

## DCC Regulatory and Incentive Framework

This paper outlines the options for the regulatory and Incentive framework for the DCC and its service providers.

From	Smart Metering Programme
To	DCG Sub-Group 3 members
Date	14 October 2010

### 1. Introduction

1.1. This paper sets out a range of options for the regulatory framework applying to DCC and its contracted service providers. In particular, it outlines options related to the following key issues:

- Given its role as the unique procurement and contract management agent, what are the options for regulating and incentivising the DCC?
- The underlying contracts of the DCC will be procured on a competitive basis. Given this, is there a need for regulation and incentivisation of the underlying contracts?
- The regulation and incentive mechanism can be set out in the DCC licence, the Smart Energy Code (SEC) or both. What is the appropriate mechanism for regulating the DCC?

### 2. Regulatory Structure

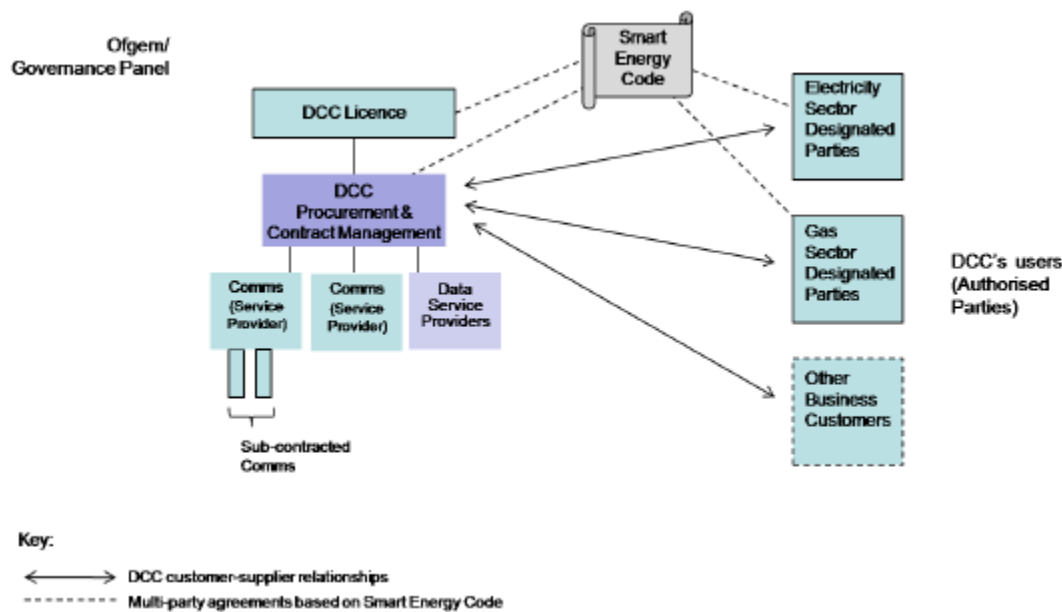
2.1. The structure set out in the prospectus outlines a two stage process for establishing the DCC business model:

- A new licence to be granted to DCC as a procurement and contract management entity following a competitive licence application process.
- DCC would procure, on a competitive basis, a number of service providers, which would together deliver the full scope of data and communications services required.

2.2. Under this structure, the DCC will be appointed to the unique role of procurement and contract management for a predetermined time period. It will then be the role of the DCC to competitively procure the services needed to fill the role of the DCC.

2.3. The prospectus identifies the procurement and contract management services of the DCC as being services where regulation and/or incentivisation would be appropriate. For the underlying contracts it will be the role of the DCC to ensure that these are procured on a competitive basis and to create the conditions needed for a competitive outcome to be achieved, both in the initial procurement of the contracts, and when these are re-tendered.

2.4. Figure 1 provides an outline of the regulatory structure of the DCC.

**Figure 1 – DCC regulatory structure**

2.5. The data and communication services offered by DCC's service providers are unlikely to be delivered without a cost. Unlike the DCC's internal contracting and procurement functions however, these are competing service providers as competitive entities. If the DCC as user of their services is unhappy with the capability or cost of those services, then it could switch to an alternative provider that is better able to deliver against its requirements.

2.6. The overall commercial and regulatory framework applying to the DCC needs to deliver an appropriate balance of service capability and cost, and promote economic and efficient behaviour. The prospectus proposes to achieve this by incentivising the DCC to deliver a competitive outcome in the procurement and management of its contracts. Box 1 outlines a number of principles for determining the appropriate scope of regulation to be applied to either the DCC in its function as contract management agent, or its service providers.

### Box 1 – Principles for the scope of DCC regulation

- *Competitiveness* of the contractual interface – is the contractual relationship between DCC and its associated parties a competitive one – is there a need for regulation?
- *Proportionality* – would regulation, provided either by the SEC and/or DCC's licence, be proportionate to the costs/risks of managing the activity solely via a commercial agreement?
- *Transparency* – would regulation help to promote transparency of the DCC's activities for industry stakeholders?
- *Accountability* – would regulation help promote accountability of DCC services, including efficiency and quality of service in the smart metering system?

2.7. The need for regulation and/or incentivisation should be proportional to the competitive pressures that will be delivered through the procurement done by the DCC, as well as the procurement, and periodical retendering of the DCC itself.

2.8. Finally, as we discussed in a previous paper, both the structure and mechanism for agreeing the incentive scheme need to take into account the fact that the DCC needs to be a financeable entity and not expose it to risks it is not capable of managing.

2.9. The prospectus identified that the consideration of regulation and/or incentivisation of the DCC could be considered at two levels: that of DCC as the procurement and contract management entity; and that of service providers appointed by DCC through competitive procurement. In the subsequent sections we discuss options for regulating these.

### **3. Regulation of the DCC**

3.1. DCC will be allocated the unique role of procuring and contract managing the data and communications service provision to a major part of the smart metering market. The benefits of competition can be achieved through the competitive procurement of the DCC's underlying service contracts. In order for this to be achieved, the DCC needs to ensure that the underlying procurement is effective.

3.2. If this is not achieved, then it raises the risk of imperfection in the procurement of contracts. Since it is the users of the DCC's services, and ultimately consumers through their bills, that will bear the costs of these mandatory services, it is important to keep the costs at an efficient level while providing a capability and quality of service that aligns with users' requirements of DCC's services.

3.3. The prospectus outlines that the DCC could be subject to two regimes:

- a budget agreed annually;
- an incentive regime for the DCC to promote cost efficiency.

3.4. We discuss these in turn.

#### *DCC budget*

3.5. The DCC will be a monopoly party providing procurement and contract management services. Given its monopoly position, the prospectus identified the need for regulation and financial incentives to ensure that the costs of the DCC is kept as low as possible. Currently all monopoly organisations within the energy sector are subject to similar regulation and incentives.

3.6. The prospectus proposed that part of the regulatory regime would be accomplished by the DCC's operating plan and budget being agreed annually through the governance arrangements. The prospectus further proposed that the DCC would be able to earn a margin on its own costs. It was further outlined that the target margin and incentives could be a parameter determined as part of the competitive process for the grant of the entity's licence.

3.7. One implication of a regime based on a margin on its own cost is that this type of regime does not present any incentives for the party to drive efficiency, or reduce its costs. Given this there will also be a need for incentive mechanisms to ensure the DCC has an interest in reducing both the underlying costs of its contracts, and to increase its own internal efficiency.

#### *Incentive regime*

3.8. The prospectus outlined that the best way to ensure that the DCC would deliver the best value to customers is by providing commercial incentives through which it would retain a share in the gain from cost reductions it may be able to achieve.

3.9. In principle, two key methods of applying incentives to DCC exist. Incentives may be applied to:

- Costs – whereby if the DCC is able to beat an ex-ante agreed cost, then it is allowed to keep part of the reduction in costs. A common way of achieving this is through a “sliding scale” mechanism.
- Outputs – this involves the linking the achievement of Key Performance Indicators (KPIs) for outputs of the DCC to the allowed margin of the DCC.

3.10. The incentive schemes should be designed to ensure that the benefits of the competitively procured underlying contracts can be achieved. In practice the benefits of competition can take several forms and competitive pressures can arise in two ways:

- Competition in the market means that there are several service providers active in the market competing on price and quality. Important features of such markets are low barriers to entry, exit and expansion and that there are several competing suppliers of goods, none of which have the ability to profitably raise the price above competitive levels.
- Competition for the market is when there is competition to provide a unique service. This type of competition can be achieved by regularly tendering for services. In this type of competition, the competitive pressure is driven by the initial period when services or tenders are evaluated. It is also possible that competition for the market can also occur in markets such as that for computer software which are characterised by high development costs and significant network effects<sup>1</sup>. In these circumstances after a period of competition one system may emerge as a de-facto standard until innovation eventually dislodges the competitor from its position.

3.11. With competition for the market, competitive pressure and prices are achieved through the contracting phase. If the level of competition achieved through this route is effective, then the need for further regulation is limited.

3.12. Incentives placed on the DCC should encourage it to facilitate a competitive outcome at the procurement stage and ongoing management stages through for example:

- ensuring the original tender is as effective as possible;
- ensuring that it has a financial interest in delivering a good ongoing quality of service through contract management and re-negotiation.

3.13. Incentive mechanisms are generally most likely to achieve the intended results if they are applied when:

- the activity subject to the incentive is directly controllable by that party;
- the activity is valued by the users of DCC’s services; and
- the risk carried by DCC and service providers as a result of the incentive does not undermine the viability of the DCC business model.

---

<sup>1</sup> A network effect can occur when the benefit consumers derive from using the service increase with the number of users.

3.14. If these principles are not met, then the incentive mechanism could induce imperfections by presenting the DCC with an arbitrary reward or penalty due to factors outside its control. It may also incentivise behaviour not valued by the DCC's users or even have an adverse impact on the financial viability of the DCC.

3.15. Separate incentive mechanisms could be applied to different aspects of DCC's management activities and costs to ensure these objectives can be achieved, such as those outlined in Box 2.

### **Box 2 Options for DCC incentivisation**

#### *Forecast cost incentives*

- An incentive mechanism could be applied to DCC's own internal operating budget. For example, this could involve the establishment of target costs where, if the DCC spends less than its operating budget it will be allowed to keep a percentage of it's under spend.
- An incentive could be applied to service provider contract costs similar to the sliding scale incentive mechanism which applies to National Grid for system balancing costs. Under this approach, any savings (and potentially losses) against an agreed target would be shared with DCC (in terms of an increased, or diminished profit margin) and the users of its services (in terms of higher or lower prices).

#### *Output based incentives*

- DCC's allowed profit margin could be linked to a series of Key Performance Indicators (KPIs) and targets. A 'vanilla' approach would be to link DCC profitability to measureable contracted service levels.
- While difficult to implement in practice, another approach may be to link KPIs to the level of competition achieved in the tendering for underlying contracts.

3.16. If a sliding scale or similar targeted incentive mechanism is to be applied to DCC service performance or costs, this raises the issue of the parameters of such a scheme, the timing of the incentive and the timescales for reviewing the parameters/scope of any incentive mechanism.

3.17. Annex A outlines some of the parameters typically applied to sliding-scale and target incentive regimes. The parameters of DCC's incentives would establish the 'risk-reward' trade-off for its business.

3.18. The prospectus proposed that DCC will be awarded a ten year licence following a competitive licence award process. It also proposed that:

- DCC's target profit margin and incentive parameters should be a parameter settled as part of the award process for the grant of the entity's licence; but
- that DCC's incentive mechanisms should also be reviewed and updated, possibly within five years from the grant of its licence.

3.19. It is likely that an incentive, applied to either KPI's for DCC's contracting strategy or actual costs of service delivery, would be difficult in the period leading to the completion of the roll-out. This suggests that a review of DCC incentivisation should be completed when services reach a 'steady-state'.

3.20. However, Ofgem will also need to retender for the second licence period, eight or nine years into the licence period. Consequently, a number of constraints may apply to the options for reviewing the scope of DCC's incentive regime. Box 3 outlines a range of options for both the timing and scope of an interim review of DCC's incentive mechanism.

**Box 3: Options for scope and timing of DCC incentivisation mechanisms**

- **Option 1** – An incentive regime linked to service performance is fixed for the entirety of the licence period mitigating a need for interim reopeners or performance reviews.
- **Option 2** – An incentive regime is linked to service performance but the parameters of the scheme are reviewed at an appropriate reopener window.
- **Option 3** – An incentive regime is linked to service levels for an initial period but there is an option to reopen the incentive mechanism to include costs and service level parameters.
- **Option 4** – Same as option 3, but an incentive on DCC's own internal costs is included from Go-Live. An incentive for contract service costs would be considered at a reopener window.
- **Option 5** – A form of cost incentive/target for DCC's internal and external costs is set from Go-Live additional to KPIs.

**4. Regulation of the underlying service provider contracts**

4.1. The prospectus outlines that the exclusivity of the DCC licence does not extend to the underlying provision of communications services and other services which the DCC will provide through contracting. These services will be tendered on a competitive basis and the DCC will be incentivised to manage these contracts on a competitive basis.

4.2. If as outlined in the prospectus, service provider contracts are governed purely by a commercial agreement (as opposed to regulatory oversight of these contracts) then consideration needs to be given as to whether or not it is sufficient for service performance incentivisation to be incentivised through the incentive scheme on the DCC. Since the DCC would bid on the basis of its allowed revenue and incentive scheme, these incentives could then be reflected in the commercial contracts between the DCC and its service providers. Under this approach the DCC is provided complete freedom to determine the commercial terms and performance regime of its service provider contracts.

4.3. There are several options for incentive schemes that could apply to service providers:

- The *principles* of service provider incentive schemes could be mandated in:
  - the DCC's licence; and/or
  - the SEC.
- Alternatively, the *methodology* of service provider incentive schemes could be set out either in DCC's licence and/or the SEC.

4.4. A principles approach would provide DCC with greater flexibility to determine key commercial aspects of its service provider agreements. The incentive methodology would provide more regulatory control over service provider performance.

4.5. Alternatively, a relatively light-touch approach could be applied to service provider incentives but instead regulation would influence the commercial contracts but in place through incentive mechanism applied to the DCC.

4.6. If the DCC commercial interface is subject to effective competitive pressures then regulation may not be required at all. If, for example, an activity is considered integral to the benefits of the smart metering programme, and competitive pressure is effective, then a series of principles could be applied as an overarching framework to DCC's commercial interfaces either in its licence and/or the SEC.

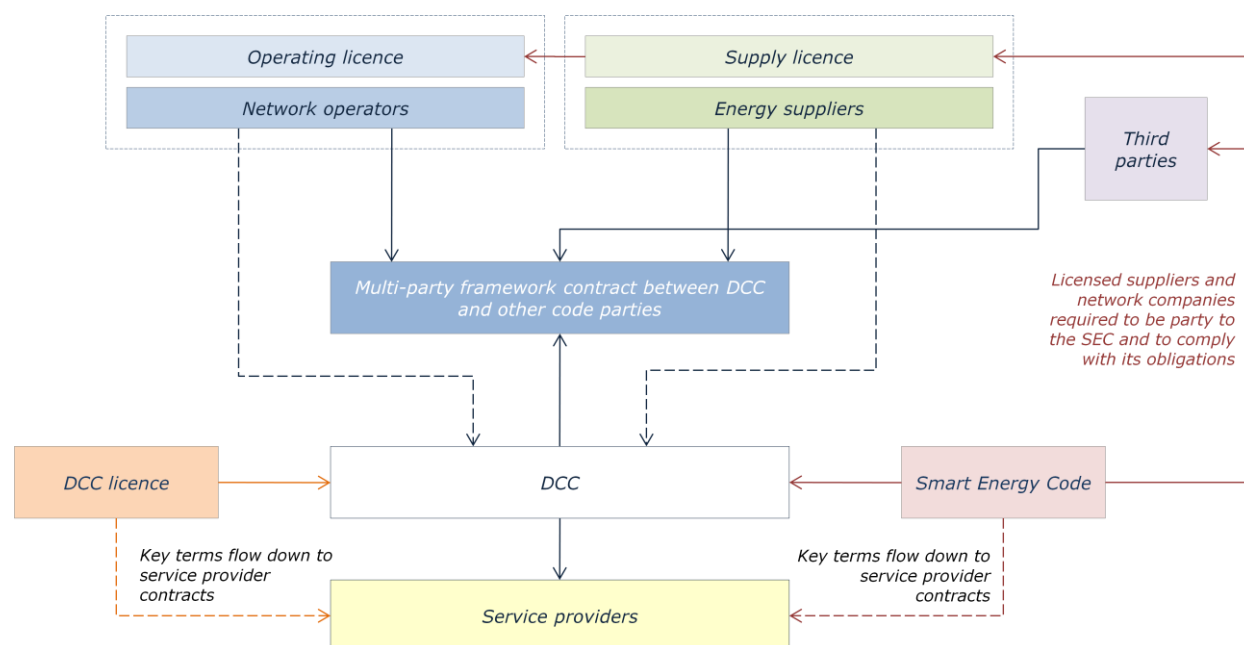
4.7. Where there is little competitive pressure and the contractual agreements between DCC and other parties form an integral part of the commercial framework of the smart energy system as a whole, then a regulated and codified commercial framework may be more appropriate.

## 5. Scope of the SEC and the Licence

5.1. The prospectus outlines that the regulation and incentivisation of the DCC could be set out in either the SEC or in the DCC licence. Figure 2 provides a high level overview of the commercial interfaces, including the interactions with the SEC code.

5.2. This section presents options regarding what aspects of regulation are outlined within the SEC and which are outlined in the DCC licence.

**Figure 2 – DCC contractual and commercial interfaces**



### DCC Licensing

5.3. The DCC will be required to comply with conditions within its licence, and the authority has powers to ensure the licensee is complying with its licence. The Authority also has a duty to its licensees to ensure that they are able to finance their activities.

5.4. Licence conditions are binding and can only be amended by the licensee agreeing to a change to the licence condition. If a change to a licence condition cannot be agreed between Ofgem and the licensee, then the issue can be appealed to the Competition Commission for resolution.

5.5. Licence conditions therefore provide the licence holder with a degree of certainty and control over how the requirements of the licence may evolve.

5.6. Annex B provides an outline of the proposed principles for developing the DCC licence.

*Smart Energy Code*

5.7. The exact governance arrangements of the SEC will be discussed at a later point of this subgroup. It is nevertheless informative to consider the counterfactual of the other industry codes.

5.8. The enforcement of provisions of the codes is done through requiring the holder of a licence to be a party to the code and comply with it. The key difference is in change management. Under the current codes any party to the code can raise a modification. The modification is then assessed by a code governance panel against the objectives of the code and the panel makes a recommendation to Ofgem as to whether or not the modification should be implemented.

5.9. Ofgem then assesses the modification of the code against both the objectives of the code, and against its statutory duties, and can either accept or reject the modification proposal irrespective of the recommendation of the code panel. If Ofgem makes a decision which is not in line with the recommendation of the code panel, Ofgem's decision can be appealed at the Competition Commission.

5.10. Annex C provides an outline of the proposed Table of Content of the SEC from the prospectus.

*Proposals in prospectus*

5.11. The prospectus outlined a number of issues relating where specific parts of the regulatory regime would be found; the licence or the SEC. Table 1 provides a summary of the proposals in the prospectus.

**Table 1 – DCC contractual and commercial interfaces**

Licence	SEC
Obligations relating to the way it procures and manages the contracts with its service provider, however the obligations will not apply directly to those service providers.	Core data and comms. services provided by the DCC.
Performance measures and incentive mechanisms could be included in both the DCC licence and/or Smart Energy Code as appropriate	
A requirement for DCC to procure its services in a cost effective manner.	
DCC's target margin and incentives could be a parameter determined as part of the competitive process for the grant of the entity's licence.	
The incentive mechanisms employed will be set out within its licence.	

## 6. Questions and issues for discussion

6.1. We welcome views on what a workable set of arrangements might look like. These will need to be reflected in the DCC licence and the regulatory and commercial framework document including the SEC.

### Issues for discussion

- Which DCC activities need to be regulated?
- What are the options for incentivisation?
- Are there any further options for how the DCC's activities may be regulated other than those outlined in this paper?
- Are there any further options for how the DCC's activities may be incentivised other than those outlined in this paper?

## Annex A: Incentive design parameters

Parameter	Risk backstop	Pros	Cons
Cap and collars	Cap on value at risk under the incentive mechanism.	Limits absolute exposure to risks of incentive schemes.	Lower powered incentive and so likely to limit opportunities for outperformance.
Dead-bands	If DCC narrowly misses target level they are not subject to full marginal incentive rates.	Consequences of relatively small deviations from targets are quite small.	Incentives within the dead-band are reduced.
Incentive reopener	Automatic downward target adjuster in the event that there was a material change in incentive assumptions.	Provides protection for both regulator and operators from large windfall gains and losses.	Regulatory uncertainty.
Asymmetry	Minimises company's exposure to the risk of losses.	See below.	Likely to limit opportunities for DCC to achieve significant returns from scheme.

An incentive mechanism for DCC does not necessarily have to be symmetric (i.e. with penalties and rewards):

- Where there is clear evidence that customers value the outputs for which the incentives apply and so would value improvements in the output then targeting positive asymmetric rewards would encourage the beneficial behaviour.
- Users of the DCC's services may be more concerned about service or outputs falling below a certain standard, and as a result may wish to enforce an incentive scheme with large penalties while offering limited rewards for improved performance.

## Annex B: Principles for developing DCC licence

1.1. Tables A1 and A2 below provides an indication of some of the key principles that we would expect to take account of in developing the DCC licence. The key principles set out below are provided for illustrative purposes only and are not intended to represent an exhaustive list of the key principles which we may consider in developing the DCC licence.

**Table A1 - Proposed principles to be included in standard licence conditions**

1.	An obligation to provide such metering data to a licensee as is necessary for the licensee to comply with its regulated duties (subject to appropriate safeguards).
2.	An obligation to comply with a request by a licensee to offer terms for the provision of metering data.
3.	An obligation to maintain in the Smart Energy Code a charging methodology for the provision of DCC services that complies with the principles set out in the licence.
4.	An obligation to ensure that the rollout receives communication services as required.
5.	An obligation to run economic and efficient procurement processes for data management and communication services.
6.	An obligation to enter into service level agreements for data management and communications services.
7.	An obligation to ensure non-discriminatory treatment in procuring data management and communication services.
8.	An obligation to comply with specified data protection, data security and privacy provisions.
9.	An obligation to comply with the Smart Energy Code (and possibly MRA, SPAA, BSC, UNC depending on scope of activity)
10.	An obligation not to provide value-added services unless approved by the Authority.
11.	An obligation requiring the DCC to be independent from service providers unless otherwise approved by the Authority.
12.	Obligations relating to the extension or regranting of the licence, including an obligation to provide details of assets and liabilities to be transferred, intellectual property rights and an obligation to enter into a Sale and Purchase Agreement for any assets owned by the licensee prior to regranting.

13.	Obligations relating to financial matters, including financial ring fencing, maintaining an acceptable credit rating and the appointment of an administrator in the event of failure.
14.	Obligations relating to the provision of information to the Authority, including the provision of an annual report and a resource availability report.
15.	Obligations relating to general obligations and arrangements including no abuse of position, prohibition of discrimination, payments to the Authority, determinations by the Authority and licence modification/extension.

**Table A3 - Principles to be included in special licence conditions**

1.	Obligations relating to the revenue or price terms.
2.	Obligations relating to performance incentives.
3.	Obligations relating to efficient transfer value at the time of licence extension/retendering.
4.	Obligations relating to income adjusting events.

## Annex C: Indicative table of content for Smart Energy Code

1.1. The list below provides a preliminary indicative table of contents for the Smart Energy Code.

1. Definitions and interpretation  
This would set out the defined terms used in the Code and say how the Code should be interpreted.
2. Parties  
This would define the parties to the Code. These would include the licensed energy suppliers, licensed electricity distribution companies, licensed gas transporters (DNs and iGTs) and DCC.
3. Accession process  
There would be an accession process for new parties in the above categories and provisions relating to accession by unlicensed parties, such as energy service companies or aggregators, to the extent that these parties need to be bound by the Code.
4. Smart Energy Code Panel  
A panel would be responsible for governance of the Code. The composition would achieve appropriate representation of all stakeholders while providing for efficient decision making. The Chairman would likely be appointed by the Authority.
5. Modification procedure  
This procedure would follow code governance good practice as set out in Ofgem's final proposals from the Code Governance Review.<sup>22</sup>
6. Technical interoperability requirements and procedures  
The Code would define requirements in a number of areas to ensure technical interoperability - the ability of all suppliers to supply any customers with smart meters without regard to the make of smart meter installed or provider of the HAN and without the need to visit the premises.
7. Commercial interoperability requirements and procedure  
This section would contain any provisions that are agreed to enable new suppliers to take over smart meters (and related equipment in consumer premises) from the old supplier on commercial terms.
8. Meter registration (to be confirmed)  
This section would set out DCC's responsibilities in relation to smart meter registration, either under its own licence or as an agent of those parties who currently have this obligation. The long-term implications for the MRA and

---

<sup>22</sup> Code Governance Review – Final Proposals, Ofgem, March 2010.

SPAA will require assessment. It will also address DCC's role in any reformed change of supplier process.

9. Meter installation, removal and exchange obligations and procedures – implementation of rollout obligations

This section would set out practical arrangements between the parties to enable rollout of smart meters and their subsequent maintenance and replacement.

10. Meter access control and access authentication

DCC would be responsible for management of access control to all smart meters using DCC communications and therefore act as access controller. This would be the primary mechanism to secure access to information held on, and functionality of, smart meters.

11. Gateways, data exchange formats and commands

DCC would provide one or more gateways through which authorised parties could communicate with DCC and/or with smart meters.

12. Transfer of data and commands to and from smart meters initiated by authorised parties

This section would deal with the communication services to be offered by DCC. Authorised parties would be able to communicate directly with smart meters, subject to their level of access control, in order to obtain a special reading, to reconfigure the meter for use with a new TOU tariff and so on.

13. Data services provided by DCC

There would be a number of core data services available to suppliers and network companies. These would include arrangements for provision of consumption data.

14. Responsibilities of suppliers with respect to meter system operation

Suppliers would be responsible for meter system maintenance and meter configuration. It is also proposed they would have responsibility for the WAN communications module.

15. Responsibilities of networks with respect to meter system operation

DNOs and GTs would carry responsibilities under the Code as well as having rights to receive consumption and other data subject to any privacy restrictions, in return for payment for DCC services.

16. Implementation of measures concerning data privacy and consumer protection

This would set out measures in relation to data privacy and consumer protection. It would also deal with the circumstances under which consumers could authorise their own service providers, such as energy service companies, to access their data.

17. Security and business continuity

This would cover the arrangements relating to the security of the communications network and for business continuity.

18. Performance levels, performance monitoring and incentivisation  
This would set out service levels in relation to communication and data services, how these service levels would be monitored and, in broad terms, the basis for incentivisation. Details of the incentivisation would be set out in contracts between DCC and its service providers.
19. Business processes  
There would be a number of business processes under the Code which would need to be documented.
20. System and process assurance  
There would be a need to include assurance provisions under the Code, including the preparation of some form of risk identification and management plan.
21. Billing and payment processes  
This would define the arrangements for billing and payment based on the charging statement to be prepared in accordance with DCC's licence and consistent with the licence conditions relating to permitted revenues.
22. Reporting  
There would be a requirement to produce an annual report on the operation of the Code with suggestions for improvement, as well as to produce more frequent operational reports.
23. Interfaces with other industry agreements  
There would need to be interfaces established with other industry codes so that industry systems and procedures could be synchronised to enable change control to operate where there are interdependencies.
24. Dispute resolution  
This would set out procedures for resolution of disputes.
25. Limitation of liability and other provisions  
This would define any limitations of liability of the various parties under different circumstances and deal with other provisions of a general nature.