



ElectraLink Ltd.
Ground Floor
Grafton House
2/3 Golden Square
London W1F 9HR

Tel: 020 7432 3000
Fax: 020 7432 3015
www.electralink.co.uk

Smart Metering Implementation Programme
Department of Energy & Climate Change
3 Whitehall Place
London
SW1A 2AW

1 March 2013

Dear Philip

Re. Smart Metering Implementation Programme – Foundation Smart Market (02 November 2012) – request for further information

Further to your email on 14 February 2013 and our discussions, ElectraLink is pleased to be able to support DECC with its work to deliver the SMIP. In our response to DECC's consultation, 'Smart Metering Implementation Programme – Foundation Smart Market', ElectraLink set out how the use of existing industry infrastructure combined with innovative services could be utilised to facilitate the Foundation Phase of SMIP.

DECC has now requested ElectraLink to help it better understand the costs and implications of implementing solutions aimed at facilitating the rollout of smart meters during the Foundation Phase of SMIP. In this case our response specifically focuses on how proposed licence conditions to facilitate the identification of meter asset providers (MAPs) and agreement for smart meter rental or return of the meter might be implemented, the options available to meet this aspiration and a Rough Order of Magnitude ("ROM") of the associated costs of doing so.

As you are aware, existing electricity industry processes are designed to fully enable market interoperability and data exchange utilising ElectraLink's Data Transfer Services (DTS), which is delivered over the Data Transfer Network (DTN). Consequently the DTS provides near total coverage of existing electricity retail market data flows. Our commercial services in the gas retail market have a reduced level of coverage, namely we support a number of suppliers and their agents with the provision of Review of Gas Metering Arrangement (RGMA) and Notification of Old Supplier Information (NOSI) data flow exchanges.



FS 559738 EMS 559739

To this end, our response below focuses on how we can support a solution in the electricity market, however we do provide some insight into solving the “gas problem”. Furthermore, the ROM costs quoted below are solely for an electricity service. Our response is based on ROM costs as any service specification is yet to be fully defined. Consequently our views with regards to costs, timings and effort should be taken without prejudice until a clearer solution is defined

ElectraLink recognises the importance of ensuring that the Foundation phase of SMIP is a success as lessons learnt and consumers’ experience will be influential to the mass rollout of smart meters. The success of the Foundation phase will depend on the installation of sufficient numbers of smart meters, the operation of interoperable arrangements to facilitate the transfer of smart meters, whilst lowering the risks of smart meters being operated in a non-smart mode or being replaced, and the management of risks associated to asset tracking and cost recovery. The development of interoperable arrangements is also important for the period after the mass rollout begins. This is because smart meters installed during the foundation phase may not be adopted or enrolled in DCC’s systems for some time after DCC go-live, if at all.

The impacts on Central Bodies and suppliers of DECC’s proposed obligations will depend on the functional service requirements, and resulting technical solutions, necessary to enable compliance by suppliers. That is, if a solution is required at all.

DECC should note that the electricity industry already has business processes and data flows to ensure that a gaining supplier is informed of the relevant MAP’s ID. In electricity, according to BSCP514, when the gaining supplier appoints a meter operator (MOP) to a meter it is gaining as part of the change of supply (CoS) process, that MOP requests the meter technical details for the meter from the current MOP using the D0170 data flow. The current MOP then sends the meter technical details to the gaining MOP using the D0150 data flow. The D0150 contains details of the MAP associated to the meter. The gaining MOP then shares the meter technical details with the gaining supplier, again using the D0150. Whilst the request for information and response are carried out by suppliers’ MOPs, both MOPs are acting on behalf of their relevant suppliers, and in order that the MOPs and suppliers comply with their obligations in the BSC.

Similar to the electricity process, in gas the gaining meter asset manager (MAM) requests asset information from the current MAM using the ‘ORDET’ data flow and receives an ‘ONDET’ data flow in response which contains details of the MAP ID. Should there be a commercial agreement to do so, the gaining MAM may send these details to the gaining supplier using an ‘ONUPD’ flow.

It is our understanding that these processes will apply equally to smart metering and traditional metering events during the foundation period in both industries.

Whilst existing processes should ensure the communication of MAP details to a gaining supplier, DECC should note that in reality the record of all meter details and their communication is imperfect. This is ultimately due to human error or inflexible systems that can mean data flows are populated incorrectly which leads to the industry’s overall record of standing data becoming corrupted. In February 2012 the DTS User Group provided ElectraLink with the authority to intercept and copy DTS data to facilitate the provision of data services to industry participants. It is because of this access that ElectraLink has had constructive conversations with market participants, including MAPs, to develop data services that help them mitigate the shortcomings of existing processes, eg by helping them identify and correct discrepancies in standing data. It is through working with MAPs and other parties interested in developing effective foundation arrangements, eg SMSOs, ElectraLink has developed a detailed understanding of the commercial and technical issues affecting interoperability during the foundation, mass roll-out and enduring phases of the SMIP.

Should existing arrangements be insufficient for ensuring the communication of MAP details, there are options for introducing new or amending existing processes. Such changes might involve the following:

- Creating new or expanding existing industry data flows and processes to enable gaining, losing and installing suppliers to send and respond to requests for MAP details; and
- Creating automated electricity market data services to ensure information is communicated to the gaining supplier without the gaining supplier having to request it or losing or installing supplier having to respond to a request.

Data Flows - via a regulatory and industry code route

Creating new or expanding existing electricity market data flows could be implemented through current industry code and regulatory channels. That is, changes could be made to the processes defined in the Master Registration Agreement (MRA), the data flows defined in the Data Transfer Catalogue (DTC) and the necessary data exchanges enabled over the DTS. In electricity, the roll-out of Green Deal data flows is a recent example of the introduction of new regulated data flows.

For gas the comparable route would be via the Uniform Network Code (UNC) and/or SPAA, with the data flows specified in the Review of Gas Metering Arrangements (RGMA) catalogue and UNC, and communicated over a variety of means including ElectraLink's DTN, Xoserve's IX network and by email.

To progress a regulatory solution, change proposals would need to be raised to modify the relevant industry codes. These processes are set out in each industry code.

Data Flows - via a commercial route

Alternatively, industry participants may choose to adopt a commercial approach whereby the solution is designed and delivered outside of the regulatory framework. ElectraLink has experience of delivering such solutions on behalf of industry, groups of market participants and individual participants on a commercial basis. An example in electricity is the definition, design, build and implementation by ElectraLink, working in partnership with DNOs and suppliers, of a service to facilitate the exchange of distribution use of system (DuOS) billing data flows. In gas, ElectraLink developed and implemented a hybrid solution¹ whereby a commercial service is provided to suppliers and their agents that enables the delivery of the RGMA baseline, as defined and governed in the Supply Point Administration Agreement (SPAA).

Data Services - via a commercial route

A Data Service solution could be delivered either as a regulatory service or, as is more feasible, a commercial service by ElectraLink. Data Services are different to designing and enabling the transfer of data flows. That is, ElectraLink would, through the permissions granted by DTS Users, utilise its existing capability to store and analyse electricity data flows sent over the DTN to provide valuable, focused insight into market processes and standing data. Such a service could, for example, provide a gaining supplier with an automated report identifying the MAP for each customer with a smart meter it gained. This service could be deployed in a short timescale and is reflected within the timescales quoted below. ElectraLink would be happy to work with DECC and industry to develop a jointly funded Proof of Value service to demonstrate the benefits such as service can deliver.

¹ I.e. where an obligation is regulated (eg specified in an industry code or licence) and the delivery of a solution to ensure compliance is achieved commercially.

Whether a wholly regulatory, wholly commercial or hybrid approach is adopted, the final solution and service is likely to be very similar in content and function.

Delivery timescales

The significant difference between the approaches is the time required to deliver a solution and the flexibility provided by each approach. That is, a regulatory or hybrid solution could take between 7 and 18 months and require substantial involvement by industry in the development, consultation and decision making processes. ElectraLink's involvement in this process is limited as the majority of time and effort would be incurred at the "front end" by MRASCo (the MRA Secretariat) and industry participants in developing a solution in accordance with the MRA change process. Toward the end of the process, ElectraLink is required to assess the impact and ultimately implement changes to the DTS to enable changes to the DTC. ElectraLink's effort in this regard would not be material. Given a hybrid solution's reliance on a regulatory foundation the same timescales are likely to apply.

A regulatory approach might also result in a 'one size fits all' solution, which may not adequately address all parties requirements and cause some parties more costs in terms of system design in order to accommodate the changes.

On the other hand, a commercial solution could be developed by ElectraLink in 4 to 9 months, require potentially less industry input and consultation, and could be tailored to meet individual parties needs and system constraints. A commercial solution could therefore be less resource intensive for suppliers and their agents because the development process could be accelerated and costly changes to systems avoided. While ElectraLink is free to deliver commercial solutions for electricity and gas markets, our lower gas market coverage would have an impact. Therefore whilst the design of a dual-fuel solution could be delivered more efficiently than developing separate regulatory solution in accordance with the relevant electricity code and gas code change processes, it would require a high degree of cooperation from gas market participants.

The corollary of avoiding the regulatory change processes is that ElectraLink would take on the role of developing and coordinating the delivery of a solution. However, these timescales do assume a willingness on behalf of industry to contribute to the development of the service (eg the definition of requirements and testing).

ROM costs - electricity industry only

The total costs to the electricity industry of delivering a regulatory or commercial solution are also likely to be commensurate albeit the cost make ups and their recovery are likely to be different in certain regards. While the regulatory route may take longer to come to fruition such a route does not allow for commercial profit - industry pays the code administrators, eg the Data Transfer Service Agreement (DTSA) and MRA secretariats, for development and implementation costs of a regulatory solution in accordance with agreed charging principles and rates. A commercial route may be more expedient and less costly in resource requirements but the legal costs of multi contracts and individual negotiations may dilute any timing benefit in cost terms. In the case of a commercial approach, industry participants would pay ElectraLink for the design and development of a commercial solution. Irrespective of whether a regulatory or commercial approach is adopted, industry participants will need to fund their own costs of participating in workshops, responding to consultations and updating internal systems in order to facilitate the design and implementation of any solution.

Depending on the solution required, the impacts on the operation of the DTS/DTN and its underlying infrastructure are unlikely to require major investment irrespective of whether the solution is a regulatory or commercial one.

In summary, we estimate that, based on a likely rollout of 750k-1.5m meters, the upfront capital investment by the electricity industry to be in the region of £100-150k, with an ongoing annual cost of between £50-100k.

It is not unreasonable to assume that the ROM costs of developing a dual fuel service could double the costs quoted above.

Our ROM costs are based on the following key assumptions:

- We anticipate that the development of a technical solution will incur the following types of cost:
 - Project management
 - Requirements definition
 - Solution design
 - Industry meetings, engagement and consultation
 - Testing
 - Implementation
 - Changes to central and participants' systems
 - Updating relevant documentation, eg industry codes or commercial data flow dictionaries
 - Industry code administrative costs
- Volume of meters – based on the current rate of installations during the foundation phase, a solution may need to cater for between 750k and 1.5m smart meters
- Churn rate – we have assumed that the churn rate for smart meters is likely to be 14% pa. This reflects the domestic churn rate as reported by Ofgem.
- Potential data flow sizes – any new flow is likely to be ~100 bytes per flow. Adding the MAP ID to an existing flow may increase its size by about 6 bytes. A data service report that is sent every week may be approximately 75kb, depending on the number of change of supply events that are reported and the number of suppliers reported to.

I hope that this response provides you with the information you need to support your decision making. We recognise that as you develop your thinking and potential solution's you may have questions or further requests. Therefore, please do not hesitate to contact me (020 7432 3026 or nicholas.rubin@electralink.co.uk) to discuss things further.

Yours sincerely,



Nicholas Rubin

Data Services Consultant, ElectraLink