Commission for Energy Regulation
An Coimisiún um Rialáil Fuinnimh

Rate of Change of Frequency (RoCoF) Project Quarterly Report for Q2 2016

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Commission for Energy Regulation
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The Commission for Energy Regulation,
The Exchange,
Belgard Square North,
Tallaght,
Dublin 24.

www.cer.ie

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Abstract:

This report details progress with respect to the RoCoF project for Quarter 2 2016

Target Audience:

This paper is for the attention of members of the public, the energy industry, customers and all interested parties.

Related Documents:

CER/14/081: Rate of Change of Frequency (RoCoF) Modification to the Grid Code.

For further information on this Paper, please contact Mantas Vencius (mvencius@cer.ie) at the CER.

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1. Introduction

This report provides an update on the status of the RoCoF Generator Implementation Project in Ireland. The CER's Decision Paper, CER/14/081, requires that generators undertake technical studies to confirm their compliance with the new RoCoF standard.

Progress on these projects is reported on with the overall DS3 Programme, available here on the EirGrid website.

2. Background

In its Decision Paper CER/14/081, the CER approved, in principle, MPID 229, the proposed Grid Code change to increase the RoCoF withstand level from 0.5Hz/s to 1.0Hz/s over a sliding window of 500ms. However, the CER will not apply the new standard in the Grid Code until it has received confirmation from EirGrid that a sufficient number of generators can comply with the standard to allow EirGrid to safely operate the system in a manner reliant on the new RoCoF standard.

Further information about this project can be found in the Q1 2016 RoCoF report.

3. Alternative/ Complementary Solutions Project Update

In May 2016, as part of the DS3 RoCoF Alternative/Complementary Solutions project, the TSOs published the final report "RoCoF Alternative Solutions Phase 2" on the EirGrid's website.

Further information about the DS3 RoCoF Alternative/Complementary Solutions project can be found in the previous RoCoF project quarterly reports.

4. DSO Status Update

A meeting between the two SOs and the small non-wind generator OEMs took place in Portlaoise on 30th of May, at which substantial progress was made. A willingness to engage constructively on the issue was received from the attendees. There was also a consensus on the need for clarity of technical details about relevant topology and terminology used in discussions. To that end, proposed new definitions and a shortened and focussed questionnaire, aimed at the OEMs/agents, were circulated for comment in June 2016, which the attendees undertook to populate once the format was agreed. It was also suggested that a simpler – three question form would be sent to the customers, which would establish which OEM or agent was involved.

5. Final Approved Generator Categorisation List

The deadline for the declaration of compliance has been phased according to the importance, in terms of system operation, of each unit. The CER Decision Paper (CER/14/081) published on 4th April 2014 directed EirGrid to categorise each generating unit according to the priority in which their declaration of compliance with the proposed new RoCoF standard should be made in a window from 18 months to 36 months.

EirGrid's proposed RoCoF priority categorisation list can be found in the previous RoCoF project quarterly reports.

6. Generator Project Progress

The RoCoF Implementation Project formally commenced on the 21st November 2014. Progress in general is very positive with no significant technical issues being raised to date.

On the 31st May 2016 the RAs published they Decision approving the TSOs Recommendation Paper in relation to the RoCoF Incentive Mechanism. This incentive mechanism aims to incentivise early compliance with the new RoCoF standard and will be in place over the period of the RoCoF implementation.

This following section contains the progress in Q2 2016 of the generation stations identified in the approved categorisation list.

Progress of each generator and the overall project status is assessed against the project programme using corresponding "traffic light" indicators.

- - On schedule;
- - Schedule is at risk;
- - Delay to schedule.

6.1 Project Status

Overall Summary		
Progress in general is very positive and no significant technical issues being raised. 12 of the 14 high priority units have delivered their studies by the June 2016 deadline and are currently under review. Two of the mid priority units have been delivered and approved awaiting testing, with the remaining three expected to be delivered on time or earlier. 11 low priority units have submitted their studies early for review. The current status of the project remains green but the CER will continue to closely monitor progress.		
Overall Status		
Station/Unit	**Owner**	**Traffic Light**
High Priority Units due to submit their studies		
Dublin Bay (DB1)	ESB	
Aghada CCGT (AD2)	ESB	
Medium Priority Units due to submit their studies		
Poolbeg CCGT (PBC)	ESB	
Tynagh (TYC)	TPL	
Aghada (AD1)	ESB	
Low Priority Units due to submit their studies		
Aghada OCGT (AT1)	ESB	
Aghada OCGT (AT2)	ESB	
Aghada OCGT (AT4)	ESB	
Lough Ree (LR4)	ESB	
West Offaly (WO4)	ESB	
Ardnacrusha (AA1-4)	ESB	
Erne (ER1-4)	ESB	
Lee (LE1-3)	ESB	

Liffey (LI1,2,4,5)	ESB	
Marina (MRC)	ESB	
North Wall (NW5)	ESB	

The following table contains the generation stations who have submitted their studies of the generation stations identified in the approved categorisation list.

Station/Unit	Owner	Progress
Units that have submitted their studies		
Turlough Hill 1 (TH1)	ESB	Submitted
Turlough Hill 2 (TH2)	ESB	Submitted
Turlough Hill 3 (TH3)	ESB	Submitted
Turlough Hill 4 (TH4)	ESB	Submitted
Moneypoint 1 (MP1)	ESB	Submitted
Moneypoint 2 (MP2)	ESB	Submitted
Moneypoint 3 (MP3)	ESB	Submitted
Sealrock (SK3)	AAL	Submitted
Sealrock (SK4)	AAL	Submitted
Whitegate CCGT (WG1)	Centrica	Submitted
Meath W2E (IW1)	Indaver	Submitted
Huntstown (HNC)	Viridian	Testing
Huntstown (HN2)	Viridian	Testing
Edenderry OCGT (ED3)	EPL	Submitted
Edenderry OCGT (ED5)	EPL	Submitted
Tawnaghmore (TP1)	SSE	Submitted
Tawnaghmore (TP3)	SSE	Submitted
Rhode (RP1)	SSE	Submitted

Rhode (RP2)	SSE	Submitted
Tarbert (TB1)	SSE	Submitted
Tarbert (TB2)	SSE	Submitted
Tarbert (TB3)	SSE	Submitted
Tarbert (TB4)	SSE	Submitted
Edenderry (ED1)	EPL	Submitted

Generator	
ESB	
ESB have the majority of generating units within the project, spread across all three stages (high, medium and low priority). The co-ordination of the project across the portfolio has resulted in a longer preliminary phase than for other generators. The majority of the high priority studies have been completed on schedule and are being reviewed. However, the Dublin Bay Power and Aghada Unit 2 studies have over run and are not now expected to be completed before Q1 2017. ESB continues to engage with the OEM in relation to the Dublin Bay and Aghada Unit 2 studies with a view to completing studies as quickly as possible. ESB continue to progress their mid and low priority units. The CER will continue to closely monitor ESB's approach to bringing their delivery dates forward.	

Generator	Progress
SSE	
With the completion of the new Great Island CCGT station SSE have been able to concentrate on their legacy units resulting in early completion. Studies indicate that all 8 units are RoCoF compliant and have been submitted for review.	

Generator	Progress
Bord Gáis Energy (BGE)	
BGE have completed their studies and advised that subject to control system modification their plant will be RoCoF Compliant. Studies have been submitted for review.	

Generator	Progress
Bord Na Mona (BnM)	
BnM have completed their studies on their first unit in advance of the programme and submitted their report for review. For the remaining two units the original equipment manufacturer has confirmed RoCoF compliance and this is currently being evaluated.	

Generator	Progress
Tynagh Energy	
Tynagh Energy continue to make good progress and expect to issue their study by the end of August 2016; ahead of the mid priority deadline date.	

Generator	Progress
Aughinish	
Aughinish have met their category one deadline and submitted their report for review. Indications are that the units are RoCoF compliant though control system upgrades are expected to be implemented.	

Generator	Progress
Viridian	
Viridian have competed the study phase. Final reports, mechanical and electrical have been issued and accepted for both units. Viridian have now progressed to the testing phase.	

Generator	Progress
Indaver	
Indaver have met their category one deadline and submitted their electrical report for review and their mechanical compliance statement for assessment. Indications are that the unit is RoCoF compliant.	

7. Next Steps

Reports shall be issues at the end of each quarter during the 36 month project period.

Report	Period
1	Quarter 1 2015
2	Quarter 2 2015
3	Quarter 3 2015
4	Quarter 4 2015
5	Quarter 1 2016
6	**Quarter 2 2016**
7	Quarter 3 2016
8	Quarter 4 2016
9	Quarter 1 2017
10	Quarter 2 2017
11	Quarter 3 2017
12	Quarter 4 2017