

Modification proposal:	Distribution Connection and Use of System Agreement (DCUSA) DCP204 – Smart Metering Related Amendments to Schedule 8		
Decision:	The Authority ¹ directs this modification ² be made ³		
Target audience:	DCUSA Panel, Parties to the DCUSA and other interested parties		
Date of publication:	22 February 2016	Implementation date:	1 September 2016

Background

There are currently a large number of devices in customer properties, such as time switches, programmable meters and Radio Tele Switch (RTS)⁴ meters which provide load control and tariff switching capability. 5.6 million customers currently rely on existing technologies to change tariff registers and around 1.6 million customers have their electric or immersion heating controlled remotely via RTS. This helps customers to benefit from cheaper tariffs, and electricity networks to avoid load uptake occurring at the same time, thereby avoiding the cost of network reinforcement.

Existing load which is controlled by time switches, programmable meters and RTS meters will become synchronised as a result of the accuracy of smart meters. Functionality of these meters may also become redundant as a consequence of the roll out of smart meters. This will reduce the diversity provided by the current system which effectively spreads load and will likely result in an increase in network loading around programmed switching times which would likely trigger network reinforcing investment. Load coincidence around timeswitching can be avoided by applying timeswitching randomisation⁵ to smart meters, which is functionality built into SMETS2⁶ meters.

This Change Proposal (CP) seeks to implement timeswitching randomisation to smart meters to help avoid the negative impacts of smart meter roll out referred to above, and to replicate current timeswitching functionality. The CP was submitted to us for decision on 13 May 2015. We responded to the working group on 19 June 2015 indicating that we could not form an opinion based on the change report and change declaration. We asked for further information in a number of areas in order for us to be able to come to an informed decision. This working group has carried out additional analysis as requested.

The modification proposal

DCP204 was raised by Scottish Hydro Electric Power Distribution plc as a result of discussions between Ofgem, Distributors and Suppliers about the implications of the smart metering implementation, and other discussions at an Energy Networks Association (ENA) Working Group and the Smart Grids Forum Workstream 6 sub group.

DCUSA Schedule 8 relates to Demand Control which can be initiated by Distributors to preserve security of supply and stability of their networks. This can also be used to avoid, minimise or defer network investment. The ability for Distributors to manage load

¹ References to the "Authority", "Ofgem", "we" and "our" are used interchangeably in this document. The Authority refers to GEMA, the Gas and Electricity Markets Authority. The Office of Gas and Electricity Markets (Ofgem) supports GEMA in its day to day work. This decision is made by or on behalf of GEMA.

² 'Change' and 'modification' are used interchangeably in this document.

³ This document is notice of the reasons for this decision as required by section 49A of the Electricity Act 1989.

⁴ Messages are sent via the BBC's long wave network to a teleswitch device located within the customer's property which switches metering registers and may directly control customers load

⁵ This value is used to delay the tariff switching table times and the Auxiliary Load Control Switch switching times, a value in seconds in the range of 0 to 1799 for smart metering

⁶ 'SMETS2' is the second version of DECC's Smart Metering Equipment Technical Specifications, which define smart meter functionality and interoperability.

switching arrangements is key to this. DCP204 proposes to update the legal text of Schedule 8 in line with the principles listed below, ready for smart meters.

The principles for DCP204 are -

- To replicate existing functionality around tariff time switching and load switching through smart metering as a result of the smart meter roll out.
- To simplify the security restriction notice⁷ process.
- To mandate randomisation, for all meters that support randomisation, up to a period of 600 seconds.
- To introduce a standard template that all Distributors will use to notify Suppliers of demand controlled areas.

DCP204 is intended to prevent coincidence of load on networks as a result of the smart metering roll out and to bring clarity for timeswitching arrangements through smart metering. Avoiding coincidence of load on networks can help minimise the requirement for additional distribution infrastructure and associated investment. Other reasons why unnecessary load coincidence should be avoided include:

- Distribution Network Operators (DNOs) need to maximise network utilisation by staggering switching times where possible to allow load switched on earlier to drop off before switching on additional load;
- National Grid Electricity Transmission (NGET) and generators need a predictable load pick up without material step changes;
- Suppliers and Elexon need to know when off peak load is switched and the total volume of load switched in each time period for supply volume allocation purposes.

The proposer believes that DCP204 will facilitate DCUSA General Objective One⁸ better because it would ensure that Schedule 8 is suitable for smart metering. It does not mandate any registration system changes or new data flows. The proposer believes DCP204 should help clarify market participants' current obligations and ensure these obligations are fit for purpose to meet the requirements of smart meters. Also, it preserves the ability for Distributors to influence the timing of load switching through smart metering, particularly in Load Managed Areas (LMAs)⁹. The proposer believes that the timing of load switching is an essential tool for Distributors for maintaining Security of Supply in certain circumstances. It can be used as a tool to defer or avoid network investment if demand side management is a more economic and efficient alternative.

The proposer also believes that the CP better achieves General Objective Five¹⁰ by supporting compliance with Clause 11 in Article 3 (Public service obligations and customer protection) of Directive 2009/72/EC of The European Parliament and of the Council dated 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC.

⁷ A security restriction notice is issued by a Distributor to make changes to load switching regimes in a load manage area (LMA) due to an increase in coincidence of demand that results in a material risk to security of supply.

⁸ General Objective One - The development, maintenance and operation by the DNO Parties and IDNO Parties of efficient, co-ordinated, and economical Distribution Network.

⁹ Load Managed Areas occur where the network company avoided or deferred the need for reinforcement or extension (or reasonably believes this can be achieved) through limiting the coincidence of demand by adopting customer demand management to control the load switching.

¹⁰ General Objective Five – Compliance with the Regulation on Cross-Border Exchange in Electricity and any relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.

DCUSA Parties' recommendation

The Change Declaration for DCP204 indicates that DNO and Supplier parties were eligible to vote on DCP204. For the majority of the Party Categories that were eligible to vote, the sum of the Weighted Votes of the Groups in each Party Category which voted to accept the change solution was less than 50%. In accordance with the weighted vote procedure, the recommendation to us is that DCP204 is rejected. The outcome of the weighted vote is set out in the table below:

DCP204	WEIGHTED VOTING (%)							
	DNO ¹¹		IDNO/OTSO ¹²		SUPPLIER		DG ¹³	
	Accept	Reject	Accept	Reject	Accept	Reject	Accept	Reject
CHANGE SOLUTION	100%	0%	n/a	n/a	32%	68%	n/a	n/a
IMPLEMENTATION DATE	100%	0%	n/a	n/a	40%	60%	n/a	n/a

Our decision

We have considered the issues raised by the proposal, the Change Declaration and Change Report dated 18 January 2016. We have considered and taken into account the vote of the DCUSA Parties on the proposal which is attached to the Change Declaration. We have concluded that:

- implementation of the modification proposal will facilitate better the achievement of the DCUSA General objectives;¹⁴ and
- directing that the modification is approved is consistent with our principal objective and statutory duties.¹⁵

Reasons for our decision

We consider this modification proposal will facilitate DCUSA General Objective 3.1.1 better and has a neutral impact on the other applicable objectives. Objective 5 does not refer to implementation of the Electricity Directive, but to other EU measures.

DCUSA General Objective 3.1.1 – the development, maintenance and operation by each of the DNO Parties and IDNO Parties of an efficient, co-ordinated, and economical Distribution System

The respondents who supported the proposal generally agreed that the proposed changes are required to ensure that current timeswitching and load control functionality already built into the system are preserved through the smart meter roll out. One respondent specifically stated that the proposal enabled network operators to influence existing and new LMAs while avoiding coincidence of load through randomisation. Another respondent considered that if this proposal is not approved, the benefits of randomisation will disappear relatively quickly. They stated that large scale switching without randomisation could have serious impacts on the integrity of distribution and possibly the transmission system. They stated that it may compromise the ability of the system operator to operate and balance the system efficiently. They also stated that the disappearance of

¹¹ Distribution Network Operator

¹² Independent Distribution Network Operator/Offshore Transmission System Operator

¹³ Distributed Generation

¹⁴ The DCUSA General Objectives (Applicable DCUSA Objectives) are set out in Standard Licence Condition 22.2 of the Electricity Distribution Licence and are also set out in Clause 3.1 of the DCUSA.

¹⁵ The Authority's statutory duties are wider than matters that the Parties must take into consideration and are detailed mainly in the Electricity Act 1989 as amended.

randomisation would go against the agenda for implementing 'smart' alternatives to system reinforcement, and that the proposal is necessary to reflect technology changes and the transfer of customer demand control to another party. We agree with this, and believe the proposal fulfils its principle of replicating current functionality of the system and preserves current benefits for customers by helping to keep costs efficient.

One respondent stated that the randomisation requirements set out in the proposal will actually improve the benefits to the distribution network operation. Although this goes beyond the intention of DCP204, we understand the application of randomisation to all smart meters may have an increased benefit, by spreading load on a consistent basis throughout the system, and enabling customers and industry parties to know exactly how randomisation is being applied. This is not the case in the current system where there is a lack of clarity as to how randomisation operates in many cases.

One respondent also agreed that the proposal improves clarity around the procedure and obligations in each stage of the escalation process. We agree that the CP provides more clarity to the escalation process with regard to the emergency restriction notices.¹⁶

A small number of respondents did not agree that randomisation should be rolled out to all smart meters and that the analysis provided by the working group was insufficient. We believe that rolling out randomisation to all smart meters brings the benefits of load spreading to all DNO networks and the wider system. National Grid from a System Operator perspective support this aspect of the proposal, that randomisation across all areas is required. We accept that the additional analysis provided by the working group could have been more detailed. However, we note that in the first industry consultation, eight out of eleven respondents agreed that randomisation should be rolled out to all smart meters.

One respondent stated that they wanted assurance from DNOs that the template being used would be used by all DNOs to ensure the notification process is consistent to minimise costs. We agree with this point and would expect a consistent approach to the notification process.

A respondent raised concern over the process for a supplier replicating existing switching regimes and for making changes to the template for notifications. They pointed out that further guidance will be required if this change goes ahead. We agree with this statement in that DNOs and suppliers need to understand the processes involved in replicating existing switching arrangements and using the template for notifications. They also pointed out that the use of spreadsheets is not robust and that some of the information is to be included in the new Centralised Registration Service. We agree that ideally this information will be included as part of the Centralised Registration service, but as this will not be online until a later date (current proposal 2019), the spreadsheet template is an appropriate interim solution.

Some respondents did not believe sufficient evidence was provided with one pointing out that only one DNO provided benefits information. We agree that more evidence would have been beneficial. However the evidence provided points to benefits ranging from £161m to £718m of avoided reinforcement from one of the networks. The £161m figure from the report represents a reasonable estimate for the minimum reinforcement costs that would be required to manage network issues related to coincidence of load. This proposal intends to replicate current functionality, and due to the complexities of understanding the current costs and benefits of the existing and future functionality, we accept that a full CBA may not be practicable.

¹⁶ Emergency restriction notices can be issued by a company to modify customers demand when, in the company's opinion, there is an immediate risk to Security of Supply.

One respondent stated that the randomisation figure of 600 seconds is not justified and that 300 seconds would suffice. In the first consultation, although views varied, six out of eleven preferred 600 seconds with no more than one vote in any other category. We note that if this value is not appropriate in future, it can be adjusted through a further DCUSA change. Also additional analysis carried out by the working group recommended randomisation of 600 to 1799 seconds. 600 seconds represents the lowest value within this range and enables the benefits of randomisation to be realised.

One respondent stated that DNOs may benefit from declaring new LMAs as opposed to another solution. They point out that DNOs are not paying for this service and that decisions may not be made in the interests of consumers. We disagree that this change proposal will lead to sub optimal solutions because our RIIO price control¹⁷ and DNOs' statutory obligations should ensure DNOs run an economic and efficient network. DCP204 moves responsibilities and control to suppliers as this is the most efficient solution as part of the smart meter roll out, and is in the interests of consumers.

Overall this proposal better facilitates General Objective One. There are potentially negative implications for unnecessary coincidence of load to network stability and system balancing as a result of the smart meter roll out. We want to see current system benefits continued and increased where possible through the smart meter roll out, not diminished. The changes suggested in this proposal are a sensible way of continuing benefits of time switching and load control through the smart regime. Without this change, there could be significant costs to networks and ultimately customers.

We consider that these changes should be viewed as a step to preserve the existing controls that DNOs have, but that the proposed obligations on suppliers may be revised as smart meters become better understood and smart grids develop. Therefore the proposed changes do assist the development, maintenance and operation of an efficient, co-ordinated, and economical Distribution System. As a measure which facilitates greater network and energy efficiency and can provide measures which help ensure security of supply, it is consistent with our principal objective, in the interests of electricity consumers.

Other issues

Customers' expectations

Some respondents who did not support the proposal raised concern that the application of randomisation to all meters could cause customer confusion, and conflict with customers' expectations with the accuracy of smart meters. Some respondents stated that it would introduce additional complexity to customer messaging and potential queries which could come at a cost. We agree that there could be some customer confusion, but it will be the supplier's responsibility to manage communications with customers to ensure there is clarity and that confusion is minimised. We consider that any communications to customers would be part of the smart meter roll out, and if managed appropriately costs should not be significant.

One respondent pointed out that where a customer's load switching is not automated there could be misalignment with the customer device and the point at which any off peak tariff commences. We agree with this point and feel that these are issues which may need to be addressed as we understand how smart systems develop and how customers use these.

¹⁷RIIO is Ofgem's eight year price control for the companies that operate Britain's gas and electricity networks

Implementation

One respondent stated that they did not feel that the implementation date was feasible and that 12 months was required for implementation. They stated that a low volume of applicable smart meters would be rolled out by this time, and that therefore the delay would not materially impact the roll out. We do not agree with this and agree with the majority of respondents, that the suggested date provides sufficient time for implementation. We do not want to have a delay in the roll out or place additional costs on consumers by delaying the necessary changes proposed here any further. An efficient approach is to implement this change as part of the smart meter roll out, and the proposed implementation date enables this.

Decision notice

In accordance with standard licence condition 22.14 of the Electricity Distribution Licence, the Authority hereby directs that modification proposal DCP204: Smart Metering Related Amendments to Schedule 8 be made.

Andy Burgess

Associate partner, Energy Systems Integration

Signed on behalf of the Authority and authorised for that purpose