unambiguous manner such that it maximises the likelihood of the certainty of information and minimises the probability of a later adjustment.

² Apart from NI where an outage may have been declared "Flexible"

4.1.3 Publication of information

A commentator has requested that the TSOs publish information regarding the evaluation of the following to remove uncertainty from the outage planning processes:

- Operational Security Standards
- Operating/Reserve Margins
- Interconnector Transfer Capacities

Response

The RAs support the TSOs intention to publish information on the determination of parameters that impact on system operation and security and welcome any moves to improve transparency to the outage planning process.

4.1.4 Statutory outage requirements

A commentator has indicated that in scheduling generation outages the TSOs should give priority to generators that need to take outages to comply with statutory obligations, in particular CCGTs and OCGTs.

Response

Whilst the TSOs agree that outage planning must take cognisance of "necessary" maintenance requirements the RAs point out that under OC2 generators in the RoI are expected to act in accordance with "Good Industry Practice"³, for example, by not having planned far enough in advance for any statutory time limit. The planning horizon for generation outage planning is effectively 3 years and the RAs consider that this is sufficient time for generators to plan and commit to outages to meet with statutory requirements. The RAs acknowledge that circumstances can arise (mainly outage overruns) where the TSO may consider requesting a scheduled outage associated with a statutory requirement to be moved. In considering the request the RAs would expect the TSO to have considered all the options open at the time and have selected the most appropriate generator for outage rescheduling based on balancing security of supply against the statutory impact of delaying a outage noting that statutory outages cannot be moved unless the generator can get an extension on the statutory obligations from the relevant authority.

4.1.5 All-island capacity margin

A commentator does not agree that the outage planning harmonisation process can achieve ".....the same benefits which would accrue from the enforcement of an All-island capacity margin" arguing that there are two very different timeframes at work. In the shorter term the objective of generation outage planning is to minimise the risk to security of supply in an operational time frame. In the longer term the objective is to reduce the capacity margin that is encapsulated by the Generation Security Standard and the design of the CPM.

³ "Prudent Operating Practice" in the NI Grid Code

Response

The TSOs acknowledge that the All Island Capacity Margin refers to operational time scales and the RAs consider that the application of an All Island Capacity Margin and the harmonisation of the outage planning processes will deliver benefits both in the operational timeframe as well as the longer term.

4.1.6 Publication of Outage Schedules

A commentator considered that the finalised generation and transmission outage schedules should be made available to market participants and is concerned that it is left to the discretion of the TSOs as to which stakeholders are advised of transmission outages that may have an operational impact on the user.

Response

Generators outage plans are confidential to the individual generators and the TSO and therefore cannot be published. The TSOs consider that contact will need to be made with specific generators if this information is required although generators are under no obligation to provide this information to other system users. Regarding the provision of information of transmission outages the TSOs are obliged to advise stakeholders of transmission outages that impact on the operation of the user.

4.1.7 Load Disconnection Following Regional Capacity Shortfall

A commentator has indicated that when load is to be disconnected in the region where there is a capacity shortfall, then the region with the shortfall should in the first instance cease any export to the other region before any planned load disconnections are undertaken.

Response

The RAs support the TSOs agreement to the underlying principles of this proposal and consider that any export/import between regions should be curtailed, as far as possible, before any load is disconnected bearing in mind that a region in shortfall by definition should not be in a position to export to the other region.

5 Conclusions

- a. Apart from commercial issues associated with the interaction between generation outage planning and the CPM/SMP, no major issues were raised about the overall harmonisation of the generation and transmission outage planning processes as proposed by the TSOs.
- b. Regarding the interaction between generation outage planning and the CPM/SMP, the RAs consider that for "Day 1" market operation there should not be any compensation to generators outside of the SMP and CPM market mechanisms and the GUA/SSSA provisions when outages are rescheduled. Generators do not have to agree⁴ to outage

⁴ Unless it is a Flexible Outage in NI

- rescheduling requests from the TSOs and they may not always be disadvantaged when outages are rescheduled.
- c. Under "Day 1" arrangements the NI TSO will have available "Flexible Outages" and given that harmonised generation outage planning will be undertaken on an All Island basis, there should be more flexibility in generation planning to meet system security standards than exists with the present arrangements.
 - d. Should actual market operation following "Day 1" indicate that the extent of outage rescheduling has a significant impact on generators costs/revenues and/or overall system security then the RAs might be minded to put in hand a process for a fuller consideration of the interaction between the CPM and outage planning.
 - e. The RAs consider that the two consultation papers prepared by EirGrid/SONI entitled "*Generation Outage Planning Harmonisation*" and "*Transmission Outage Planning Harmonisation*", together with the decisions set out in this paper, are sufficient to inform the drafting of various licences, codes and inter-company agreements with respect to outage planning requirements.