SMART METERING IMPLEMENTATION PROGRAMME: COMMUNICATIONS BUSINESS MODEL RESPONSES TO:

Ofgem

28 October 2010

OFGEM Smart Metering Implementation Consultation Response and Questions

The following responses are on behalf of Trilliant, Inc. The answers were a collaborative effort with Trilliant's executive management and technical team working on the Centrica deployment.

About Trilliant

Trilliant provides hardware, software, and service solutions that deliver on the smart metering and Smart Grid communication solutions to utilities and their customers worldwide. Trilliant's solutions drive improved energy efficiency, grid reliability, lower operating cost, and integration of renewable energy resources. Since its original founding in 1985, Trilliant has been a leading innovator in the delivery and implementation of energy management systems, including advanced utility wireless data collection for residential and commercial customers, demand response, time-of-use billing, and critical peak pricing initiatives. Trilliant currently has more than 200 utility customers worldwide with over 1.5 million deployed Smart endpoints including Centrica where Trilliant provides the enterprise head-end software system in support of the British Gas Smart Programme.

Communications Business Model (Due 28 October 2010)

CHAPTER 2
Question 1: Do you agree that access control to secure centrally-coordinated communications, translation services and scheduled data retrieval are essential as part of the initial scope of DCC?

Secure Communications Network and Access Control
Trilliant agrees that access control is an essential part of the initial scope of the DCC. The system should be centrally secured, with selected access to registered parties only. This access control must also keep aligned with the ever changing commercial relationships between customers, suppliers, and their respective appointed agents and sub-suppliers. Permissions for will be essential to providing access control as parties should have differing levels of data access depending on their roles. For example, access to the customer's current or monthly consumption might be accessible to parties on one level, but the right to connect or disconnect the power could be another. These controls are a routine component of central market systems and have existed for some time, however the ability to switch individual customers adds a new dimension that must be carefully prescribed and managed.

Centrally coordinating the communications is inherent in the DCC model. Properly constructed, this should facilitate operational efficiency and expand customer choices. We agree with Ofgem that there should not be a single mandated communications technology GB- wide, as a blend of technologies will likely be both the best performing and lowest cost over the long term. In addition, with rapidly evolving technology, it would be unwise to choose a single technology for a GB-wide deployment that limits the choices for 10 years or more.

Specifically, the DCC should:

- provide or contract for the WAN communications,
- operate and manage the "head ends" that interface to in home communications modules over the various networks,
- manage security and access to the devices and the data,
- oversee the communications process and the transition of control from one supplier to another, and
- provide industry interfaces to the devices and systems.

One key question in our view is whether the functionality in the meters, communications hub and in-home devices should be defined and limited by the DCC, or wither the DCC should be simply a communications link to the home. Trilliant believes that a balanced approach is most appropriate. Because security and access control are inseparable from the devices themselves and the communications link, the DCC will need to be directly involved in the enablement and control of specific device functionality. Because there will be a wide range of devices enabling a range of levels of functionality, particularly over time, Trilliant recommends that the DCC be required to support basic device commissioning and debugging, routine monthly billing, basic services to support prepay, and a base level of energy consumption information provided to in-home displays or other such devices. This functionality should reference industry standards (such as DLMS and Zigbee Smart Energy Profile). Further, the DCC should provide

open communications access between the asset operator and the in-premise equipment utilizing standard and published protocols for communications so that:

- the asset operator can take full advantage of the functionality of the equipment,
- practical adoption by other market participants can be provided in the event of customer change and
- the DCC does not need to be directly involved in supporting proprietary functionality.

Translation Services

Data translation is inherent in the adoptions of data and communications standards. If the standards are enforced in the equipment and in the interface specifications, this should require a minimum of incremental effort. Absent enforcement of consistent data standards, the DCC will become significantly involved in the translation and management of differing data types. Trilliant has extensive experience in this area and recommends that the DCC avoid explicit data translation as much as possible and instead concentrate on the selection and enforcement of industry standards. Where translation is required for non-essential functionality, this should be left to the individual suppliers to manage and the DCC should provide a communications function only.

Scheduled Data Retrieval

Trilliant agrees with the proposed approach and believes that this does represent an appropriate boundary for the DCC. Scheduled reads of data will provide a more orderly and predictable process for normal billing, and will be required to achieve system wide scalability. However, there will be significant ad hoc communications between customer premise equipment and supplier systems. While scheduled reading will organize much of the communications, the DCC should still expect a significant volume of unscheduled reads. These are likely to be several unscheduled communications per week per premise for activities such as prepay top offs, billing inquiries, push of billing information to in home displays, and customized messaging from value added supplier programs.

Question 2: Do you agree that meter registration should be included within DCC's scope and, if so, when?

Trilliant agrees with the proposed approach and that the DCC should ultimately carry the responsibility for meter registration, but that it should move cautiously to replace existing systems and processes. The DCC will require current and accurate device registration data (for all devices not just meters) to properly manage security and data permissions. This information will need to be accurate no less than daily. Initially, the DCC system can be synchronized with existing registration processes. Over time, it may make sense to pull those systems directly into the DCC scope, but only when other components of the system are working smoothly, and then one at a time. Moving too quickly on this process risks stifling current meter installation processes causing significant market disruptions. Even where registration is not centralized, it should be required that the DCC is aware of every device registration. This is both necessary for security as described above, but also will improve current meter asset management processes, where today not all critical market participants (such as Meter Asset Providers) are able to get timely information about the current registration of devices.

Question 3: Should data processing, aggregation and storage be included in DCC's scope and, if so, when?

Trilliant believes that data processing should not be provided by the DCC. The DCC providing this function will overlap with, and likely conflict with, other necessary market systems and introduce data integrity and consistency issues. Some amount of data storage will be necessary to quickly recover from outage situations, to promote efficiency in communications, for audit tracking, and for troubleshooting. Trilliant recommends 60 days data storage as an appropriate time period.

Trilliant would support the DCC providing interim data processing, aggregation and storage services to suppliers that do not have the capability to facilitate the market.

Question 4: Do any measures need to be put in place to facilitate rollout in the period before DCC service availability and the transition to provision of services by DCC, for example requiring DCC to take on communications contracts meeting certain pre-defined criteria?

Trilliant believes that it is essential that provisions be made to require the DCC to take on communications contracts that exist prior to DCC service commencing. With OFGEM support, there are significant industry investments being made in the qualification of technology, field proving systems, and commencing of the actual smart meter rollout. These are all laudable efforts that contribute significantly to a better outcome from the programme as a whole,

including reduced risk, lower cost, higher levels of functionality, more mature and better standards, and a more rapid rollout. It would be crippling to current industry activities if the DCC were not prepared to maintain continuity of a process that is already under way in good faith. A pre-defined criterion should be established quickly, both to provide confidence to the industry that investments can be prudently made, and to guide those investments to assure a maximum degree of consistency and interoperability.

CHAPTER 3

Question 5: Do you agree that the licensable activity for DCC should cover procurement and management of contracts for the provision of central services for the communication and management of smart metering data?

Trilliant agrees with the proposed approach. In addition, the DCC should have a well and narrowly defined charter, as well as key policies, approaches and systems subject to a stakeholder review board. This stakeholder review board should be made up of the range of market participants that will rely upon DCC services for their day to day functions.

Question 6: Do you consider that DCC should be an independent company from energy suppliers and/or other users of its services and, if so, how should this be defined?

Yes, Trilliant agrees that the DCC licensee should be an independent entity from the perspective operational control and governance. We do not believe that suppliers or other market participants should be precluded from providing services to the DCC. Further, suppliers should not be prevented from ownership stakes in the parent entity of the DCC provider assuming there are limits on the control by any one party to assure that undue pressure cannot be brought to DCC policies or operations.

Question 7: Do you have any comments on the steps DCC would need to take to be in a position to provide its services and the likely timescales involved?

In general, Trilliant agrees with the principal steps in DCC's procurement of its service providers. The timeline is fundamentally realistic, though the process can be compressed somewhat with active use of workshops and facilitated interaction among the parties. Trilliant believes it is feasible to have the DCC operational in 2012.

Question 8: Do you have any comments on the proposed approach to cost recovery and incentivisation for DCC?

Trilliant has objections to the proposed approach at this time.