A proposal for Rate of Change of Frequency Remuneration Mechanism Recommendations Paper 2015

6th May 2016

EIRGRID SONI

EXECUTIVE SUMMARY

EirGrid and SONI (the TSOs) have consulted on the proposal for Rate of Change of Frequency Remuneration Mechanism. A proposal for Rate of Change of Frequency Remuneration Mechanism consultation paper was published on 22nd December 2015 and we have received comments from twelve (12) respondents. This paper summarises the responses received and provides clarification where required. Having reviewed the responses and taking into account the participants views, we propose the following recommendations:

- We will continue to engage with eligible units and will implement the remuneration mechanism process in line with the RAs final decision.

- We will implement the remuneration mechanism methodology in line with the RAs final decision.

- We will implement the early completion incentive for eligible units which submit their completed study report ahead of 1st June 2016 with payments calculated from 1st March 2016 in line with the RAs final decision.

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1. INTRODUCTION

The purpose of this paper is to provide recommendations, to the RAs in Ireland and Northern Ireland, on the proposed Rate of Change of Frequency Remuneration Mechanism. This recommendation paper takes into account the comments received on our consultation paper[1] published on 22nd December 2015.

In the consultation paper, we provided an overview of the remuneration process, a proposed mechanism methodology, the early completion incentive scheme and duration of the scheme. We also clarified eligibility in line with the RAs decision.

We have received responses from the following parties:

Party	Abbreviation
AES Kilroot Power Ltd and AES Ballylumford Ltd	AES
Bord Gáis Energy	BGE
Bord na Móna	BnM
Electricity Association of Ireland Ltd	EAI
Energia	Energia
Electricity Supply Board Generation & Wholesale Markets	ESB
Irish Wind Energy Association	IWEA
SSE	SSE
Tynagh Energy Limited	TEL

3 confidential responses were received. Copies of the non-confidential responses received have been appended to this recommendations paper.

We welcome the comments, proposals and views submitted by participants in this consultation.

The proposals described in the consultation paper can be summarized as follows:

- A high level description of the remuneration mechanism process supporting the proposed scheme; namely a study phase, a testing phase and remuneration phase. In addition, we clarified the relevant testing tariff applicable to the testing phase. (more detail in section 2.2 below)
- We engaged with the RAs on a number of options for the mechanism and proposed a single methodology in the consultation paper following feedback from the RAs. The equation is designed to complement the RoCoF GPI calculation set out in the RAs decision paper. (more detail in section 2.3 below)

  c = €1,500 x d x e

  This is based on RoCoF Grid Code standard required = 1 Hz/s
- We proposed an early completion incentive with the e scalar set to 125% (higher value) for an eligible unit that submitted their study during the period 1st March 2016 to 31st May 2016. The unit would receive an additional payment in line with the increased e scalar. (more detail in section 2.4 below)

[1] A proposal for Rate of Change of Frequency Remuneration Mechanism consultation 2015, 22nd December 2015, available at www.eirgrid.com and www.soni.ltd.uk

- We clarified the duration of the remuneration scheme. The scheme would commence on 1st March 2016 to 31st May 2016 (early completion) and 1st June 2016 to 28th Feb 2018. The scheme will end on 28th Feb 2018. (more detail in section 2.5 below)
- We clarified the eligibility to participate in the scheme. Generators eligible for remuneration are in accordance with the RAs RoCoF decision paper[2] published in 2014 and the associated categorization list. (more detail in section 2.6 below)

2. CONSULTATION RESPONSES

2.1 Remuneration Mechanism proposal

The RAs' RoCoF modification to the Grid Code decision papers recommend that the SEM Committee requests us to consider and propose the introduction of a remuneration mechanism which may include a new Harmonised Ancillary Service (HAS) rate for RoCoF.

In early 2015, as part of the Generator Studies Project, we were requested, by the SEM Committee, to investigate a remuneration mechanism for the generators.

We presented a proposal to the RAs in June 2015 that would meet the needs of the remuneration mechanism for the generators. The proposed RoCoF remuneration scheme is envisaged to complement a Generator Performance Incentive (GPI) for RoCoF capability as defined in the RAs decision paper.

Subsequently, in September 2015, the RAs have provided their preliminary view in regard to the various options presented on our proposal. Furthermore we have received clarification in regard to eligibility from the RAs in November 2015.

The remuneration mechanism will be a standalone scheme separate to the existing Harmonised Ancillary Services arrangement.

2.1.1 Respondents' Comments

9 comments were received (AES, BGE, EAI, Energia, ESB, IEWA, SSE, 2 confidential respondents) in relation to the remuneration mechanism proposal.

7 comments (AES, EAI, Energia, ESB, IWEA, SSE and 1 confidential respondent) welcome the introduction of the proposed remuneration mechanism.

IWEA welcomes the proposal and commented it delivers the associated benefits to the consumer and to wind generators earlier than would otherwise be the case.

1 confidential respondent queried the decision to progress with the remuneration proposal and disagrees with the establishment of incentive mechanism for the

[2] http://www.cer.ie/docs/000260/CER14081%20ROCOF%20Decision%20Paper%20-%20FINAL%20FOR%20PUBLICATION.pdf

delivery of RoCoF studies. The respondent would welcome a SEMC consultation to evaluate the need for remuneration in the context of the delayed RoCoF programme to date, outcomes from the alternative solutions project and a review of costs that would be recoverable through bidding code of practice. They disagree with the incentive scheme and that the cost of increased wear on tear on generator and balance of plant should be recoverable through energy bids.

BGE commented the proposal is over-simplistic and bears no resemblance to the true cost of the RoCoF studies.

ESB commented that it was disappointing that there is only a single mechanism proposed in the paper with no evidence supporting the proposal and that there should be several proposals presented with impact assessment. They have provided alternatives in their consultation response. Also, the units should not be exposed to incurring both the published GPIs for non-compliance with the priority categorisation deadlines and these additional scaled reductions in the remuneration mechanism proposed. They further commented that the changing of the RoCoF standard resulted in significant costs for conventional generators through the undertaking of the required technical studies. The requirement was also underpinned by a GPI that limits the generators capacity to negotiate with the third parties. These costs, or potential investment costs, have not been recognised in the proposed scheme which must be addressed.

EAI and Energia welcome the mechanism to compensate generators for the cost of generator studies as a first step.
EAI commented that further consideration must be given to remuneration for other RoCoF associated cost.
3 respondents (EAI, ESB and SSE) would like clarification in regard to the funding arrangement for the scheme.

ESB commented that if the funding scheme resulted in increasing use of system charges then a proportion of these increased charges will be paid by the generator at whom this scheme is targeted and that the benefit of the scheme will be diluted and appears perverse.

1 confidential respondent commented the scalar and the expiry date on the scheme appeared to be an incentive to declare units compliant sooner rather than later and many of the parameters governing the proposal scheme are outside their control. The expert resource availability has caused a barrier to early findings and/or proposal of modification needed. They appreciate the purpose of the DS3 program; however, it should not be done at the expense of other known technologies which equally contribute to the principle government policy to reduce carbon emission which is also recognised in the energy efficiency directive.

AES commented that the Grid Code standard proposed in the UR decision paper was approved in principle. The proposed modification to the NI Grid Code, for the implementation of the RoCoF requirement, was for 1 Hz/s measured over 500ms and not 2 Hz/s as stated in the paper.

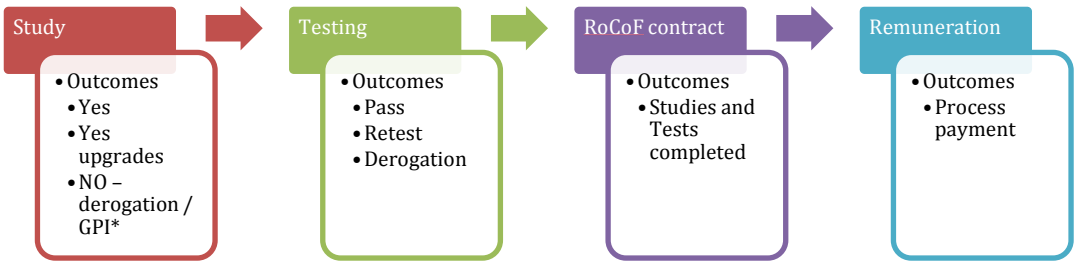
2.1.2 Our Response

In response to the single proposal mentioned, as stated in our consultation paper, we have presented a proposal to the RAs in June 2015 that would meet the needs of the remuneration mechanism requested by SEMC. In our proposal paper, we have presented several options to the RAs for consideration. The most suitable proposal was included in the consultation following recommendations from the RAs. However, we note the alternative proposals received from the participants in this consultation.

We note the AES comment regarding the NI RoCoF Grid Code requirement. The consultation paper made reference to a 2 Hz/s standard. We note that the grid code requirement will be 1Hz/s measured over 500ms when it is implemented in Northern Ireland and that the generators in NI have been asked as part of the decision paper[3] to study the capability of their units to withstand a 2 Hz/s RoCoF event. This requirement was outlined in the Utility Regulator decision paper as follows, "the Utility Regulator would also suggest that any studies that are carried out should assess the impact of a RoCoF of up to 2 Hz/s. This is the value that SONI had originally consulted upon, as this would potentially be required in the event of system separation between the Northern Ireland and Republic of Ireland networks".

2.2 The remuneration mechanism process

The structure of the remuneration process proposed to be as follows:



* The GPI will exist in the Other System Charges and is indirectly linked to this process. The RoCoF GPI will be implemented in accordance with the decision set out in the CER/UR RoCoF decision paper[4]. The RAs have instructed us, as part of the decision, that, any GPI applied for late study submission will be non-refundable.

Diagram 2.2.1: Remuneration mechanism process

Any generators that need to prove compliance for RoCoF under Grid Code testing would be considered as under test in SEM. As a result, the relevant Tariff A rate for that year will apply. This is consistent with our formal response to RAs on new testing tariffs in 2015.

[3] http://www.uregni.gov.uk/uploads/publications/Decision_Paper_on_the_Rate_of_Change_of_Frequency_Grid_Code_Modification.pdf

[4] Commission for Energy Regulation Decision paper: "Rate of Change of Frequency (RoCoF) modification to the Grid Code" CER/14/081

2.2.1 Respondents' Comments

9 comments were received (AES, BGE, BnM, EAI, Energia, ESB, SSE, TEL and 1 confidential respondent) in relation to the remuneration mechanism process.

The confidential respondent commented that the remuneration for completing the study should be made upon submission of a technically competent report and should be independent of any time limits or judgement of the report's findings.

AES would like more information on nature of the testing required with associated specifications and references. They accept that generators have to incur the cost of grid code compliance but any additional studies and testing for compliance with the 2Hz/s over 500ms should be carried at the TSO's expense because it is not required for Grid Code compliance. Also they are seeking clarity in relation to the derogation process under the NI Grid Code.

BnM broadly agree with the structure of the mechanism but are unsure of its purpose.

6 comments (BnM, BGE, EAI, Energia, TEL and 1 confidential respondent) were received specific to the testing tariff A. Three respondents (BGE, Energia and 1 confidential) commented that the RoCoF testing does not represent high risk of tripping. Three respondents (BGE, EAI and Energia) commented the application of this testing tariff contradicts with the current guideline published by the TSO.

BnM commented the tariff does not seem justified. EAI commented that the prevailing testing tariffs applicable at a unit should be applied in all circumstances. TEL commented considering the level of study involved in preparing the unit for the test, the risk should not be judged the same as a plant going through initial commissioning.

4 comments (EAI, ESB, SSE and TEL) were received in relation to the process, EAI commented that the GPI process should only be put in place as a backstop to the remuneration mechanism.

ESB commented the derogation process should allow units with a limited life, over which they cannot recover their cost, to be in a position to be assessed on this basis without submitting their technical study. Also the application of RoCoF GPI should not be levied on generators who acted reasonably to complete the required studies. ESB has the greatest number of studies to complete and has devoted significant time, resources and cost to complete this work so the GPI should not be levied against generator on elements that is outside of the own sphere of control. In addition, the remuneration mechanism will act as an incentive for generators to submit their studies on time and there is no need to apply a GPI in parallel.

SSE requested that the definitions within the RoCoF OSC GPI and RoCoF remuneration process are fully aligned i.e. pass Grid Code compliance test and

report accepted should trigger RoCoF Contract and Payment and exempt the relevant unit from the GPI.

TEL commented the payment in example 3.1.2 in the consultation paper was unclear and suggests the payment should be effective from the date of the study submission.

2.2.2 Our Response

As discussed in the consultation paper, the structure of the process is design to complement the remuneration mechanism proposal outlined in the consultation paper. The TSO certification process consists of 3 phases: Study, Testing and Contract.

The purpose of the study process is for generator to provide TSO with sufficient evidence that the unit can withstand RoCoF events. The unit is expected to submit a study report with a declaration that the unit can meet the proposed RoCoF standard and, where appropriate, to go through a testing & certification process to demonstrate compliance with a standard.
On receipt of the TSO certificate, the unit will be offered a RoCoF contract to receive payment.

Several comments were received in relation to testing tariff A. We believe that where the TSOs specify testing for a large unit is required that it is prudent to schedule the relevant system reserve for the test. In these circumstances, the position is that the generator be tested under Tariff A for the first 72 hours of testing. EirGrid and SONI will review, on a case by case basis, the generator testing requirements and will define the scope of work for testing which includes the testing tariffs to be applied. For clarity, the principle of the first 72 hours rule is consistent with our guidance document[5] published on 1st February 2016 under section 3.2. More detailed information can be found in our published document titled "Selection Guideline for SEM Testing Tariffs".

"If an existing Generating unit is carrying out testing in the SEM then it will automatically default to Testing Tariff A for the first 72 hours of testing, unless the testing is deemed low risk."

In response to the AES query in relation to the testing and derogation requirements, we would like to note that the exact nature of the testing required will depend on the outcome of the OEM studies. However, it is likely that frequency injection testing of the unit will be required. The costs of any additional studies and testing at 2 Hz/s are driven by the Northern Ireland Regulator's decision to request that "studies that are carried out should assess the impact of a RoCoF of up to 2 Hz/s". For the avoidance of doubt, the proposed Grid Code modification in Northern Ireland is for 1 Hz/s and the proposed remuneration mechanism will be applied to this standard. Furthermore, the NI derogation process is that any party seeking derogation should submit any such request to the Utility Regulator.

[5] http://www.eirgridgroup.com/site-files/library/EirGrid/16.02.01.TT-Selection-Guideline_Ext.pdf

2.3 The remuneration mechanism methodology

The proposed remuneration mechanism methodology is designed to complement the RoCoF GPI calculation. The payments are to be based on a similar methodology used in the RAs' RoCoF decision papers and utilises a modified version of the equation set out in the decision papers. The modified equation for the RoCoF incentive payments is shown below:

$$c = €1{,}500 \times d \times e$$

Where:

c	is the daily payment;
d	is a scalar associated with the size of the unit;
e	is a scalar associated the expiration of the defined generator study period which commenced on November 21st 2014; and
€1,500	is the monetary value.

It is assumed that the remuneration mechanism comes into effect after the expiration of the category one generators' deadline (21st May 2016). The remuneration mechanism will be scaled in a similar fashion to the GPI so that the day rate decreases in each six month period.

The daily rates apply in accordance with the unit's registered capacity.

2.3.1 Respondents' Comments

8 comments were received (AES, BGE, BnM, EAI, Energia, TEL and 2 confidential respondents) in relation to the remuneration mechanism methodology.

6 comments (BGE, BnM, EAI, Energia, ESB and 1 confidential respondent) were received in relation to the monetary value proposed in the methodology. Most queried the origin of the monetary value. Three respondents (BnM, EAI and Energia) commented that the value is arbitrary. BnM commented that the sum underpinning the calculation undermines the aim of the process whilst some elements of the proposed methodology are logical.

ESB is seeking justification for the value proposed. They further commented that the value is not acceptable as it carries no relevance from the fact that the publication of the deadlines resulted in the detrimental impact on their negotiation position with the third party. This should be avoided in any future design. The proposed value will not allow the cost of completing the required technical studies to be recovered.

6 comments (BGE, BnM, EAI, ESB and 2 confidential respondents) were received specific to the cost recovery. A confidential respondent suggests the methodology should have some linkage to the actual cost and alternatives methodology such as a fixed price per unit should also be considered.

Three respondents commented that the proposed full remuneration package is small in comparison to the real cost of the study.

BGE commented that the daily value should be more cost reflective. Two (BnM and 1 confidential respondent) commented that the remuneration should be evidence based.

BnM commented that the remuneration should allow for minimum cost recovery, EAI stated that a scalar appropriate to the cost should be pursued, BGE and 2 confidential respondents commented that the potential savings from the increased SNSP should allow units to be reimbursed in whole from the market.

BGE commented that the remuneration is disproportionately low compared to the GPI and that a similar scheme such as TUoS tariff ratio should be considered.

ESB commented that given the significant costs generators faced in meeting this target to undertake the studies, a fair and effective remuneration mechanism will ensure that the positive externalities are captured and private costs are recovered, this will ensure that there is no cross subsidisation between conventional and wind generation. Furthermore, they strongly support that any capital investment costs which may be required post study are to be remunerated.

5 comments (EAI, Energia, ESB and 2 confidential) were received related to scalar d, scalar e & register capacity. The confidential respondent commented that the use of the registered capacity is equivalent to only reimbursing CCGTs based on their capacity in Open Cycle mode and proposed that a standalone "d" value for specific technology plant to be considered.

BnM commented that scalar "d" restricts the cost recovery on a disproportionate basis for smaller generator and that the cost of the remedial works is likely to be very similar and not linear. Also, the inertia providing RoCoF support which is not proportional to the installed capacity of the plant therefore using registered capacity in the methodology should not be appropriate. EAI commented that the scalar is inappropriate because it does not relate to the size of the unit. Energia commented that the scalar d is arbitrary and has no basis. They proposed using a linear scaling factor scalar within a proposed range.

ESB commented that the paper has not provided evidence that would support a capacity based allowance and the cost of the study is independent of the size of the unit and the use of a size scalar in the proposed remuneration scheme has a different meaning compare to the GPI size scalar. Also, the scalar e undermines the priority categorisation that is already in place.

TEL commented that the scalar d is not granular enough and it disproportionally penalises or benefits particular generators. They suggested a linear payment relative to the size of the unit should be considered.

BnM commented on the scalar "e". BnM stated that when scalar e was combined with the other multipliers in the methodology it exacerbates the difficulties of the smaller plants in attempting to make cost recovery for the studies.

1 confidential respondent agree that there is a link with the capacity of a unit to the provision of RoCoF services but there is a greater link to the inertia of the machine with the POR level therefore they do not agree the category payments based on the size of the unit reflect the value to the electricity system.

TEL commented that given the large costs incurred by generators, they would ask for the rationale behind setting of the price to be explained.

Two comments were received in relation to 2 Hz/s standard proposed for NI.
AES supports the introduction of the remuneration mechanism and in general the subsequent profiling of the daily payment to recover some of the significant costs associated with the process. However, the additional 2Hz/s requirement should not delay the remuneration payments or derogation against the deadline. 1 confidential respondent commented that the additional requirement should be rewarded with additional payments.

2.3.2 Our Response

As discussed in the consultation paper, the proposed remuneration mechanism is designed to complement the published RoCoF GPI methodology using the same scalars. The monetary value is derived from the RoCoF GPI formula using the scalar for required RoCoF standard (a-b). The overall sum in the proposed methodology was reviewed and discussed with the RAs. As outlined in the regulators' decision papers, the RoCoF remuneration mechanism is not a cost recovery mechanism and is designed to incentivise early completion of studies[6].

We note that the participants' comments in relation to the overall payment in the proposed scheme and the challenges with the methodology using scalars. We have referred the comments from participants on these items to CER and Utility Regulator.

In response to the AES comment in relation to the additional payments for 2Hz/s, it should be noted that the grid code requirement will be 1Hz/s measured over 500ms when it is implemented in Northern Ireland. Generators in NI have been asked as part of the decision paper[7] to study the capability of their units to withstand a 2 Hz/s RoCoF event. For the avoidance of doubt, the proposed remuneration mechanism will be applied to the 1 Hz/s standard.

[6] http://www.cer.ie/docs/000260/CER14081%20ROCOF%20Decision%20Paper%20-%20FINAL%20FOR%20PUBLICATION.pdf
[7] http://www.uregni.gov.uk/uploads/publications/Decision_Paper_on_the_Rate_of_Change_of_Frequency_Grid_Code_Modification.pdf

2.4 Early completion incentive for period 1st March 2016 to 31st May 2016

In November 2015, the RAs have asked us to consider an incentive for early completion of the RoCoF study.

We propose that any unit that submits a complete RoCoF study ahead of 1st June 2016 will be eligible for an additional incentive payment for a period of time starting on 1st March 2016 with the e scalar set to 125% from the same equation.

From 1st March 2016 to 31st May 2016, a generator would receive an additional incentive payment. This is the maximum payment available from the scheme and the payment for submission earlier than 1st March 2016 will be the same as that received for submission on 1st March 2016.

2.4.1 Respondents' Comments

7 comments were received (AES, BnM, EAI, Energia, ESB, IWEA and 1 confidential respondent) in relation to the early incentive proposal.

AES broadly supports the proposal, the timescales and scalar proposed with exclusion of 2Hz/s study requirement.

BnM and one confidential respondent appreciate the merit in the theory of the proposal but the associated timelines failed to afford enough time for units to react. EAI commented that generators should be provided an appropriate window to access such payments and alignment with the categorisation timeline already established.

Energia welcomes this proposal but was unclear as to why the scalar e is set to 125%. They would welcome clarification. Furthermore, the application of the e scalar exacerbates the issue of disproportionality in the mechanism when combined with the d scalar.

ESB commented that the introduction of these payments shortly before the RoCoF scheme becomes applicable will not allow generators to respond as the contractual arrangement with their third party has already been aligned with the previous published categorisation deadline. Also, the incentive will not impact on the decision to be taken in June 16 whether the change in RoCoF standard can be implemented.

IWEA welcomed the proposed to incentivise early delivery of RoCoF technical studies and capability.

2.4.2 Our Response

We note industry comments over the short timelines for availing of the early incentive. The early incentive was introduced to encourage earlier submission by

generators in advance of the category deadlines. This is consistent with the regulator position that RoCoF studies should be concluded in the earliest possible timeframe and provides all eligible generators the opportunity avail of the incentive.

2.5 Duration of the remuneration scheme

In line with the CER RoCoF decision paper[8], the scheme will run for a limited period of time.

We are proposing to start the remuneration payments at a full amount and reduce the rate over the period of the project.

The incentive will 'expire' after the completion of the project timeline on 28th February 2018. This implies that the scheme will commence on 1st March 2016 and conclude on 28th February 2018 for early submissions. The regular scheme for on-time submission will commence on 1st June 2016 will end on 28th February 2018.

2.5.1 Respondents' Comments

6 comments were received (AES, BnM, Energia, ESB and 2 confidential respondents) in relation to the duration of the scheme.

AES supports the view that the scheme being available for a limited period of time.

BnM queried the appropriateness of the timeline identified in the paper that the long-stop date would not provide confidence for new investment and they look forward to the workstream that will propose an enduring arrangement.

Energia agrees that this mechanism should be time-bound.

Five respondents (AES, BGE, BnM, EAI and ESB) commented that the duration of the mechanism should be on an enduring basis as a result of ongoing operational cost not recoverable through bids as a consequence of higher RoCoF events.
Energia commented that the principle may be a starting point for development of the ongoing remuneration mechanism.
ESB commented that the higher RoCoF event may continue following Grid Code change, because the service is not envisage to be time limited therefore the payment should not be time bound. The RoCoF should be recognised in line with the risk and cost incurred by the units to support the increased SNSP and they should have an allocated value steam.

AES further suggests that all generators who are compliant and are asked to provide the capability should also be rewarded through the ongoing rate.

One confidential respondent commented that the payment should finish on introduction of the I-SEM where generators will recover these cost through energy revenues.

[8] http://www.cer.ie/docs/000260/CER14081%20ROCOF%20Decision%20Paper%20-%20FINAL%20FOR%20PUBLICATION.pdf

One confidential respondent commented the period of the payment and its scalar decreasing to zero where the service will be called on more often is inadequate and that the payment is discriminatory to those generators who are not high priority.

2.5.2 Our Response

The CER and Utility Regulator decision papers outlined that generators demonstrating compliance to the 1 Hz/s standard would be eligible for remuneration for a defined period of time. The duration of the scheme is designed to complement the Generator Studies deadlines. All eligible generators in the RoCoF studies scheme have the opportunity to avail of the remuneration mechanism regardless of their categorisation.

The new RoCoF standard will be implemented in Grid Code following successful completion of these studies. This requirement supports our work towards operating the electricity system at a higher SNSP level in order to meet the low carbon emission target set out by the government.

2.6 Eligibility

As stated in the CER RoCoF decision paper, "the CER acknowledges that in addition to the cost associated with the studies there will be operational costs associated with higher RoCoF events. Such cost may not be recoverable through energy bids. Accordingly the CER and the Utility Regulator in Northern Ireland will recommend that the SEM Committee request the TSOs to consider and propose the introduction of remuneration mechanism which may include a new Harmonised Ancillary Services (HAS) rate for RoCoF. It is envisaged that all generators demonstrating compliance with the 1Hz/s standard would be eligible for a period of time."

In November 2015, the RAs clarified that only generators included on the RoCoF categorisation list will be eligible to participate in this remuneration mechanism. Please note that exempt units from the category list will not receive any payment.

Eligible generators will be awarded a RoCoF contract by EirGrid and SONI as set out in the proposed process in the consultation paper. The remuneration package will be implemented in line with the RAs' final decision.

2.6.1 Respondents' Comments

5 comments were received (EAI, Energia, ESB, SSE and 1 confidential respondent) in relation to the eligibility.

EAI commented the payment changes at six monthly intervals undermines the decision in relation to priority categorisation and discriminates against generators who implement required studies in line with the priority categorisation and all generators should have equal access to the scheme.

Energia commented that there is no argument for extending eligibility for this mechanism beyond the generators that are obliged to undertake the studies.

ESB commented eligibility of all types of generators who provided quality services should also be rewarded in line with the previous published decision as we seek to transition to a low carbon fleet.

SSE commented on the definition of the eligible units and would like clarity regarding treatment of any unit that have already completed RoCoF compliance testing.

2.6.2 Our Response

As mentioned in our consultation paper, the RAs stated that only generators included on the RoCoF categorisation list will be eligible to participate in this remuneration mechanism. All eligible generators in the RoCoF studies scheme have the opportunity to avail of the remuneration mechanism regardless of their categorisation.

In response to the comment in relation to treatment of units that have already completed RoCoF compliance testing, as per the consultation paper, units included on the RoCoF categorisation list will be eligible to participate in this remuneration mechanism. However, exempt units from the category list will not receive any payment. Any units that have queries in relation to their eligibility can contact the TSOs or the relevant regulatory authority.

2.7 Our Recommendation

On the basis of the direction from CER and Utility Regulator and considering the responses from industry, EirGrid and SONI recommend that the RoCoF remuneration mechanism is implemented as outlined in the consultation paper. This includes the following provisions:

- The equation for the remuneration mechanism is:

  c = €1,500 x d x e

  This is based on RoCoF Grid Code standard required = 1 Hz/s
- The payment for RoCoF compliance is made on the basis of a 1 Hz/s standard. This is consistent with the proposed changes to the Grid Codes in Ireland and Northern Ireland.
- The early completion incentive is applied during the period of 1st March 2016 to 31st May 2016.
- The total duration of the remuneration scheme would be for the period of 1st March 2016 to 28th February 2018.

As per the consultation, we will implement the mechanism subject to RAs final decision. The proposed methodology complements the GPI methodology as per RAs decision in 2014. It serves as a catalyst to stimulate completion of the RoCoF generator studies workstream and supports the categorization timelines. It also fulfills our requirement to meet the request from SEMC to implement a remuneration mechanism. We believe that the implementation of this scheme supports the ongoing work to achieving higher levels of renewable generation on the island.

3. NEXT STEPS

Following the final decision of the scheme approved by the RAs. Eligible generators should contact us with any queries regarding their unit. Please email AS@eirgrid.com. The RAs will approve/reject the recommendations proposed by us in light of the responses received and we will implement in accordance with the RAs decision paper.

ABBREVIATIONS

AS	Ancillary Service
CER	Commission for Energy Regulation
DSO	Distribution System Operator
DS3	Delivering a Secure, Sustainable Electricity System
HAS	Harmonised Ancillary Services
GPI	Generator Performance Incentive
I-SEM	Integrated Single Electricity Market
RA	Regulatory Authority
RoCoF	Rate of Change of Frequency
NI	Northern Ireland
OEM	Original Equipment Manufacturer
OSC	Other System Charges
SEM	Single Electricity Market
SNSP	System Non-Synchronous Penetration
SONI	System Operator Northern Ireland
TUoS	Transmission Use of System
TSO	Transmission System Operator
TY	Tariff Year
UR	Utility regulator Northern Ireland

Response to a Proposal for Rate of Change of Frequency Remuneration Mechanism Consultation 2015

22nd December 2015

On behalf
of
AES Kilroot Power Ltd and AES Ballylumford Ltd

8th February 2016

RoCoF Remuneration Mechanism

Introduction

AES welcomes the publication of the Eirgrid/SONI consultation document "A Proposal for Rate of Change of Frequency Remuneration Mechanism Consultation 2015" and the opportunity to provide comments on the issues raised. AES would like to submit the following response to Eirgrid/SONI to their consultation.

AES is a global energy company with assets in the all island market consisting of coal and gas fired conventional and CCGT plant with additional distillate fired peaking gas turbine plant and a Battery Energy Storage Array (BESA). AES is a non-vertically integrated independent generator which owns and operates Kilroot and Ballylumford power stations in Northern Ireland with a combination of merchant and contracted base load, mid merit and peaking plant. The responses to this consultation are therefore conditioned by the nature of our current position and portfolio of assets operating in the SEM.

GENERAL HIGH LEVEL COMMENTS

AES has participated fully in the DS3 program primarily aimed at facilitating the integration of renewable generation onto the all island power system with the consequent potential for system disturbances with increased rate of change of frequency (RoCoF). AES understands the risk to the security of the power system with high system non synchronous penetration levels (SNSP) and the subsequent decision to modify the Northern Ireland Grid Code to implement a RoCoF standard subject to a required level of plant achieving compliance with the proposed standard.

AES welcomes the opportunity to submit comments to Eirgrid/SONI on the RoCoF remuneration consultation document and in general welcomes the introduction of the proposed remuneration mechanism.

AES has commissioned a number of studies with respect to the RoCoF compliance of its units with the proposed standard at significant costs and which are progressing toward completion in the intended timeframe. Generators in Northern Ireland were asked to carry out additional studies to assess compliance with RoCoF values of 2Hz/s measured over 500ms which SONI viewed would be required in the event of system separation.

AES would point out that the grid code standard proposed in the Utility Regulator Decision Paper – Rate of Change of Frequency Modification to the Northern Ireland Grid Code approved in principle the proposed modification of the NI Grid Code for the implementation of a Rate of Change of Frequency (RoCoF) requirement of **1Hz/s** measured over 500ms and not 2Hz/s as stated in this remuneration consultation document. Indeed a common standard of 1Hz/s was proposed for Northern Ireland and Ireland.

REMUNERATION MECHANISM PROPOSAL

AES has reviewed the process proposed for the submission of RoCoF study reports and subsequent testing and would make the following comments.

SCENARIO 3.1.1 - UNIT SUBMITS COMPLETED ROCOF STUDY REPORT WITH NO ISSUES.

AES would like to see the more information on the nature of testing required and expected results following submission of the report in the form of specific test requirements or references to the relevant existing test specifications.
AES accepts that generators have to incur the costs of grid code compliance however any additional studies and testing for compliance with the 2Hz/s over 500ms for SONI's requirement should be carried out at SONI's expense as this is not required for grid code compliance.

SCENARIO 3.1.2 - UNIT SUBMITS COMPLETED ROCOF STUDY REPORT WHICH IDENTIFIES THAT UPGRADES ARE REQUIRED.

With respect to testing – same comments as above.
At present there is no derogation process in the NI Grid Code so should the situation arise whereby a temporary derogation is required, details of the process for application and from whom the derogation required i.e. from the Regulatory Authorities should be clarified. More detail is required on this process and the potential impact on dispatch.

SCENARIO 3.1.3 - UNIT SUBMITS COMPLETED ROCOF STUDY REPORT WITH MAJOR ISSUES IDENTIFIED

With respect to testing – same comments as above.

SECTION 3.2 THE REMUNERATION METHODOLOGY

AES supports the introduction of the remuneration mechanism payable from the 1st June 2016 and in general the subsequent profiling of the daily payment of the mechanism as this affords the opportunity to recover some of the significant costs associated with the process of assessing compliance with the new 1Hz/s RoCoF standard. However the additional SONI requirement of 2Hz/s has required additional time, costs and effort to complete the studies which are over and above those required in Ireland yet the timescales for completion and the proposed remuneration for completion and compliance remains the same.
It should be made clear that the qualification for remuneration applies from the successful completion and submission of the 1Hz/s study report and subsequent completion testing for compliance for that level and that any delay in reporting on 2Hz/s or testing requirements should not require any derogation application and/or delay of remuneration.

SECTION 3.3 EARLY COMPLETION INCENTIVE FOR PERIOD 1ST MARCH 2016 TO 31ST MAY 2016

AES supports the proposal for an additional incentive for early completion of the RoCoF study and broadly supports the timescales and scalars proposed with reference made to the comments above regarding the 2Hz/s study requirements.

SECTION 3.4 DURATION OF THE REMUNERATION SCHEME

AES recognises that the demonstration of RoCoF compliance process is a time bound process to ensure that primarily existing plant properly assesses the impact of the proposed

RoCoF Grid Code modification on their plant. In principle AES supports the view that the remuneration proposed for the demonstration of compliance should be provided to enable the full recovery of costs associated with OEM study and testing related to the compliance process and should therefore run for a limited period of time.

SECTION 3.5 ELIGIBILITY

AES agrees that in addition to the costs of OEM study and compliance testing there will be ongoing operational costs not recoverable through bids as a consequence of higher RoCoF events and potentially and increased number of events and supports the proposal for an ongoing RoCoF system service rate for RoCoF with all 1Hz/s compliant generators eligible to be contracted.

However AES also views that all generators who are compliant and are asked to provide the capability should be rewarded for the service that they provide, if not by contract, then at a rate equivalent to that which a contracted generator would receive for the time they are asked to provide the service.

Ms.Amanda Kelly
EirGrid
The Oval
160 Shelbourne Rd
Ballsbridge

Ms. Vivienne Price
SONI
12 Manse Rd
Belfast
BT6 9RT Dublin 4

8th February 2016

Dear Amanda, Vivienne,

Re: A proposal for Rate of Change of Frequency Remuneration Mechanism Consultation 2015

Bord Gáis Energy (BGE) welcomes this opportunity to respond to the TSOs' (EirGrid and SONI) consultation on the proposed remuneration mechanism for RoCoF (Rate of Change of Frequency). While we are pleased that the TSOs are developing a remuneration mechanism for RoCoF, we believe the approach proposed in the consultation is over-simplistic and bears no resemblance to the true cost of the RoCoF studies.

It is unclear from the consultation how the TSOs have calculated the daily monetary value of €1,500 in the remuneration mechanism or what it corresponds to. What is clear however is that the maximum payment it delivers is significantly less than the costs that generators are incurring for complying with the increased RoCoF standard. We believe that the TSOs should re-examine this daily value in a cost- reflective and transparent way and at a minimum, set it in a way that recovers the costs for carrying out the RoCoF compliance study and the RoCoF testing phase. The TSOs should also consider the increased operational costs associated with running at a higher RoCoF standard and design the remuneration mechanism so that generators are remunerated for this on an enduring basis rather than limiting the timeframe to an arbitrary date of 28th February 2018.

Under the proposed remuneration mechanism, the application of Testing Tariff A during the test phase would claw back c.10% of the maximum available remuneration to a generator. This is extremely high and overly penal, especially considering that the risks to the system have been quantified through the detailed generator performance analysis undertaken in the RoCoF study. We therefore urge the TSOs to consider removing this testing tariff as the risks of the RoCoF test are far less than the risks associated with newly commissioned plants.

The TSOs have put a value on the importance of being RoCoF compliant through penal Generator Penalty Incentives (GPIs) for failing to meet the proposed standard. There is an evident and sizeable asymmetry between this penalty and the potential reward for demonstrating compliance to ultimately help the TSOs facilitate higher SNSP levels. In the interest of fairness, the TSOs should consider re- evaluating the remuneration amount so that it is not so disproportionately low compared to the GPI and that the costs of this study is fully remunerated given the wider benefits that a higher RoCoF standard brings to meeting Government targets. We recommend an appropriate precedent is the

incentives scheme currently available to EirGrid in their TUoS tariffs where there is a symmetrical reward/penalty ratio for performance incentives.

I hope you find the comments in this response useful. If you have any questions or queries, please do not hesitate to contact me at any time.

Sincere regards,

_____

Brian Larkin
Regulatory Affairs – Commercial
Bord Gáis Energy

{By e-mail}

Integrated Single Electricity Market

(I-SEM)

A Proposal for Rate of Change of Frequency

Remuneration Mechanism Consultation 2015

Consultation Response
from

BORD NA MÓNA

February
2016

Introduction

Bord na Móna (BnM) welcomes the opportunity to make a submission on the consultation proposal for Rate of Change of Frequency Remuneration Mechanism Consultation 2015. Given that both Eirgrid and SONI's have a responsibility to enable increased levels of Renewable non-synchronous generation such as wind and solar on the island of Ireland in the coming decade it is imperative that the challenges associated with RoCoF are addressed and be remunerated accordingly. BnM recognise that it is of critical importance that the system is developed such that high RoCoF events during times of high SNSP are incentivized in order to curb threats to the security of supply of power.

Remuneration Mechanism Process

The generic sequence of events from completing the Generator Study Report to receiving a RoCoF Contact and associated payment outlined in the paper seem reasonable. BnM would broadly agree with the structure of the remuneration mechanism, however we are unsure what is being remunerated, is it the cost of the studies, the potential costs of identified remedial works (cost of compliance) or ongoing payment for the value of the increased RoCoF provision?

Remuneration Mechanism methodology

BnM have a number of concerns regarding the remuneration mechanism as outlined in the consultation paper. The modified equation for RoCoF incentive payments outlines a monetary value multiplier of €1500/day, however there is no objective rationale or transparency as to why this sum was chosen. BnM would contend that the economic rationale for offering a remuneration mechanism is to incentivise generators to provide the service, or to provide the service in a more timely manner. Although the final cost of implementing RoCoF with generators is an unknown at this point, the proposed multiplier would appear to be insufficient to provide this incentive, even if the full value of the proposed remuneration mechanism was realised, and before any remedial cost are taken into consideration, as well as the ongoing value to the consumer of the increased RoCoF standards.

The scalar applied, that is associated with the size of the unit (d), would appear to be inappropriate. Albeit that the mechanism was designed to be aligned to the RoCoF GPI calculation, and as such the GPI's are scaled according to the size of a unit, the proposed scalar would be inappropriate for RoCoF as the mechanism further restricts cost recovery on a disproportionate basis for smaller generators. The cost associated with RoCoF implementation, ie the scope, and cost of a generator study and potential remedial works are likely to be very similar and are not linear with installed capacity.

It should also be noted that inertia, which is key to providing RoCoF support is not proportional to the installed capacity of a plant, particularly in the case of a conventional baseload plant such as Edenderry Power Ltd, and as such registered capacity should not be appropriate when determining the remuneration amount.

Although BnM understand the theory behind the (e) scalar (dealing with expiration) which seeks to incentivise early completion of the generation studies, when taken in combination with the monetary

multiplier & the (d) scalar further exacerbates the difficulties that smaller plants have in attempting to recover the cost of their studies.

At a conceptual level there are elements of the methodology proposed that are logical, such as the scalars that are designed to be based on value that the service provides, however the arbitrary sum that is underpinning the calculation, is undermining the aim of the process, assuming that this is to provide a mechanism for generator to recover generator study costs. BnM would encourage that all elements of the proposal are evidence based and transparent and that the remuneration would at minimum allow for recovery of the compliance cost. There is a separate discussion to be had regarding the ongoing value (and remuneration) of the enhanced RoCoF settings.

In addition the proposal to use the most penal testing tariff, does not seem justified.

Early Completion incentive

BnM would see merit in the theory of the introduction of incentives for early completion, however the timelines in this consultation are only a matter of weeks away (1st of March 2016 to the 31st of May 2016), and given the nature of the procurement process, the programming of the studies as well as the absence of any prior indication of a potential reward for early completion generators have simply not been afforded enough time to react to the incentive.

Duration of the remuneration scheme

BnM would query the appropriateness of the temporal restriction of the support of the RoCoF scheme to the timelines identified in the paper (1st March 2016 – 28th of February 2018), unless this mechanism is solely for the recovery of generator study costs.

In the alternative it is not anticipated that the requirement for enhanced RoCoF standard will dissipate beyond 28th of February 2018. Generators will be adding value to the services they provide the consumer via the enhanced RoCoF standard – assuming this current remuneration mechanism is limited to the recovery of costs associated with generator studies, we look forward to the work stream which will propose an enduring remuneration scheme for this additional value provided.

From a broader perspective, the very concept of a long –stop date on a new service, would not provide confidence for new investment in providing system support services and DS3.

In Summary

In summary BnM very much welcomes the opportunity to respond to the proposal for Rate of Change of Frequency Remuneration Mechanism Consultation. BnM would like to reiterate its support for an appropriate RoCoF remuneration mechanism(s). The RoCoF programme and the remuneration of generators for the flexibility to support the system, will be increasingly required in order to reduce

curtailment for wind farms, and for delivering significant savings to consumers through lower wholesale energy prices. As such BnM believe that ongoing reduced curtailment levels should be the basis of providing enduring support for RoCoF services.

If you have any queries or require clarification on any point, please do not hesitate to contact me.

For and on behalf of Bord na Móna

Adele Woods
Regulatory and Market Analyst

Bord na Móna PowerGen

127 Baggot Street
Lower, Dublin 2,
Ireland.

DATE: 8th of February 2016

To: Amanda.kelly@eirgrid.com and Vivienne.price@soni.ltd.uk

RE: ROCOF Remuneration Proposal

Dear Amanda/Vivienne,

The EAI welcomes the opportunity to respond to the TSO proposals on a mechanism to remunerate eligible generators for costs associated with studies, under the Generator Studies Project, as part of the proposed change to the RoCoF standard in the Grid Code. Furthermore, EAI calls on EirGrid and the RAs to initiate work on appropriate remuneration mechanisms for the ongoing benefit to be provided by generators at this new standard (e.g. HAS payments) and also for necessary further investment required to achieve the standard. At this point, the total cost of compliance is unknown. However, EAI welcomes the proposed introduction of this remuneration mechanism to compensate generators for the cost of generator studies, noting that these studies represent only the first phase of achieving compliance.

In our response EAI argues that;

- While it is appropriate to time-limit remuneration for generator studies, further consideration must be given to remuneration for other RoCoF associated costs. Such remuneration mechanisms may be also be time-limited (e.g. further investment) or ongoing (e.g. HAS payments). Ultimately generators should be remunerated for the cost of achieving compliance and for the additional benefit their retrospective compliance provides to the market.
- A scalar appropriate to the cost should be pursued.
- All generators should be treated equally; i.e. the proposals should not undermine the priority categorisation implementation decision and discriminate against generators who are adhering to this timeline.
- The testing tariff rate A should not apply to all generators. The prevailing testing tariff applicable at a unit should be applied in all circumstances.

Ongoing Remuneration

The introduction of a remuneration mechanism for eligible generators, that aims to incentivise timely completion of the Generator Studies Project, is welcomed by EAI members. EAI have highlighted the costs and called for such a mechanism for some time. EAI maintains the position that the overall costs of this project are likely to extend far beyond the generator studies and the remuneration mechanism proposed, and as such call for the remuneration of further investment and ongoing system benefits (e.g. HAS payment) to be developed and proposed for consultation. In the RoCoF Decision Paper (CER14-081) published in April'14 the CER acknowledged that there would be increased operational costs as a result of more frequent RoCoF events and recommended that the SEM Committee request the TSOs to propose a remuneration mechanism for RoCoF. EAI therefore requests that recurring costs/benefits should be remunerated on an ongoing basis, with arrangements also made for the remuneration of further investments required to facilitate this retrospective change to Grid Code.

Proposed Payment Value

- The proposed payment of €1,500/day is arbitrary whilst the total cost of compliance with the RoCoF standard remains unknown. The cost of the generator studies alone is significant and represents only the first phase of achieving compliance.

Unit-indexed Scalar

- Whilst a scalar relating to the size of the unit is appropriate in the case of determining the RoCoF GPI, a scalar of this nature is not appropriate to the remuneration mechanism as the cost of completing the required generator studies is not related to its size.

Equal Treatment for all Generators

- It is proposed that the remuneration mechanism will come into effect after the high priority deadline (22nd May'16) and run until the 28th February'18. The proposal to apply a scalar during this period in order to reduce the level of the payment at six monthly intervals undermines the decision in relation to priority categorisation and discriminates against generators who implement the required studies in line with the priority categorisation. The cost of implementing the required study does not vary according to the unit's categorisation. All units should have equal access to a RoCoF remuneration mechanism in line with the previously published decisions. To propose otherwise risks creating bias and would be contrary to the principles of good regulation.

Early Completion Incentive

The proposal for an early completion incentive to apply for studies completed between the 1st March'16 and 31st May'16 is unexpected and as such, generators should be provided with an appropriate window to access such payments. A failure to acknowledge this point in the design would further undermine the priority categorisation outlined in the project implementation plan. We note that submission of any completed study in the period from March'16 to May'16 will not

impact the decision to be taken in June'16 whether the change in RoCoF standard can be implemented. EAI acknowledges the role such a mechanism can play in incentivising timely completion of generator studies but calls for the implementation of this mechanism to be better aligned with the notification of it to generators.

Funding

- Clarity is requested as to how the proposed remuneration mechanism will be funded.

RoCoF GPI

- Generators should also not be exposed to the pancaking of penalties, i.e. incurring both the published GPIs for non-compliance with the priority categorisation deadlines and these additional scaled reductions in the remuneration itself. Where a generator has taken reasonable steps to complete the required studies in line with the priority categorisation deadlines there is no justification in applying a RoCoF GPI immediately after the deadline date. The proposed RoCoF GPI should only be put in place as a back stop to the remuneration mechanism so that only after the remuneration mechanism closes would the RoCoF GPI be applied.

Testing Tariff Rates

It is not appropriate to apply Testing Tariff A to all generators. The SEM Committee Decision, SEM Testing Tariffs 2016 (SEM-15-097) published in December 2015 states:

> *"Tariff A, generally associated with commissioning units, is primarily increasing (only three of the ten tariff bands are decreasing), while Tariff B, associated with units in the latter stage of commissioning or general testing of existing units, is decreasing (in all tariff bands)."*

This appears to contradict that testing rate A should be applied to RoCoF testing. This approach does not conform with our members' experience of testing or with EirGrid's recently published (1st February 2016) Guidance Document on Selection Guideline for SEM Testing Tariffs. EAI considers the appropriate approach to be for EirGrid to apply the prevailing testing tariff for each unit in the event of RoCoF frequency injection tests being undertaken. For units currently on Testing Tariff B, these tests do not represent a high risk of trip and at the very least, a review on a generator-by-generator basis should be the starting point. Considering the level of study involved in preparing the unit for the test, the risk should not be judged the same as a plant going through initial commissioning.

Conclusion

EAI welcomes the proposal to introduce a remuneration mechanism for eligible generators towards the costs of the generator studies undertaken as part of the Generator Studies Project, as part of the overall proposed RoCoF Grid Code modification. In this response we have proposed improvements to the proposals which aim to ensure that the principle of remuneration outlined in the paper is maintained in respect of the further costs associated with the retrospective change in RoCoF standard in the Grid Code, and acknowledging the ongoing benefit these changes are to bring to the

system. The respective remuneration mechanisms should be consistent with regulatory decisions and avoid undue discriminate between generators. We look forward to future engagement with the TSO on these proposals in advance of any final decision.

Yours sincerely,

Stephen Douglas
Senior Advisor
Electricity Association of Ireland (EAI)

Response by Energia to EirGrid/SONI Consultation

A Proposal for Rate of Change of Frequency Remuneration Mechanism

08 February 2016

1. Introduction

Energia welcomes the opportunity to respond to this EirGrid/SONI (TSOs) consultation paper on the proposed introduction of a Rate-of-Change-of-Frequency (RoCoF) remuneration mechanism. As noted in the paper, this remuneration mechanism forms part of the Generator Studies Project, within the wider programme of work associated with the change(s) to the RoCoF standard in the Grid Code. Furthermore, this mechanism has the stated objective of incentivising the timely completion of the projects. As such, this proposed remuneration mechanism is viewed as a partial remuneration mechanism, designed to make contributions towards the costs of generators' studies only.

The consultation paper does not address the operational costs associated with higher RoCoF events, acknowledged by the CER in the RoCoF Decision Paper (CER/14/081). Therefore, Energia calls on the TSOs to develop an enduring remuneration mechanism that reflects these costs, as well as system benefits, arising from this retrospective change to Grid Code for existing generators who have already demonstrated Grid Code compliance with the prevailing standard (e.g. new Harmonised Ancillary Service payment).

The comments put forward herein are predicated on the roll-out of such a complimentary, enduring remuneration mechanism and for the avoidance of doubt it is not Energia's view that this proposed remuneration mechanism would be sufficient to remunerate generators for the costs associated with this retrospective change to Grid Code standards.

The remainder of this response focusses on the remuneration mechanism, as proposed in the consultation paper, as a means to remunerate generators for costs associated with generator studies only.

2. Energia Response

Energia welcomes the introduction of the proposed remuneration mechanism. This mechanism is an acknowledgement by the SEM Committee of the significant costs of the required studies and of the principle that generators should not be burdened with the full cost of the retrospective Grid Code modification to the RoCoF standard. The proposed remuneration mechanism is a positive first-step in ensuring a more equitable transition to this new standard for eligible generators that have already demonstrated Grid Code compliance with the prevailing standard.

Taking each of the aspects of the proposed remuneration mechanism in turn, comments have been provided herein.

2.1 Remuneration mechanism process

Energia has no comments on this aspect of the proposal at this time.

2.2 Remuneration mechanism methodology

As outlined in the consultation paper, the monetary value of €1,500 per day, appear to be arbitrary and has no associated justification. We ask that the TSOs clarify the

basis for this value and without this it is not possible for Energia to comment on the proposed value at this time.

The proposed methodology contains a scalar (d) associated with the size of the eligible unit. The classification of units for the purposes of this scalar also appears to be somewhat arbitrary, with large step-changes and commercial consequences arising from the proposed classification, without any explicit justification. It is therefore again not possible to comment on this scalar at this time. To avoid the obvious difficulties with the proposed approach, even if such an approach is capable of being justified on an objective basis, Energia proposes the TSOs amend this scalar (d) to a linear factor with the proposed range (i.e. <50MW (0.05) to >=400MW (1.0)).

2.3 Early completion incentive

Energia welcomes the SEM Committee's decision to incentivise early completion of the generator studies. The basis for this early completion is therefore clear but it is not clear from the paper as to why the maximum incentive for early completion is set to 125%. Further clarification of this value by the TSOs would be welcome.

The application of the early incentive scalar (e) in the remuneration mechanism methodology exacerbates the problem arising from the seemingly arbitrary categorisation of units by size (i.e. scalar d).

2.4 Expiration of remuneration mechanism

As a principle and mechanism to remuneration generators for the generators studies only, Energia agrees that this mechanism should be time-bound and do not take issue with the proposed end-date of 28 February 2018.

2.5 Eligibility

As a mechanism to remunerate generators for generator studies, the is no argument for extending eligibility for this mechanism beyond the generators that are obliged to undertake the studies.

This principle may be a starting point for development of the ongoing remuneration mechanism (e.g. new HAS payment) but as such is beyond the scope of this consultation.

2.6 Other issues

Energia can see no basis for the TSOs stated position of applying Testing Tariff A to the frequency injection tests required under testing for RoCoF compliance. This proposed blanket approach is inappropriate, contradicts the TSOs own guidance on testing tariffs (published 01 February 2016) and ignores generators' performance and history of testing.

At the very least, the TSOs should consider each generator on a unit-by-unit basis and consider all relevant factors pertaining to each unit, including testing and performance history. A blanket approach would also ignore investments made by generators that were intended to increase the flexibility and robustness of units, and have done so.

In the case of Huntstown, it is not the view or experience of Energia that the required frequency injection testing represents a high risk of tripping. Energia have undertaken such tests and are willing to share this data with the TSOs. Unless the TSOs have strong and reasoned arguments to do otherwise, Energia proposes that the TSOs apply the prevailing testing tariff on all eligible generators; i.e. Testing Tariff A or B, as appropriate.

Response to:

A proposal for Rate of Change Frequency Remuneration Mechanism Consultation 2015

Executive summary

ESB GWM supports the objective of the DS3 programme in seeking to integrate renewable generation into the power system to allow the achievement of Ireland's renewable energy policy's target of delivering 40% of consumed energy from renewable sources by 2020.

ESB GWM is proceeding to undertake the studies as required under the CER decision (CER 14-081) published on the 4th of April 2014 and the UR decision published on the 7th of May 2014. These studies amount to 50% of the priority one studies and ESB GWM accounts for 45% of the total number of studies. Given the profile of ages and technology types that ESB GWM has as part of its fleet the management of the negotiations and reviews to contract for the completion of the studies are more varied and challenging than for other generators who have similar technologies (CCGTs). Even with this challenge ESB GWM continues to strive to deliver as per the deadlines to support the policy.

We accept that the SEMC has requested the TSO to review and **make proposals** in relation to the development of a remuneration mechanism for the costs incurred by generators in complying with the revised rate of change of frequency standard. The consultation only proposes a single mechanism and does not provide any evidence to support this proposal, this is disappointing, as for the SEMC to make a fair and informed decision and for GWM to respond to a consultation in any meaningful manner, it would be expected that several proposals would be presented with impact assessments.

The proposed mechanism and the introduction of an early completion incentive effectively undermines the Regulatory Authorities (RA's)'s earlier decisions in relation to RoCoF and would effectively be retrospective regulation. All units should have equal access to a RoCoF remuneration mechanism in line with the previously published decisions, to do otherwise risks creating bias and would be contrary to the principles of good regulation.

The cost of complying with the revised RoCoF standard is not known, indeed ESB GWM would seek justification for the €1,500/day valuation published in this document. It is clear that the proposed remuneration mechanism will not allow the cost of completing the required technical studies to be recovered, if these were required. The paper has not provided evidence that would support a capacity based allowance, when the studies themselves, given our understanding, are independent of scale. This lack of understanding of how the studies were undertaken and priced must be amended.

Given the significant costs generators have faced in meeting this regulatory target to undertake the technical studies, a fair and effective remuneration mechanism will ensure that the positive externalities are captured and private costs are recovered, this will ensure that there is no cross subsidisation between conventional and wind generation. There is also an imperative for good regulatory practice to establish the means by which capital investment costs, which may be required to be incurred post study, are to be remunerated. This will ensure that a coherent regulatory approach is adopted from the beginning and reduce the uncertainty and its related risks and costs for generators who may need to invest.

Generators, through the vagaries of regulatory design, should also not be exposed to the pancaking of penalties, i.e. incurring both the published GPIs for non compliance with the priority categorisation deadlines and these additional scaled reductions in the remuneration itself. Where a generator has taken reasonable steps to complete the required studies, in line with the priority categorisation deadlines, there is no justification in applying a RoCoF GPI immediately after the deadline date. The proposed RoCoF GPI should only be put in place as a back stop to the remuneration mechanism so that only after the remuneration mechanism closes would the RoCoF GPI applied.

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Overview

ESB GWM supports the objective of the DS3 programme in seeking to integrate renewable generation into the power system to allow the achievement of Ireland's renewable energy policy's target of delivering 40% of consumed energy from renewable sources by 2020 and also the intention to remunerate the move to the new RoCoF standard.

We welcome the SEMC request to the TSO to review and make proposals in relation to the development of a remuneration mechanism for the costs incurred by generators in complying with the revised RoCoF standard. The purpose of holding a consultation is to garner the views of industry on the options available to progress a given issue to allow fully informed decisions to be made. This consultation paper only presents one possible option for the remuneration mechanism. ESB GWM proposes that there are alternatives to the mechanism outlined in the consultation, these have been detailed under Appendix A and would ask that these too are considered as valid alternatives.

The mechanism outlined in the consultation paper is based around a monetary value of €1,500/ day. No evidence has been provided to support the application of this value. Also the mechanism proposes to limit access to remuneration in line with deemed compliance. The requirements to be deemed compliant are not transparent and are at the discretion of the TSO this too creates greater uncertainty. The proposed mechanism has not taken into account the true investment costs that may be needed to deliver compliance as such ESB GWM does not see this remuneration mechanism as being satisfactory, as it does not take into account the real financial implications for third parties.

Ongoing Remuneration Mechanism

It is ESBGWM'sview that the remunerationmechanism shouldnotbetimelimited.

There is no expectation that higher RoCoF events will only persist for a fixed period after the implementation of the Grid Code change and so no expectation that the increased operational costs or the value that this service provides will be time limited, therefore not only should the once off costs be remunerated but a value stream that it provides through a reduction in the wind curtailment, estimated to be 10% SNSP, should also be allocated. This would be in line with the DS3 services methodology employed to date which has been given the support of industry.

In the RoCoF Decision Paper (CER14-081) published in April'14 the CER acknowledged that there would be increased operational costs as a result of higher RoCoF events and recommended that the SEM Committee request the TSO's propose a remuneration mechanism for RoCoF.

In this decision it was suggested that generators would only be eligible for this remuneration mechanism for a period of time. Given the significant costs generators have faced in meeting this regulatory target to undertake the technical studies, a fair and effective remuneration mechanism is required to ensure that the positive externalities are captured and private costs are recovered. The change to the RoCoF standard and the resulting benefits that will derive to the market from increasing SNSP will accrue on an ongoing basis. Generators who support these changes, and face increased costs and risks in so doing, should equally be remunerated on an ongoing basis. The proposed remuneration mechanism sets a date of the 28th February 2018 as the end date for the proposed remuneration mechanism. No explanation as to why this date was chosen is offered. Rather than a fixed term mechanism, an ongoing remuneration mechanism, reflecting the value of

reduced curtailment and allowing for the recognition of increased risk, operational costs and any required capital investments to achieve compliance should be implemented.

Purpose of Payment Mechanism – enduring payment mechanisms that delivers services that ensure quality supply.

The remuneration mechanism should recognise the study and investment costs and the potential for a more competitive market as well as the opportunities and savings that they will provide to the system and consumers.

The proposal offers no explanation as to the purpose of the proposed remuneration mechanism. ESB GWM strongly supports the recognition that all reasonable costs relating to the implementation of the change in RoCoF standard must be recoverable otherwise this amounts to a fundamental change in the investment landscape, creates regulatory uncertainty and amounts to cross-subsidisation from one class of generator to another.

All plants and technology types should be treated equally with costs and benefits being equally remunerated as we transition to a low carbon power sector.

Investigating the feasibility of changing the RoCoF standard has resulted in significant costs for conventional generators through the undertaking of the required technical studies. This requirement was underpinned by a penalty regime that made it both inevitable and also more costly as it limited the generators capacity to negotiate with the third party providers as the backstop in cash terms had been defined. The proposed remuneration mechanism does not allow for these costs or potential investment costs to become compliant to be recovered. This must be addressed to ensure that there is sufficient remuneration across all markets for investment costs and operational costs incurred by all types of generators as we seek to transition to a low carbon fleet but that still delivers a reliable and high quality service.

Level of Costs

No evidence has been provided to support the rational for the allowed cost of €1,500/day nor does the proposed mechanism correctly identify how the costs are incurred. This fundamental omission must be rectified.

The costs which generators have been exposed to in completing the required technical studies have been increased by the regulatory framework put in place. As per the RoCoF Implementation Project, ESB GWM has engaged with specialist third party providers to complete the required generator studies in line with the unit priority categorisation and continues to report on progress and issues at regular intervals as set out in the regulatory framework.

The cost of complying with these requirements has required studies by various providers, including OEMs that have varied in cost significantly. The publication of the deadlines for completion of the generator studies by the RAs and the GPI that will apply after these dates has had a significant detrimental impact ESB GWM's negotiation position with the third party providers this should be avoided in any future design of a remuneration mechanism that can restrict the parties negotiation capability and for value to be transferred from the consumer/generators to the third party providers.

As part of the response to the RoCoF modification to the Grid Code consultation (CER-13-143) ESB GWM proposed a single PMO, directed by the RAs, which would manage the delivery of the required studies. In this way an effective industry wide queuing system could be implemented to avoid creating a race between generators to contract with the limited number of third service party providers who can conduct the required studies. It is considered that if this proposal had been implemented it would have resulted in greater efficiencies and reduced costs. This proposal was not adopted and the role of the independent expert has been limited to monitoring and reporting. In the development of incentive mechanisms consideration is required to ensure that they deliver cost effective outcomes for consumers in the long term. If a value was to be imposed in explicit terms this should have been understood at the outset and possibly managed through a single PM, as this has not been the case a value of €1,500/day, without supporting evidence, is not acceptable as it has no relevance to our understanding of the facts.

Features of the Proposed Remuneration Mechanism

Daily Monetary Value

The cost of complying with the revised RoCoF standard is not known, the proposed value of the remuneration mechanism will not allow the cost of completing the required technical studies to be recovered. The proposed remuneration mechanism is based around a monetary value of €1,500/day. The paper offers no detail as to the basis on which this value was derived. The cost of compliance to the revised RoCoF standard is not yet known. The cost of the generator studies while significant only represents the first phase in achieving compliance. Clarity is sought on the basis for the €1,500/day value proposed and how an enduring mechanism can be delivered that will ensure that investments can at least have a means through which they can be recovered.

Unit Size Scalar

The cost of complying with the revised RoCoF does not relate to the size of a unit as assumed in this proposal. The proposed payment mechanism includes the application of a scalar associated with the size of the unit, which fails to recognise the drivers for the cost of such studies. This has unfortunately mirrored the structure applied in the RoCoF GPI. In the case of the GPI a scalar relating to the size of the unit is appropriate as the cost to the system of a unit's non-compliance is related to it size, in the case of the cost of completing the required generator studies the same relationship does not exist, as such the application of a scalar of this nature is not appropriate.

Remuneration Mechanism Timeframe

All units should have equal access to the remuneration mechanism in line with the previously published decisions to do otherwise risks creating bias. It is proposed that the remuneration

mechanism will come into effect after the high priority deadline (22nd May'16) and run to the 28th February'18. If this timeframe is applied it will not align to the priority categorisation decision. The cost of implementing the required study does not vary with a unit's priority categorisation.

Over this 21 month period, it is proposed that a scalar be applied to reduce the level of the payment at six monthly intervals this will have the effect of undermining the priority categorisation as decided in the RoCoF Implementation Project by the RA's. This proposal if implemented would amount to retrospective changes to the regulatory framework to which generators were required to comply undermining certainty and transparency in the regulatory landscape and decision making. This would be contrary to the principles of good regulation. Generators should have a reasonable expectation that by acting to implement the required studies inline with the priority categorisation they would not be disadvantaged.

Not withstanding ESB GWM's call for all reasonably incurred costs, relating to the implementation of the change in RoCoF standard, to be recoverable, the proposed mechanism should be corrected to not vary with a units size or priority categorisation . Each unit required to complete technical studies should be afforded equal access to the remuneration mechanism in terms of payment level and duration.

Early Completion Incentive

For an incentive to be effective there must be sufficient time for all generators to plan and react accordingly. The proposal also includes an early completion incentive covering the period from the 1st March'16 to 31st May'16. At no point prior to this consultation was there any indication that there would be a financial incentive to complete the generator studies in advance of the priority categorisation deadlines.

Introducing this payment in the weeks before it becomes applicable will not allow generators to respond as the timing of the completion of their studies will be determined by the contractual arrangements with their third party providers. These contractual arrangements have been negotiated in the context of meeting the priority categorisation deadlines. On this basis the incentive can not be or ever would be effective and offers little if any value to generators or consumers in incentivising the right behaviour and getting access to the possible savings through reduced wind curtailment coming through in the wholesale market prices at an earlier date. It definitely does not provide any incentive to undertake the investment programme that may be necessary ahead of being fully compliant. These incentives should be constructed with positive approaches so that such benefits can be enjoyed earlier.

The proposed earlier completion incentive can only encourage the submission of studies that are already due to be complete in the period from March'16 to May'16.Early submission of these studies will not impact the decision to be taken in June'16 as to whether the change in RoCoF standard can be implemented. The only benefit to early submission will be to allow the TSO more time to review the submitted studies. The remuneration mechanism should be developed to allow generators to recover their reasonably incurred costs. If however, it is considered that more time is required for the TSO to

review the submitted studies then the TSO should request the timeframe for making the decision on the RoCoF implementation to be extended.

Funding

It is stated that the remuneration mechanism will be a standalone scheme separate to the existing Harmonised Ancillary Services arrangements. No further detail is offered as to how the scheme will be funded. It is noted that if the funding of the scheme results in increasing use of system charges, a proportion of these increased charges will be paid by generator at whom this scheme is targeted. In this way the benefit of the scheme will be diluted and appears perverse as the generators are funding their own work so are not getting the remuneration in its completeness. Clarity on the funding of the proposed scheme is requested.

Remuneration Mechanism Process

The right of generators to apply for derogation under the Grid Code in the face of unreasonable costs should not be eroded. The process outlined in the paper sets out that - in order to apply for either a temporary of permanent derogation from the revised RoCoF standard the generator must first submit a study report. It is considered that this requirement runs contrary to the Grid Code where users are given the right to apply for derogation where there is a revision to the Grid Code on the basis that it would be unreasonable due to cost and / or technical considerations.

It is proposed that units with a limited life over which they cannot recover their costs should be in a position to apply for derogation from the revised RoCoF standard without necessarily having submitted their technical study. In this case the cost of completing the required studies, in addition to other factors such as the likely running regime of the unit, should form part of the assessment as to whether derogation should be granted.

RoCoF Generator Performance Incentive (GPI)

The application of the RoCoF GPI should not be levied on generators who have acted reasonably to complete the required studies. The potential of incurring a RoCoF GPI was intended to incentivise timely completion of the required studies by generators. This incentive has been successful, with generators engaging with third party specialist providers and committing substantial resources to contract with them to implement the required studies.

ESB GWM in particular has the greatest number of studies to complete and has devoted significant time and internal resources to co-ordinating this programme of work, over and above the cost of third party service providers. In some cases, not withstanding the regulatory weakness imposed by defining the cost to the generators and therefore weakening any negotiation position, gaining the required engagement from third party service providers has proven difficult to achieve. It is ESB GWM's view that once a generator has taken reasonable steps to implement the required studies and has contracted for their completion with a third party, if the completion of the study is delayed beyond the priority categorisation timeline, a GPI should not be levied against the generator as it is outside the generators own sphere of control. In this case the GPI will not act in any way that will make the incentive more effective, the generator will have achieved the RAs intention to commit to completing

the required studies. In addition where the generator is able to produce a draft report giving sufficient detail to inform the TSO in deciding whether to proceed to implementation of the new RoCoF standard will provide a significant degree of the required output from the study itself.

Also where a remuneration mechanism is put in place it will act as an incentive for generators to submit their studies, given generators are bearing significant costs in implementing the required technical studies the remuneration mechanism will incentivise their timely submission so there is no need to apply a RoCoF GPI, particularly at the high level outlined in CER 14-081. Rather the application of a GPI should act as a back stop to the remuneration mechanism so that only after the remuneration mechanism closes is the RoCoF GPI applied.

Conclusion

ESB GWM welcomes the recognition that a remuneration mechanism is required to ensure that the correct system configuration and services can be delivered to accommodate Ireland's renewable energy policy's target of delivering 40% of consumed energy from renewable sources by 2020. Given the profile of ages and technology types that ESB GWM the completion of the studies is more challenging than for other generators who have similar technologies (CCGTs). Even with this challenge ESB GWM continues to strive to deliver as per the deadlines to support the policy. However, the proposed remuneration mechanism does not:

- allow generators to recover the costs of implementing the required technical studies;
- allow for the investment costs that will be faced by generators in achieving compliance to the revised RoCoF standard;
- recognise the on-going costs that generators will bear as a result of implementing the revised RoCoF standard;
- understand the nature of the costs faced by generators in implementing the required studies by assuming the cost vary by size of unit;
- align to the existing regulatory framework by ignoring the priority categorisation timelines.

The proposed mechanism and the introduction of an early completion incentive effectively undermines the RAs' earlier decisions and would effective amount to retrospective regulation. All units should have equal access to a RoCoF remuneration mechanism in line with the previously published decisions, to do otherwise risks creating bias and would be contrary to the principles of good regulation.

Given the significant costs generators have faced in meeting this regulatory target to undertake the technical studies, a fair and effective remuneration mechanism will ensure that the positive externalities are captured and private costs are recovered. This will ensure that there is no cross subsidisation between conventional and wind generation. There is also an imperative for good regulatory practice to establish the means by which capital investment costs which may be required to be incurred post study are to be remunerated

Generators should also not be exposed to the pancaking of penalties, i.e. incurring both the published GPIs for non compliance with the priority categorisation deadlines and these additional scaled reductions in the remuneration itself. Where a generator has taken reasonable steps to complete the required studies in line with the priority categorisation deadlines there is no justification in applying a

RoCoF GPI immediately after the deadline date. The proposed RoCoF GPI should only be put in place as a back stop to the remuneration mechanism so that only after the remuneration mechanism closes would the RoCoF GPI applied.

Appendix A: Alternative Remuneration mechanisms

1. Full Cost Recovery

   As per the previous ESB GWM response on RoCoF it is proposed all reasonably incurred costs relating to both completing the required studies and future investment to achieve compliance be recoverable. The revised RoCoF standard is proposed as a mechanism to increase the instantaneous system non synchronous penetration (SNSP) as part of the DS3 programme it is proposed the funding of cost recovery be implemented through a regulatory allowance aligned with the methodology used to calculate the DS3 system services pot.

2. Phased Cost Recovery

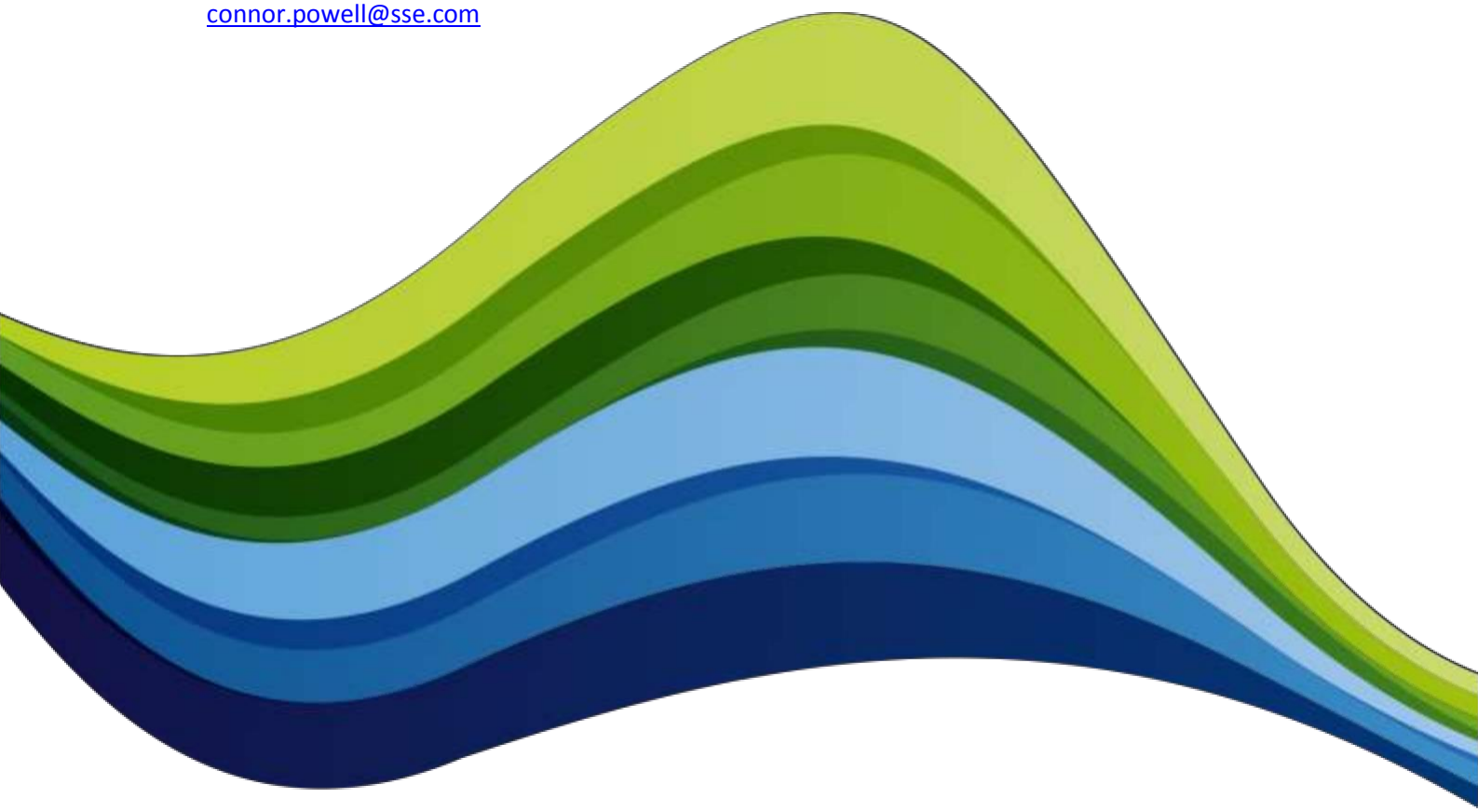
   Given the required generator studies have not been completed and therefore the decision as to whether the implementation of the revised RoCoF standard has not yet been taken, a phased remuneration mechanism could be implemented. The first phase would relate to the cost of implementing the required studies. The level of the remuneration would be on a unit pass-through basis or based on an assessment of the costs incurred in the studies completed by the high priority units. The mechanism would be equal for all units i.e. not dependent on there size or their priority categorisation. For example, the remuneration mechanism would be available from the date of the priority categorisation deadline for a period of up to two years.

   The second phase of the remuneration mechanism would relate to the investment costs incurred by generators in achieving compliance should the revised RoCoF be implemented. For both phases it is again proposed that the funding of cost recovery be implemented through a regulatory allowance aligned with the methodology used to calculate the DS3 system services pot which has been indicated to delivery only 5% increase in SNSP.

DS3

Proposal for Rate of Change of Frequency Remuneration Mechanism

If you have any questions in relation to our response, please don't hesitate to contact me at connor.powell@sse.com



Introduction

Thank you for giving SSE the opportunity to comment on a RoCoF remuneration mechanism. The long-term priority for the businesses in our wholesale segment is delivering sustainable, flexible energy production through a diverse portfolio of assets. We have already enhanced stations in our existing thermal fleet in GB to meet system challenges. As a major producer of electricity in Ireland, SSE can enhance its existing fleet and bring forward innovative development projects if the TSOs and Regulatory Authorities create a stable, investable DS3 framework.

We would consider RoCoF testing and compliance to be a system service that generators are providing to enhance overall system operation and reduce constraints for a sub-section of generation. We are pleased to see that EirGrid have brought forward a remuneration mechanism for generators to recover some of the costs associated with testing to assure capability to ride through RoCoF events. Our response aligns with the structure of the consultation paper.

Alignment of OSC and HAS equivalent

Given that the intention of the RAs/TSOs is to include the RoCoF Generation Performance Incentive in ***Other System Charges***, we are not sure why the complementary remuneration mechanism will be a standalone scheme outside the ***Harmonised Ancillary Services*** arrangements. We would request clarity on this choice in the decision paper.

We also request that the definitions within the RoCoF OSC GPI and RoCoF remuneration process are fully aligned – Pass Grid Code Compliance Test and Report accepted should trigger RoCoF Contract and Payment and exempt the relevant unit from the GPI.

Eligibility and Early Completion Incentive

Great Island 4 is included on the ***Final CER Approved Generator Categorisation List*** as a New Generator currently undergoing compliance assessment. In November 2015, the RAs confirmed that generators included on the RoCoF categorisation list with the exception of the exempted GI1, GI2, GI3 units would be eligible to participate in the remuneration mechanism.

The consultation paper also states:

"With reference to the equation described in section 3.1, we propose that ***any unit*** *that submits a complete RoCoF study ahead of 1st June 2016 will be eligible for an additional incentive payment for a period of time starting on the 1st March 2016 with the e scalar set to 125% from the same equation."*

We assume that a full definition of *any unit* must include units, like GI4, that have already completed RoCoF Grid Code Compliance Testing prior to the issuance of this consultation or decision paper. We would request confirmation of this in the decision paper.

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Ref: TEL/CJD/16/018

RE: Consultation on a proposal for Rate of Change of Frequency Remuneration Mechanism

Dear Amanda, Vivienne,

Tynagh Energy Limited (TEL) welcomes the opportunity to respond to this consultation.

There are a number of points TEL would like to make in relation to the consultation.

1. Remuneration Mechanism Methodology

The unit size scalar (d) is not granular enough and disproportionally penalises or benefits particular generators. For example, a unit with a registered capacity of 399 MW versus one with 400MW is essentially the same from a TSO perspective yet the former would, given the exact same circumstances (study submitted on 1st June), recover €163,000 less. The discrepancy is even greater in the incentivized scenario: €206,000. Assuming the costs of the studies would be broadly similar and the service provision is identical, this appears to be grossly unfair and discriminatory.

Scaling the payment relative to the size of the unit is appropriate. Therefore, TEL would suggest that the payment should be linear in nature e.g.

Registered Capacity (MW)	Daily Rate	d
300	€1,125.00	0.750
301	€1,128.75	0.753
302	€1,132.50	0.755
…	…	…
350	€1,312.50	0.875
…	…	…
398	€1,492.50	0.995
399	€1,496.25	0.998
400	€1,500.00	1.000

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2. Remuneration Mechanism Process

In example 3.1.2 where upgrades are required, a temporary derogation is necessitated and the unit successfully passes the test, it is unclear what event the payment will be effective from. It would be unfair to penalise a generator relative to scenario 1, especially considering they would have the additional expense of the upgrades. TEL would recommend that the payment should be effective from the date of the study submission. Diagram 3.3.1 in the consultation appears to illustrate this, however, it is not clearly stated in the consultation.

3. Testing Tariff Rates

The testing tariff rate A should not apply as this is too penal and costly on the generator. Considering the level of study involved in preparing the unit for the test, the risk should not be judged the same as a plant going through initial commissioning. The SEM Committee Decision, SEM Testing Tariffs 2016 (SEM-15-097) published in December 2015 states:

"Tariff A, *generally associated with commissioning units*, is primarily increasing (only three of the ten tariff bands are decreasing), while Tariff B, *associated with units in the latter stage of commissioning or general testing of existing units*, is decreasing (in all tariff bands)."

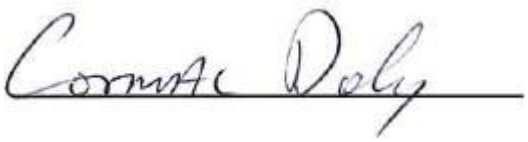
This appears to contradict that testing rate A should be applied to RoCoF testing.

4. Payment Rates

Given the large costs incurred by generators TEL would ask for the rationale behind the setting of the price to be explained. In general it is TEL's understanding that studies will cost well in excess of €1M and this does not include the exposure to testing charges and potential upgrade costs. TEL would ask that the rates be reviewed and benchmarked against different technology type expenditure levels.

Should you have any queries, please do not hesitate to contact us.

Yours sincerely,



Cormac Daly
Risk and Regulatory Manager