

## Retrospectivity Considerations

Original Proposal- 10MW Large	A - Nothing retrospective	B - Non-Op-metering Data only retrospective (Structural and Scheduled)	C - All data retrospective (Structural, Scheduled and Real Time)	D - Retrospective to RfG compliant plant (Structural, Scheduled and Real Time)	E - All retrospective
Implications for the ESO	No historic costs but there would be less visibility from an ESO perspective.	If Scheduled data is provided, then assumption is that they are already in the BM. If the Generator is in the BM, then they would have to provide real time data which would then be identical to Option C.	Assuming that plant is signed up to the BM they would already have to provide this data. Disadvantage here is that there would be a lot of administration and costs for both an ESO, and the Generator. Current ESO software systems would not be able to cope with the high volume of BM participants.	Already have technical capability so would need to provide Structural, Scheduled and Real Time data, and be in the BM. This would only cover plant from 2018/19.	Whole system view provided and fully harmonised but aware that this would not be viable for a large number of projects. Technical requirements alone e.g., FRT performance or frequency response would require major plant redesign which could be uneconomic. Current ESO software systems would not be able to cope with the high volume of BM participants.
Implications for DNOs	No change to DNO cost base	There is probably little effect on the DNO here – if 10MW was the large threshold, then those generators have to have a direct interface with NGENSO as well as the DNO. The new costs of providing data, particularly probably DRC Schedules 2 and 3, fall on the generator.	Can all tech data be mandated that we send to the ESO? G99 process?  If the same arrangement as embedded large now, then the generator would need to have operational metering to NGENSO's requirements –	For the non-op-metering data, I'm not sure this distinction makes any difference to DNOs costs here – apart from the numbers of sites in scope. It might be helpful to try to extract estimates from DNOs or pre and post RfG 10MW + sites up to say, 2030 – this would enable	This would cause some retrofitting of operational metering equipment – uncertain scale. Some pre RfG generation will already have DNO SCADA, some won't. Dependent on GC0148 this might have to be resilient too.

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			plus probably DNO metering – at least in the short term pending ON. So the costs here fall on the generator, not the DNO	the cost differences between D and E to be better estimated.	
Implications for TO's					
Implications for Generators			Increased costs for those now large		<p>Apart from the data aspects this would case retrospective compliance with frequency response and fault ride through. Might be prohibitively expensive for many older plants.</p> <p>Could seek a phased approach to implement the solution retrospectively</p>

Alternative 1-100MW Large	A - Nothing retrospective	B - Non-Op-metering Data only retrospective (Structural and Scheduled)	C - All data retrospective (Structural, Scheduled and Real Time)	D - Retrospective to RfG compliant plant (Structural, Scheduled and Real Time)	E - All retrospective
ESO	ESO would not favour this as we would lose out on all current Power Station data	Not relevant - see Option E	Not relevant - see Option E	Not relevant - see Option E	This already applies today as plants in Scotland already must supply

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	and capabilities (see Option E)				Structural, Scheduled and Real Time Data. We would still retain the LEEMPS data from DNOs. Note: LEEMPS do not need to supply Scheduled data as they are not in the BM. In all the above cases they would also need to meet the technical requirements.
DNO		No change in E&W; possible slight reduction in Scotland to the extent the Grid Code is actually applied in practice.	No change in E&W; possible slight reduction in Scotland in relation to real time data.		
TO's					
Generators					

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<b>WAGCM1 (E&amp;W thresholds applied in Scotland)*</b>	A - Nothing retrospective	B - Non-Op-metering Data only retrospective (Structural and Scheduled)	C - All data retrospective (Structural, Scheduled and Real Time)	D - Retrospective to RfG compliant plant (Structural, Scheduled and Real Time)	E - All retrospective
ESO	ESO would not favour this as we would lose out on all current Power Station data and capabilities (see Option E)	Not relevant - see Option E	Not relevant - see Option E	Not relevant - see Option E	This already applies today as plants in Scotland already must supply Structural, Scheduled and Real Time Data. We would still retain the LEEMPS data from DNOs. Note: LEEMPS do not need to supply Scheduled data as they are not in the BM. In all the above cases they would also need to meet the technical requirements.
DNO		No change in E&W; possible slight reduction in Scotland to the extent the Grid Code is actually	No change in E&W; possible slight reduction in Scotland in relation to real time data.		

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		applied in practice.			
TO's					
Generators					

\*LEEMPS- already supply data and operational metering and tech requirements – not able to instruct, not comply to SOGL in full