

ElectraLink

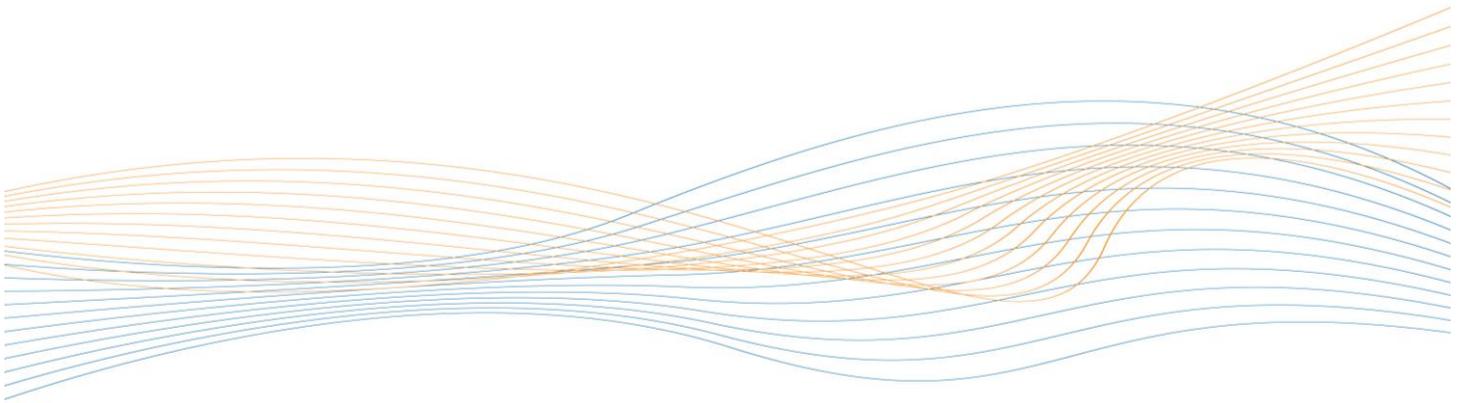
Delivering Faster and More Reliable Switching

ElectraLink White Paper

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FS 559738 EMS 559739 IS 619353

Contents

1	Executive Summary	3
2	ElectraLink and the DTN	4
3	The DTN Supports Ofgem’s Programme Objectives	6
4	The DTN Facilitates the Creation of the Retail Energy Code	8
5	DTN Technology is Fit for Purpose	9
6	Conclusion	10

1 Executive Summary

As part of the consultation “Delivering Faster and More Reliable Switching: proposed new switching arrangements” issued on September 21st 2017, Ofgem is seeking views on whether or not the communications network requirements to deliver the new switching arrangements should be competitively procured by the DCC (Question 5).

We believe that these communications requirements should be competitively procured as part of a broader refresh of an existing data transfer network (the DTN) that already supports over 77 market processes in both the electricity and gas markets. ElectraLink is obliged to procure the DTN as a licence requirement of the DNOs using OJEU procurement procedures

ElectraLink has a track record of implementing within the DTN communications requirements which are defined in a number of different industry codes and which result from various industry initiatives. In an increasingly fragmented energy market, ElectraLink facilitates competition by ensuring that the DTN is a low cost, reliable and secure interface for the UK energy market to interact with multiple central systems.

We believe that the requirements outlined by Ofgem in this consultation can be implemented on the DTN by ElectraLink for a one-off cost of less than £500k and an ongoing cost of £12k per annum to connect the 21 parties that require access to the new switching arrangements but are not already connected to the DTN.

These costs are governed by industry via the DTN User Group and are calculated using pricing principles regulated by Ofgem. We believe that, if the DCC was to procure a communications network in support of the new switching arrangements, its procurement costs alone would be greater than the incremental cost of providing these requirements on the DTN. It should be noted that ElectraLink will be completing the re-procurement of the DTN in parallel with the timeline for the delivery of the CSS. DCC procurement of the communication component of the CSS would be a duplication of this activity.

The introduction by the DCC of a new interface for market participants to connect to smart meters has been both a complex and expensive undertaking. The DTN already supports switching arrangements in both the electricity and gas markets and is connected to 90% of the parties that will need to access the new central switching systems. Furthermore, the technology underpinning the DTN is already fit for purpose for delivering the secure and near real time communications required to support the new switching arrangements defined in this consultation.

At the centre of a fast changing and increasingly competitive UK energy market, the DTN is currently experiencing data volume growth of 25% year on year and is now connected to 242 market participants, up from 120 five years ago. The expected data volumes of the new switching arrangements represent only 4% of the total data volume already communicated by the DTN.

In summary ElectraLink does not believe there is any business case for the DCC to procure another UK energy market communications network in support of faster and more reliable switching. We do believe that these communications requirements can be delivered at low risk and cost effectively by the DTN, a service already procured on behalf of the UK energy industry by ElectraLink.

2 ElectraLink and the DTN

ElectraLink was established in 1998 to provide an independent, secure and low-cost data transfer service between UK electricity market participants. The DTN supports the Data Transfer Service (DTS) and transfers data relating to business-critical energy market processes, including customer switching, settlement, agent management and meter administration. In August 2017 alone the DTN facilitated over 443k electricity and 286k gas change of supply events. ElectraLink has 19 years' experience providing data transfer to meet the industry's switching requirements (including facilitating the processing of objections, withdrawals and erroneous transfers).

As a wholly owned subsidiary of the DNOs, ElectraLink has an obligation to competitively procure the technology and service components of the DTN, using OJEU procurement procedures. ElectraLink provides the DTN under a multi-party agreement, governed by a user group with oversight from Ofgem – details of the members of the user group can be found [here](#). The number of users of the DTN and data transferred by the service have increased rapidly over the last 5 years largely driven by new market actors, such as a new entrant suppliers and aggregators. The growth in the number of users of the DTN and data transferred by the service are detailed in Chart 1. Currently, there are 242 energy market participants connected to the DTN across many areas of the energy market:

Participant type	Number of DTN connections
Distribution	14
Metering	33
Other	34
Tier 1 (Big6)	6
Tier 2 supply	12
Tier 3 supply	123
x-Green Deal	19
Generation	1

The full cost of setup and operation of the DTN is recovered by ElectraLink from the users of the service on a cost-recovery basis utilising charging principles regulated by Ofgem. ElectraLink also generates a return on its investment again governed by Ofgem. The users of the DTN are charged a connection fee, data-usage charges and supplier-specific charges. Over the regulatory cycle (5 years), the total costs recovered from DTN users equates to the cost of providing the service plus the regulated rate of return. Annual short-term surpluses and shortfalls may arise as ElectraLink seeks to avoid volatility in DTN charges to users. Chart 2 shows the cost of the DTN to industry per year by the user type. We foresee the user cost of the DTN reducing as the UK energy industry chooses to utilise the DTN to support a greater number of market processes. This is because the DTN is a fixed cost network so costs remain static as volumes and users increase.

In a fast-changing UK energy market, Electralink has already worked with its service providers to evolve the DTN into a scalable service, easy to connect to, supporting multiple file and communication types (including XML) and which operates in near real time. The technology that supports the DTN is currently in the process of being re-procured to enable the DTN to better support evolving industry processes and models. The re-procured DTN will be designed to deliver multiple areas of industry change including the centralised switching service (CSS), the extension of half hourly settlement, and the DNO to DSO transition. New technology will be considered as part of this re-procurement including APIs and web-service access to industry data, and, potentially, blockchain. Re-procurement of the DTN is expected to complete in 2018 with service implementation/transfer completed by 2020.

Chart 1: Growth in DTN Users and DTN Data Traffic (2013 – 2017)

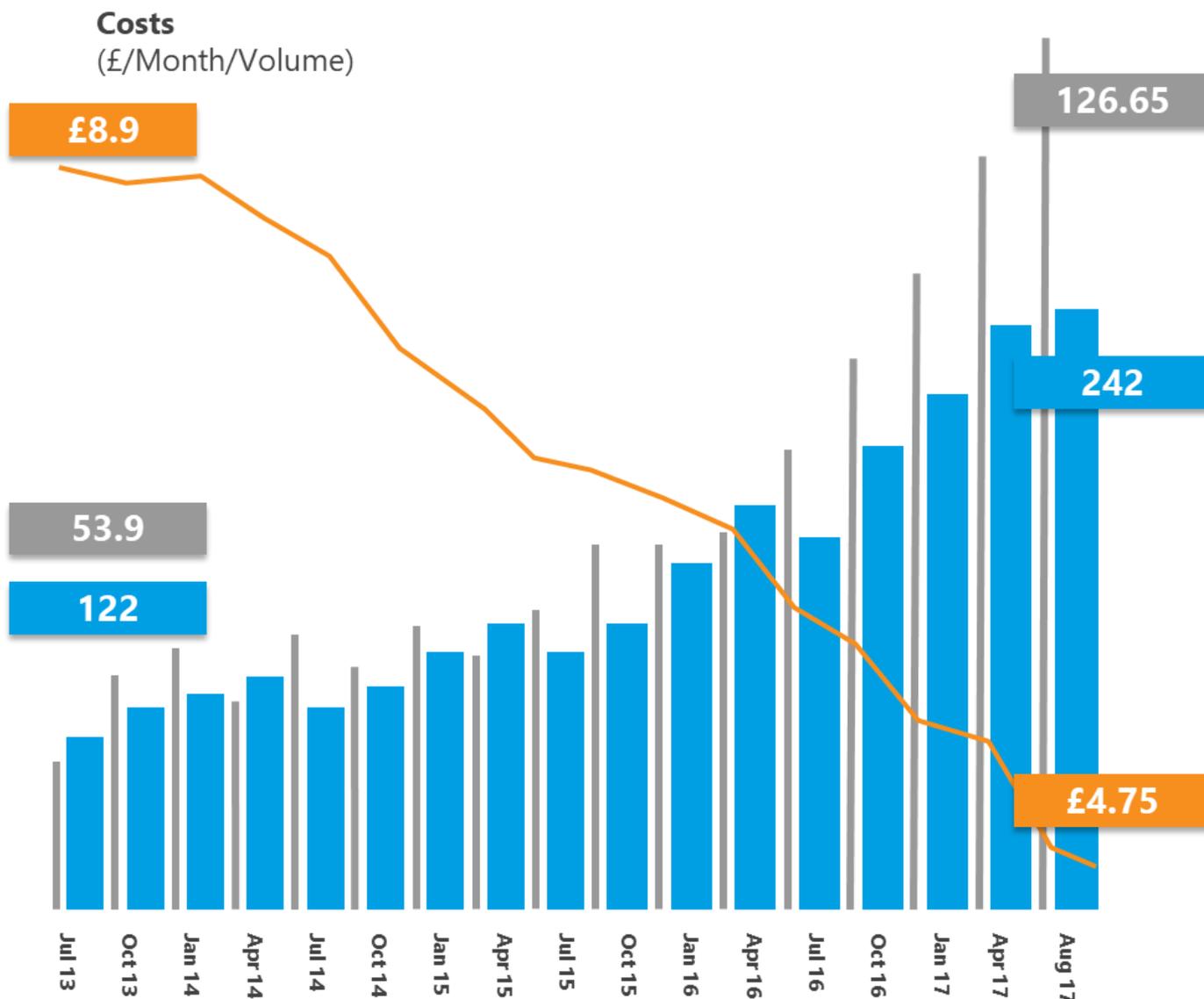


Chart 2: DTN Annual Cost to Industry per User type

Participant type	Number of DTN connections	Average annual DTS cost per market participant
Distribution	14	£ 9,437
Metering	33	£ 27,551
Other* (incl. Elexon)	34	£ 44,648
Tier 1 supply	6	£ 505,379
Tier 2 supply	12	£ 33,589
Tier 3 supply	123	£ 2,008
Green Deal	19	£ 649
Generation	1	£ -

3 The DTN Supports Ofgem’s Programme Objectives

Ofgem is consulting on proposed reforms to improve the experience of switching for consumers. Although switching rates are increasing, according to ElectraLink data, there are still 60% of customers who have not switched suppliers and are therefore paying more than they need to for their energy. A number of market participants are directly impacted by the introduction of the CSS and this section of the whitepaper shows that the DTN is the obvious choice to deliver the communications platform that connects market participants to the CSS. We describe how the DTN can meet the technical requirements of communicating with the CSS and how ElectraLink’s procurement of the DTN will also meet Ofgem’s requirements to competitively source all aspects of the CSS solution.

Use of the DTN will de-risk the implementation of the CSS as 90% of CSS participants are already connected to the service avoiding the need for industry to interconnect with a new industry interface. The following parties would need to connect to the CSS: Distribution; suppliers; gas transporters and some metering agents (MAPs). Analysis shows of these 181 participants, the Data Transfer Service (DTS) is already connected to 160 participants leaving only 21 to be connected – gas SME retailers and the GTs. This means that the DTS is currently connected to 90% of the industry participants requiring integration to the CSS. The remaining gas SME suppliers and gas transporters could be connected by linking the DTS and IX (the interface to UK link provided by Vodafone). Once IX and the DTS were connected, it would be possible for market participants to use a single data transfer mechanism for both Electricity and Gas data transfer.

The following table shows the objectives of the Ofgem programme and the ability of the Ofgem programme to meet those objectives by using the DTN as the communications mechanism for the CSS.

Programme Objectives		DTN
1. To improve consumer experiences and perceptions of changing supplier, leading to increased engagement in the market, by delivering a switching service that:	a) Is more reliable, thereby reducing the instances of consumers being let down by delayed, unsuccessful or unwanted switches.	The reliability of the DTN has been proven with over 20 years of exceptional service. Issues with the current switching processes are not related to failures in the delivery of DTN messages.
	b) Offers consumers control over when they switch, including providing the capability of doing so as fast as possible, and by no later than the end of the following day after a consumer has entered into a contract.	The DTN can support the timeframes required in the Ofgem consultation including the delivery of data in near real time to support Ofgem's future aspirations.
	c) Minimises any differences in consumer experiences of the switching process, to the extent that is possible, taking into account any physical constraints imposed by metering and issues relating to consumers indebtedness.	The DTN provides flexible connection options ensuring that the transfer of data is accessible to all market participants and facilitating any meter type or fuel.
d) To deliver a simple and robust system architecture design that harmonises business processes across the gas and electricity markets where possible, and is capable of efficiently adapting to future requirements.	The DTN already provides dual fuel data transfer across a range of industry processes. This proven communication mechanism is already transformed to meet the future requirements in the Ofgem vision such as near real time messaging and web services.	

<p>e) To encourage more effective competition by minimising barriers to entry for new entrants to the market, including the extent to which a successful switch may rely on the actions of an incumbent, and by having appropriate safeguards in place where this is not possible.</p>	<p>The DTN already removes barriers to new entrants through low cost connections and a service that is undifferentiated between the largest and the smallest market participants. Connections to the DTN are provided for £480 per year.</p>
<p>Cost-effectiveness (as per the programme's overarching objective)</p>	<p>The DTN is an existing network that already connects 90% of the parties that would access the CSS. ElectraLink's impact assessment has demonstrated that the full functionality required for the CSS can be delivered for £500k with the additional data volume being handled at zero incremental cost. Additional connection costs would be £12k pa. This cost is based on 15 gas I & C suppliers being connected at an annual cost of £480 each and connections between the DTN, DCC and IX network at £4k per year.</p>

The DTN Can Deliver the Functionality Required by Ofgem

Ofgem's consultation describes the currently switching processes as unreliable and slow and in some instances based on outdated IT systems. For the avoidance of doubt this description does not apply to the DTN that provides the current integration platform for industry process. ElectraLink has transformed the technology that delivers the DTN to create a flexible, scalable, modern, fixed cost network that will continue to deliver excellent service as the volume and complexity of data transfer increases over the coming years. This transformation includes the introduction of XML messaging and the ability to deliver web-services on the network.

The DTN Can Deliver the Security Required by Ofgem

System security is obviously important to the programme and, whilst the security design specification is not described in the consultation document, ElectraLink understands the importance of delivering security as a fundamental principle of the CSS solution. It should be noted that the security requirements specified in the design will need to be appropriate to the use of the system. The CSS is a B2B solution and does not have the 53 million access points that have driven the complex security model required for the smart meter communications solution, currently being implemented by the DCC. The DTN is a secure B2B network with encryption of transferred and stored data. There have been no security breaches on the DTN since operation commenced in 1998.

The DTN Can Deliver the Volumes Required by Ofgem

Section 2.13 of the Ofgem consultation provides scenarios for the impact of the faster programme on the volume of customer switches. The DTN currently supports over 700,000 switches per month across electricity and gas. The total DTN traffic associated with this volume is less than 2% of the total data volume transferred by the DTN. The DTN is highly scalable and the recent introduction of half hourly settlement to SME customers has seen a 20% increase in data traffic which the DTN has absorbed with no additional costs to DTN users. Therefore, the increase in switching outlined by Ofgem would be accommodated at no ongoing cost if the DTN were the communication mechanism between market participants and the CSS.

The DTN Can Provide a MIS Facility Using the DTN Dataset

Within the conclusion section of the consultation document (2.29) Ofgem highlights that a DCC procured MIS does not represent good value for money. It should be noted that the DTN already provides MIS derived from the data contained in the data flows transferred across it, under the governance of the users of the DTN. This MIS allows performance reporting to be developed, reporting that could be used to ensure that the objectives of the CSS are being centrally tracked. Analysis of DTN data is already being adopted by industry and Ofgem to provide central

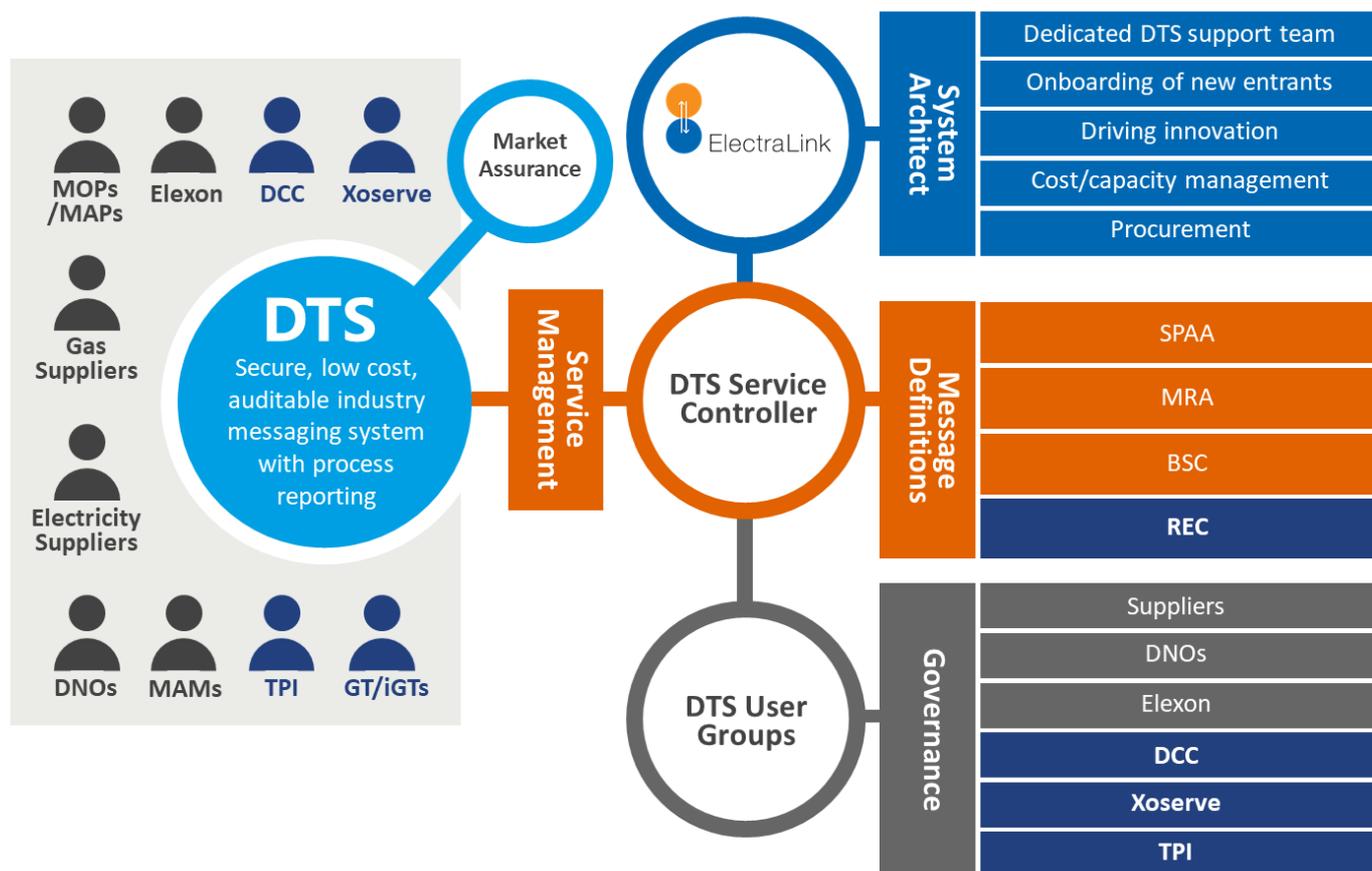
market reporting in support the improvement programme for Erroneous Transfers. The DTN Facilitates the Creation of the Retail Energy Code

The DTN has a flexible governance structure defined in the [Data Transfer Service Agreement](#) (DTSA) that allows the DTN to operate data exchange defined across a number of industry codes (currently SPAA, MRA, BSC). The faster and more reliable switching programme proposes the establishment of a new dual fuel Retail Energy Code (REC) to govern the CSS. This code has the potential to replace elements of the SPAA and MRA. The DTN governance structure would facilitate the transfer of the switching message definitions from existing codes to the new REC arrangement.

Chart 3 shows how the governance of the DTN would expand with the rollout of the CSS. In addition to connecting to the DTN, the DCC, Xoserve and TPIs would join the User Group. The REC would also be established as a new source of message definition.

Chart 3: Management, Message Definition and Governance of the DTS

Governance of the DTS in support of CRS



Ofgem retain oversight of the DTSA and therefore would have direct visibility of any DTN performance, service or governance issues relating to its support of the CSS.

The use of the DTN to support the CSS would build on the existing dual fuel capability of the service. The DTN currently delivers both electricity and gas data flows regulated under the DTSA but the standard licence condition 37 of the DNOs' licences refer only to electricity data transfer. As DTN users the DNOs are engaged in the DTN governance process and they have supported the extension of the DTN to the gas market with the introduction of the Notification of Supplier Information flow (NOSI) in 2016 and the introduction of additional gas flows (RET and SAR) in 2017. The board of ElectraLink is fully supportive of the use of the DTN to assist with the delivery of the CSS and the company's management team has consulted on this matter directly with shareholders.

4 DTN Technology is Fit for Purpose

The DTN Delivers the Switch Speeds Required by The CSS Programme

Chapter 5 of the consultation discusses switch speed. The DTN currently delivers 99.6% of messages in under five seconds so the working day timeframes discussed in chapter 5 would be delivered with the existing DTN infrastructure. Ofgem is looking at future delivery and the need for near real-time service as a potential forward aim of the programme. ElectraLink conducted an impact assessment based on the requirements of reform package 3 (near real time response to objections) and concluded that the service could guarantee near real time data transfer for CSS traffic with a DTN development cost of £500k.

The DTN Delivers the Reliability Required by The CSS Programme

In chapter 5, Ofgem addresses the current issues with switching reliability. Ofgem intends to monitor performance across the transition to the new arrangements and to publish how suppliers are performing. Existing market monitoring can incur an overhead on market participants as they have to 'self-report' performance to the regulator. Self-reporting can lead to inconsistencies. ElectraLink has successfully demonstrated how market monitoring can be delivered centrally with reporting derived from the collection of DTN data, governed by the DTSA. This approach is being adopted by the Erroneous Transfers Working group. The adoption of the DTN as the communication mechanism for the CSS would allow a similar approach to be extended to monitor the performance of the new switching arrangements.

The DTN is Competitively Procured and Meets the Needs of the CSS Programme

Within section 4 of the consultation, Ofgem poses the question 'Do you agree with our proposal to require DCC to competitively procure the communications network capability required to deliver the new switching'. Ofgem also highlights (in section 4.4) that the DTN is already competitively procured by ElectraLink on behalf of the industry using OJEU procurement procedures.

The industry has, in the DTN, a competitively procured network connected to 90% of the CSS participants that can deliver the functionality required to meet the current and future needs of the CSS at limited incremental cost. ElectraLink believes therefore that the most cost-effective solution for industry is to re-use this network as the communication mechanism for the CSS.

In section 4.4 Ofgem states that there are more disadvantages than advantages to moving away from the programme structure but does not explain why. ElectraLink firmly believes that its management of the DTN over the last 20 years demonstrates a clear centre of excellence in the procurement and delivery of data transfer services to support the GB energy industry. We believe that the most cost-effective way of delivering communication infrastructure to support the CSS is to include CSS communication in the scope of the DTN as it is re-procured.

5 Conclusion

ElectraLink's Response to The Question Posed by Ofgem in Section 4 of the Consultation

ElectraLink does not believe that Ofgem's proposal to require the DCC to competitively procure the communications network capability required to deliver the switching programme is in the consumers' best interest. ElectraLink fulfils Standard License Condition 37 (provision of data transfer) on behalf of the DNOs and procures (under OJEU) on behalf of the energy industry a communications network that supports multiple business processes (the DTN). The DTN provides dual fuel connectivity for over 242 market participants. The service delivered by the DTN is exceptional as evidenced by consistently exceeding SLAs and the feedback provided customer surveys. The DTN has been transformed to be a cloud based messaging solution connected to its users through a combination of leased lines and the public internet. The DTN utilises open source middleware (Red Hat JBOSS FUSE) to ensure low cost and flexibility. It supports web services and XML file formats as well as a suite of tools to enable users to query their data transfers.

The DTN has the proven capability to deliver the CSS communication requirements as presented in this Ofgem consultation. The DTN is already connected to 90% of the participants which will need access to the CSS with the total connection costs for the remaining 10% being £12,000 per annum.

As a procurement body operating on behalf of the energy industry, ElectraLink understands the benefits of a procurement process to deliver a 'best solution'. We believe that the most cost-effective way of delivering the communications component of the CSS is for ElectraLink to provide the procurement expertise for this element of the programme within the programme framework of the DCC. Section 7.9 of the consultation clearly states that each of the procurement projects would require its own procurement process and plan. ElectraLink can therefore adopt the process required in the commercial workstream. We do not accept that this would be disadvantageous to the overall programme and would be a clear demonstration that the programme was focussing on the best total outcome for consumers.

Use of the DTN would de-risk the delivery in terms of the connectivity of the CSS and allow the users of the DTN (which are most of industry market participants) to re-use existing industry interfaces rather than developing new interfaces from scratch.

In Conclusion

ElectraLink believes there is no business case to justify the DCC's procurement of the communication network to interface with CSS. The DTN is a competitively procured, proven, secure, low cost network connected to a majority of market participants that will need to connect to the CSS. Re-use of this industry asset will simplify the programme and provide the lowest cost solution for industry and consumers. We would urge industry to respond to question 5 of the consultation on the basis that Ofgem should allow ElectraLink to procure the communication component of the CSS as part of the DTN procurement and utilise the DTN as the communication mechanism for the CSS.