



**REVIEW OF ELECTRICITY
TRADING ARRANGEMENTS:
FRAMEWORK DOCUMENT
NOVEMBER 1998**

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EXECUTIVE SUMMARY

1. INTRODUCTION

This document explains how a Programme for the delivery and implementation of new electricity trading arrangements will be taken forward (the Framework Document). It builds on the July Proposals and the Government decision that they form the starting point for reform. The framework has been designed to provide a robust structure that involves all interested parties and is capable of timely development. It is intended to deliver new trading arrangements that better facilitate the development of competition and benefit consumers. The Programme Framework document outlines the structures, approach and resources which will be put in place to deliver the reform of the electricity trading arrangements.

2. BACKGROUND

In October 1997 the Minister for Science, Energy and Industry invited the DGES to consider how a review of electricity trading arrangements might be undertaken. In July 1998 the DGES published a Proposals document describing new market based trading arrangements for electricity. In October 1998 the Government accepted these proposals.

The July proposals envisage market-based trading arrangements more like those in commodity markets elsewhere. Forwards and futures markets would operate up to several years ahead, evolving in response to demand. A voluntary Short-term Bilateral Market would operate from at least 24 hours to about 4 hours before real time, allowing participants to fine tune their positions. When the Short-term Bilateral Market closes a voluntary Balancing Market would open with the National Grid Company (NGC), in its role as System Operator (SO), accepting bids for increments or decrements of generation or demand to enable it to balance system generation and demand. There would be a settlement process to reflect differences between contract positions and metered volumes of output and to recover other costs to be borne by market participants.

A Balancing and Settlement Code (the Code) would contain a set of rules covering the balancing market, the imbalance price and the settlement system. It would also govern the relationships of all participants including their responsibilities and duties. This would be supported by a Balancing and Settlement Code Panel with representatives from interested parties to advise on changes to the Code.

The Proposals document set a target date of April 2000 for the introduction of these new arrangements. It recognised the need to establish a major programme of change for the industry and all interested parties, and suggested an organisational structure under which the Programme would be conducted.

3. FURTHER DEVELOPMENTS

On 8 October 1998 the Minister for Energy announced that the DGES's proposals on the reform of the electricity market in England and Wales was the right way forward and that further work on these proposals should now commence. The Government indicated that it would legislate to support the changes and specifically endorsed the following suggestions:

- OFFER and the DTI should be responsible for the overall direction and leadership of the implementation process;
- A full-time Programme Director should be appointed;
- The Programme should enable the full participation of the industry and its customers. The majority of resources to deal with the technical definition and implementation of the new arrangements should be sought from within the industry and customer groups;
- Development of the new rules and processes should be overseen by a Development and Implementation Steering Group (DISG) composed of senior staff representing all interest groups within the industry including customers; and
- The DISG should commission, review and recommend detailed proposals on the rules, operations and governance of the new arrangements, via Expert Groups where applicable. These Expert Groups should be composed of specialists drawn from the industry, customers and consultancies who will address specific topics within their particular areas of expertise.

Consideration should be given to the phasing of reforms and the provision of assurances that the new trading arrangements will operate satisfactorily.

Later in October the Government sought views on what legislative changes would be necessary to support the implementation of the new trading arrangements and whether legislative changes might be required to support new governance arrangements and the regulation of the balancing and settlement arrangements.

In its response to the Government the Electricity Pool said that there was support for an Independent Market Organisation (IMO) which operates independently from NGC. Such an organisation could either be licensed under new legislation or could alternatively be created by industry agreement without the need to legislate.

The DGES, in his response, said that new arrangements could be achieved by the introduction of new licence conditions in NGC's licence, without conflict with NGC's commercial interests, and without requirement for new legislation. The issue of governance would have to be resolved during the early stages of the Programme.

To clarify the Programme for the delivery and implementation of the new trading arrangements OFFER established a small working group, assisted by Deloitte & Touche Consulting and Ernst & Young to conduct a Programme Design Phase. The work of this group is reflected in the present document.

4. PROGRAMME SCOPE

The scope of the Programme will encompass the design and development of the Balancing Market, the Short-term Bilateral Market and associated settlement systems. It will establish and appoint to the necessary operational roles. It will also encompass the interfaces with futures and forwards markets. Any consequential changes to generator or supplier systems will be outside the remit of the Programme. The Programme Director will be responsible for delivering the new trading arrangements to the required standard and in doing so will need to identify the effects of the Programme and seek to co-ordinate overall industry change. He will also be responsible for the development of an overall business process design that would define interfaces and standards.

The Programme will have two major and inter-related phases: the Policy Development Phase and the Implementation Phase. The former will include development and definition of the rules and operation of the new trading arrangements. The latter will deal with the implementation, including the procurement of the necessary systems and infrastructure to support the new regime, taking account of the implications for other industry participants.

Costs will depend on the precise design of the framework and the nature of the transition from present Pool activities to the new trading arrangements. OFFER's Programme Management and support costs (accommodation, staff, consultancies, contract staff, etc.) will be met from the OFFER budget. Parties who tender to develop or operate central business systems may propose to fund them by operational charges to recover their costs. If appropriate, the procurement processes will identify alternative mechanisms for financing the development of central Balancing Market and settlement systems.

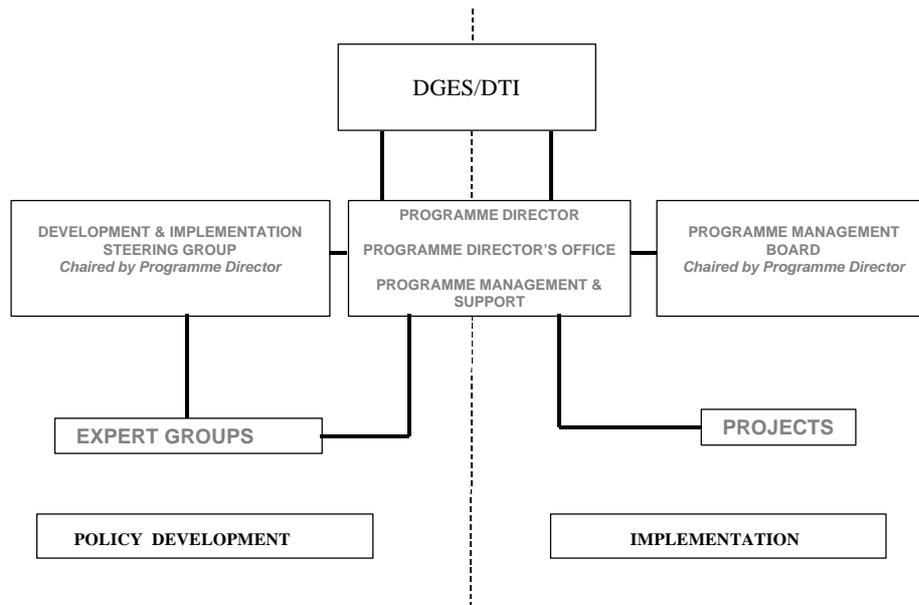
Generators, suppliers, providers of ancillary services, traders and others who need to modify, replace or establish systems will implement the systems and processes they deem appropriate for the trading positions they adopt and acquire and fund the necessary equipment or networks.

5. ORGANISATION AND STRUCTURE

The Programme structure is designed to maximise transparency and openness and participation by all interested parties whilst ensuring an effective and timely process. At key points public consultations or workshops will be held on the emerging rules and operational principles of the new arrangements.

The main components are leadership by the DGES and DTI, a Programme Director and support staff, a DISG, various Expert Groups to explore details, and a Programme Management Board to define and control the projects necessary to implement the new arrangements.

The following diagram shows the main components of the overall Programme organisation.



DGES & DTI

The DGES and DTI will provide leadership and give overall guidance to the Programme together with the necessary Policy direction. They will confirm recommendations made by the DISG and will give direction where the DISG members are unable to reach an agreed recommendation or where options are put forward. They will authorise expenditure within the Programme, and agree to the procurement of services for market operation. They will call on expert advice as appropriate and from time to time will consult more widely.

Development and Implementation Steering Group

The DISG will be responsible for developing the detail of the new trading arrangements and will seek to resolve differences of view on outstanding issues between interest groups. It will be chaired by the Programme Director. It will structure the issues into areas for consideration, define the appropriate design approach and, where applicable, establish the requisite Expert Groups to develop the detail. It will determine the members of the Expert Groups and provide them with a precise brief, a timetable for their work and a definition of the deliverable or decision

required. It will review the results of the Expert Groups' work, ensure consistency and integrity of the outputs of the various Groups, and order them into a consistent and comprehensive framework.

The DISG will consult with the industry, customers and other interested parties on specific and general issues and seek consensus on the acceptability and operability of the proposals emanating from the Expert Groups. To give transparency and confidence in the process and the conclusions reached, the DISG will hold a number of meetings in open forum, which interested parties can attend as observers. Additionally, there will be formal "checkpoint" meetings at which the DISG will present to the industry, customers and a wider audience the progress achieved and the key principles and proposed rules that have emerged from the work to date. Agendas and papers for these meetings will be available on the Internet (www.open.gov.uk/offer/offer.htm).

The DISG will, via the Programme Director, present proposals to the DGES and DTI for approval or for decision. The DISG will remain in place throughout the life of the Programme, though it is expected that once the main Policy and Development Phase is complete it will meet less frequently and will focus on any necessary re-considerations or revisions of the detailed rules or operational processes that emerge during implementation.

The membership of the DISG will be drawn from senior members of the industry and customer groups as follows. Indicative numbers are given in brackets. It will also include a representative from OFFER and a representative from the DTI.

- Generators [5], with representation for Portfolio, Independent Power Producers (IPP), Nuclear, Embedded, Combined Heat and Power (CHP) and Non-Fossil Fuel Obligation (NFFO) generators;
- Suppliers [5], with representation for Public Electricity Suppliers (PES) and Second Tier Suppliers;
- Customers [3], with representation for small, medium and large customers;
- Financial bodies [1], likely to participate in the Forwards, Futures and Bilateral Markets;
- Inter-connected parties [1]; and
- NGC [1].

Expert Groups

Expert Groups will be created for a defined task, to develop the detail of specific technical areas. They will work to timescales consistent with the Programme Plan and operate to defined deliverable requirements. At any time several Expert Groups will be operational. The focus of the Expert Groups is likely to change as the

Programme moves forward from policy development into delivery. During the Implementation phase the Expert Groups will monitor project outputs to ensure consistency of deliverables with their objectives for the design and to initiate any additional analytical work commissioned by the DISG.

The Expert Group members will normally be obtained from within the industry and consumer groups, selected for their expertise in the areas under consideration. In some cases outside consultancy assistance may be required. Each Expert Group will contain the minimum number of people commensurate with a full consideration of the topic, normally around 5 – 6 people. Each Expert Group's deliberations and decisions will be facilitated by staff from the Programme Director's support organisation which will provide chairmanship and administrative and logistical support.

Programme Management Board

The Programme Management Board will define and control a portfolio of projects to implement the conclusions of the DISG and the Expert Groups, so that the new arrangements come into force in accordance with the timetable.

Members of this Board will be appointed by OFFER/DTI. They will include a representative of each of the following user groups: generators, suppliers, customers, traders and NGC. The Programme Director will chair the Board. He will report to the DGES and DTI on progress and issues for decision.

The Programme Management Board will be established at the beginning of the Programme. The frequency of its meetings will depend upon the Phase of the Programme. In the Policy Development Phase its principal task will be to begin to develop the portfolio of projects and establish their sequence. In the Implementation Phase its role will increase significantly as it oversees delivery of the portfolio of projects.

Programme Director

The Programme Director has been appointed by the DGES and is accountable to the DGES and DTI for the delivery of the Programme to time, quality and cost, maintaining alignment between the Programme and the objectives set out by them. The Programme Director will facilitate the work of the DGES and DTI, the DISG and the Programme Management Board, and his support group will provide services to all areas of the Programme.

6. TERMS OF REFERENCE

Chapter 6 sets out for each of the bodies described above, and for the Programme Director.

7. PORTFOLIO OF PROJECTS

The Programme Director's Office (PDO) will develop a workplan to address the issues, with estimates of the resourcing required. Once approval is given by the DGES and DTI the Programme Director will present the workplan to the DISG. The DISG will use this plan to commission and control the Expert Group tasks. Some of the issues that will need to be considered initially by the DISG, and their probable order of priority are listed in Appendix Three of this document..

As tasks are agreed by the DISG and approved by the DGES and DTI, they will be defined as "Agreed Requirements" and presented to the Programme Management Board for commissioning as projects. Each such project will be formally defined, with a project structure, a plan, resources, timetable and deliverables.

8. TIMETABLE AND NEXT STEPS

For the Programme to operate effectively it is necessary for the appropriate people from the industry, customer groups and interested parties to participate as fully as possible. OFFER seeks nominations from companies, customer groups and other interested parties for the DISG and Programme Management Board. Participation will require considerable commitment as well as continuity of attendance at DISG meetings. Nominations for these roles should be sent to Ian George at OFFER, Hagley House, Hagley Road, Edgbaston, Birmingham B16 8QG, by 10 December. It would also be useful to receive indications of willingness to participate in Expert Groups.

OFFER and DTI will invite individuals from each of the categories described from those nominated to participate in the DISG, so that an appropriate balance of interests and experience is achieved within the group. The Programme Director has begun to develop an initial workplan for review and approval by the DGES and DTI. In parallel, actions are being taken to establish the DISG. It is expected that the first DISG meeting will take place in December, which will use the initial workplan as a basis for planning its action and identifying which Expert Groups should be set up as a priority.

The Proposals document outlined a target delivery date of April 2000. One of the immediate activities is to develop the plan further and to identify key dependencies for achieving the target date of April 2000. The development of the plan will also include identification of opportunities for parallel development, early starts and rapid development techniques. It will also consider reusing existing systems and solutions wherever possible.

1. INTRODUCTION

- 1.1 This document explains how a Programme for the delivery and implementation of new electricity trading arrangements will be taken forward. It seeks to build on the July proposals and the Government decision that they form the starting point for reform. The framework has been designed to provide a robust structure that involves all interested parties and is capable of timely development. It is intended to deliver new trading arrangements that better facilitate the development of competition and benefit consumers.
- 1.2 The Programme will be led and seen through by the DGES and the DTI working together. The widest possible spread of customers and industry will be given the opportunity to participate in the further refinement of the design of the trading arrangements and to contribute to their implementation. When necessary, in order to maintain the momentum of the Programme, the DGES and DTI will resolve between options or decide the way forward where consensus has not been achieved. The Programme has been set a challenging target date for implementation and will require rapid and decisive progress in the early stages to meet it. There will be very many complex interactions between existing and new business or IT systems, and old and new agreements. New systems and operational roles will be required. The Programme will be dependent on the successful and timely preparations of those who wish to trade in the new arrangements. It will need to establish effective communications and co-operation with all parties to ensure compliance with an overall implementation plan and timetable. The Programme Framework document outlines the structures, approach and resources which will be put in place to deliver the reform of the electricity trading arrangements.
- 1.3 One of the first activities within the Programme will be to establish a Development and Implementation Steering Group and a Programme Management Board supported by a number of Expert Groups to assist in the Programme Development Phase. In parallel, OFFER will be appointing a number of legal, economic and programme management advisers to support the Programme.

Organisation of this Report

- 1.4 Chapter 2 describes the background to the Review of Electricity Trading Arrangements (the Review) and discusses the proposed new trading arrangements. It highlights some of the issues requiring resolution during the Implementation Phase. Chapter 3 describes further developments that have taken place since July. Chapter 4 considers the Programme scope and Chapter 5 describes the Programme organisation structure, roles, resources and responsibilities. Chapter 6 describes the terms of reference for the key bodies and roles within the Programme. Chapter 7 outlines the portfolio of projects likely to be required when the Programme gets underway. Chapter 8 provides an indicative timetable of the key activities required in the next few weeks with an overview of the more substantive activities throughout the lifecycle of the Programme. Appendix One identifies the key characteristics of

the proposed new market in schematic form. Appendix Two sets out the proposed structure of the PDO. Appendix Three identifies some of the key issues that will need to be considered initially by the DISG and their probable order of priority and Appendix Four identifies the members of the Programme Design Phase Steering Group.

2. BACKGROUND

- 2.1 During the Review process OFFER published background and working papers, held workshops and seminars, discussed developing ideas with a wide range of interested parties, and published and discussed Interim Conclusions¹. The DGES's Proposals of July 1998 (the Proposals)², drew on and took account of the valuable inputs made by interested parties throughout the consultation process, including written contributions received in response to the Interim Conclusions. The document contained proposals to put in place market-based trading arrangements more in line with those being adopted in other competitive commodity and energy markets. The proposed new arrangements are described in more detail below.
- 2.2 The Proposals document set a target date for implementation of April 2000 for the introduction of the new trading arrangements. It also identified the need for well managed development and implementation that would require careful planning, the active participation of all industry parties, and firm leadership from OFFER and the DTI.

Description of the New Trading Arrangements

- 2.3 The Proposals envisage market-based trading arrangements more like those in commodity markets elsewhere on the basis that these would be more efficient and would provide greater choice to market participants while maintaining the operation of a secure and reliable electricity system. The proposals encompassed the following features:
- Forwards and futures markets would be organised by independent market operators, possibly by an established organisation such as a commodity exchange, as required by market participants. These markets could operate up to several years ahead and would evolve in response to demand by market participants. The rules, processes and instruments governing the operation of these markets would be defined by the markets themselves and not the Programme. Settlement of the markets would be conducted through the market place with trading and settlement systems and processes being provided by the market and not the Programme.
 - A voluntary Short-term Bilateral Market operating from at least 24 hours before the start of a trading period to about four hours before it. It would provide market participants with the opportunity to "fine-tune" their positions by trading a range of standardised products. The framework for the Short-term Bilateral Market and the Market Operator (MO) to run it would be established by the Programme.

¹ Review of Electricity Trading Arrangements: Interim Conclusions, OFFER, June 1998

² Review of Electricity Trading Arrangements: Proposals, OFFER, July 1998

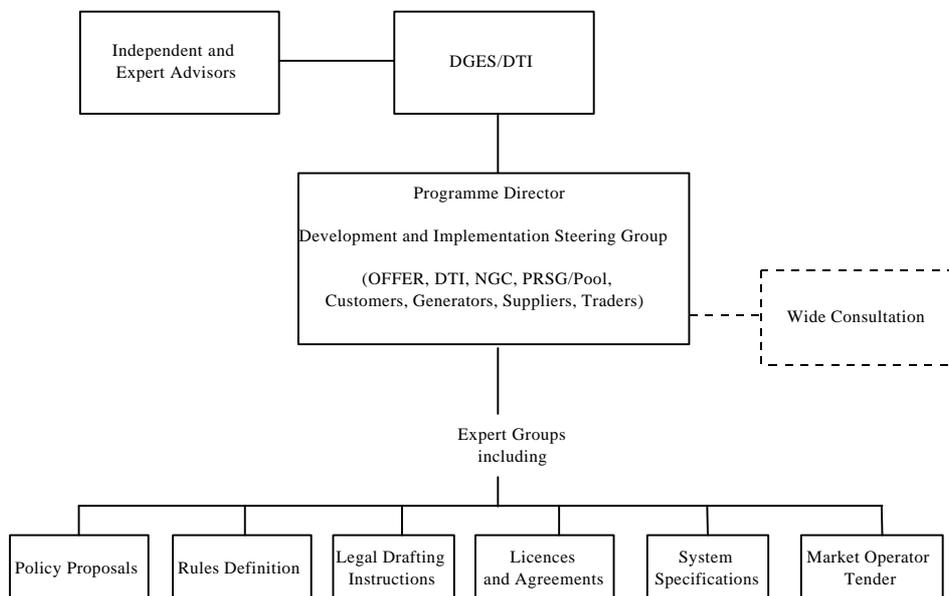
- When the Short-term Bilateral Market closes, a voluntary Balancing Market would open to enable NGC, as SO to balance generation and demand, taking into account and resolving any constraints on the transmission network. It would accept bids to buy and sell electricity on terms reflecting conditions closer to real time than is possible in the present trading arrangements. NGC would also call upon ancillary service contracts for frequency response and reserve to assist in balancing the system in real time. The Balancing Market needs to be established from the outset of the new arrangements, hence its delivery is at the core of the Programme. An MO for the Balancing Market will need to be established and options need to be explored for the successful tenderer to provide the system on either bespoke, package or existing system product basis. Parties who tender to develop or operate the Balancing Market may propose to fund them by operational charges to recover their costs.
- Ancillary service contracts will need to be renegotiated once the final details of the Balancing Market have been developed. In order to allow NGC appropriate cost-effective control of the system within the half hour new contract forms may be required.
- There would need to be a settlement process. Imbalance prices will apply to any differences between market participants' contract positions (including trades in the Balancing Market) and the metered volumes of output that they actually supply or are deemed to have taken. The precise nature of these imbalance prices is yet to be decided. The intention is to provide stronger incentives than at present for generators and suppliers to meet their commitments. Appropriate mechanisms for the recovery of common system costs will need to be considered but it is likely that there would be, at least in the first instance, a relatively simple approach to cost recovery, in some ways comparable to that presently in force in the Pool.
- The Proposals suggested that a market in capacity options should be encouraged, perhaps as part of the other forwards and bilateral markets.
- The Proposals suggested that consideration should be given as to whether the conditions could be met for putting in place a voluntary day ahead auction.
- The Proposals outlined the need for the introduction of measures to support improved transparency by publishing information on contract prices, together with consideration of what features and contracts this should cover.
- The Proposals outlined the need for a programme to be established so as to take forward the design and implementation of the new regime.
- The Proposals outlined the need to draw up a "Market Blueprint" which would define, at high level, the present systems, communications, information flows and timings, operational processes and interfaces (the "As Is" model). The Blueprint would then identify what systems, communication, information

flows, timings, operational processes and interfaces would be needed to support the new arrangements (the “To Be” model).

- Many details of the markets are yet to be defined and will be dependent upon the results of the Policy Development Phase of the Programme. Appendix One provides, in schematic form, a high level view of the market features described above.

2.4 The Proposals document suggested that the simpler governance arrangements would be required, focusing on the balancing market and arrangements for imbalance prices and settlement. It concluded that the implementation and regulation of these arrangements could best be established by introducing new conditions within the licence of NGC, requiring it to establish appropriate arrangements, to prepare a Balancing and Settlement Code and, as appropriate, to modify it. A new condition would also be introduced into the licences of other parties, requiring them to comply with the Code. The Review was conscious of the concerns of some parties about the extent of powers and responsibilities of NGC. It therefore took pains to design a process which met those concerns and gave interested parties (including customers, generators, suppliers, traders, interconnected parties etc) a substantive role in both drawing up the Code and in its subsequent modification via a Balancing and Settlement Code Panel.

2.5 The Proposals document suggested a structure for the Programme, based on a Programme Director to manage the process, a Development and Implementation Steering Group to guide the development and implementation of the new regime, Expert Groups to deal with specific topics and access industry experience and views, and wider consultation with industry and customers to ensure full representation of views. The Proposals also recognised that, within the general framework of the proposed trading arrangements, there was much to be done to define the precise details of the new markets. The Proposals advocated adopting the organisational structure set out below.



3. FURTHER DEVELOPMENTS

The Government's White Paper on Energy Policy

3.1 On 8 October 1998, the Government published a White Paper on Energy Policy³. This proposed the introduction of a range of reforms which are aimed at removing distortions in the electricity market and putting downward pressure on prices. The Proposals put forward by the DGEN are central to these reforms. The Government said that it was prepared to legislate to support the changes. The Government specifically endorsed the following suggestions:

- OFFER and the DTI should be responsible for the overall direction and leadership of the Programme;
- A full-time Programme Director should be appointed;
- The Programme should enable the full participation of the industry and its customers, and the majority of resources to deal with the technical definition and implementation of the new arrangements should be sought from within the industry and customer groups;
- Development of the new rules and processes should be overseen by a DISG composed of senior staff representing all interest groups within the industry, including customers; and
- The DISG should commission, review and recommend detailed proposals on the rules, operations and governance of the new arrangements, via Expert Groups where applicable. These Expert Groups should be composed of specialists drawn from the industry, customers and consultancies who will address specific topics within their particular areas of expertise.

3.2 The Programme will also need to reflect on the observations of the Minister in respect of the benefits expected from the new trading arrangements, and provide assurances that in a number of areas the new arrangements will operate satisfactorily. In particular:

- Continued security of electricity supplies in the long and short-term;
- Prices that are transparent and ensure liquidity; and
- Appropriate treatment of CHP, renewables generators, small embedded generators, NFFO generators and Interconnectors.

3.3 The Minister also recommended that consideration should be given to the phased introduction of reforms.

³ Conclusions of the Review Of Energy Sources for Power Generation and Government response to fourth and fifth Reports of the Trade and Industry Committee

- 3.4 The White Paper also outlined the need for additional work streams outside the direct locus of the Programme. There will be a need for liaison with other relevant, established working groups as outlined in the White Paper. One key to the Programme's successful completion will be the support and consensus of all industry participants affected by the change.
- 3.5 The OFFER Proposals suggested that a Code would be established as a result of a new condition in NGC's licence. The Code would be developed within the Programme by customers, industry members and other interested parties and would be approved by the DGES. The Electricity Pool has been developing and has consulted upon an alternative approach where responsibility for management of the mandatory and natural monopoly elements of the market should rest with an independently established organisation, the "Independent Market Organisation". The issue of governance will need to be addressed during the early stages of the Programme.

Public Consultation Paper on The Future of Gas and Electricity Regulation

- 3.6 In October 1998⁴ the Government issued a consultation paper in respect of the legislation signalled in the White Paper. It sought views on:
- What legislative changes might be necessary to support the implementation of new trading arrangements;
 - Whether legislation could be used to overcome contractual problems caused by the demise of a recognised Pool price; and
 - What legislative changes might be required to support new governance arrangements and the regulation of the balancing and settlements arrangements.
- 3.7 In his response to the first point above, the DGES said that the necessary licence modifications to support the implementation of new trading arrangements could be achieved under existing procedures but that legislative changes could assist, for example, by the inclusion of standard conditions and revised procedures for collective licence modifications.
- 3.8 With regard to the second point above the DGES said that the new trading arrangements would provide a greater and more flexible range of opportunities for market participants, including the ability to strike contracts at prices that better reflect individual circumstances and requirements. It was not clear that legislation could be used to assist in revising contractual arrangements which were a matter for the parties concerned.

⁴ A Fair Deal for Consumers - Modernising the Framework for Utility Regulation: Public Consultation Paper on the Future of Gas and Electricity Regulation, DTI, 21 October 1998

- 3.9 In respect of governance, the DGES said that the Proposals included arrangements for the operation of a balancing market and associated imbalance and settlement process. It was proposed that these arrangements could be achieved by the introduction of new licence conditions on NGC requiring it to establish a Balancing and Settlement Code which would address governance. These arrangements could be achieved by the introduction of new conditions in NGC's licence providing for the establishment of a Balancing and Settlement Code. The DGES believes that the Code could be established and managed in a way which results in there being no significant conflict with NGC's commercial interests and no requirement for new legislation.

Programme Design Phase Steering Group

- 3.10 To establish how the Programme for the delivery and implementation of the new trading arrangements will be taken forward OFFER established a small working group, assisted by Deloitte & Touche Consulting and Ernst & Young to conduct a Programme Design Phase. This group has refined the organisation structure outlined in the Proposals. For example, during the course of producing this document the need for a Programme Management Board to oversee the Implementation Phase of the Programme was identified. The working group also defined the scope, nature and management processes of a Programme designed to implement the proposed new trading arrangements. The group consulted a number of interested parties, including customers, during this phase.

4. PROGRAMME SCOPE

Organisations, systems, processes and timings

- 4.1 The Programme will have two major and inter-related phases; the Policy Development Phase and the Implementation Phase. The former will include definition of the rules and operational processes of the new trading arrangements; the latter will deal with the implementation including procurement of the necessary systems and infrastructures to support the new regime.
- 4.2 The Programme will impact on market participants who generate, consume, trade, balance or report on energy. This will include all generators (including IPPs, CHP units and renewables), suppliers, Interconnected Parties, NGC, the Pool, settlement organisations, traders, brokers, Meter Operators, Data Collectors, Data Aggregators, consumers, Distributors and Clearing Houses.
- 4.3 Systems to be procured, modified or built could include those within NGC, Pool systems and new balancing market and settlement systems. Not included in the Programme are generator and supplier decision support, bid management and trading systems - though interfaces, standards and protocols will need to be specified for all of these.
- 4.4 Whilst it will be possible to identify at an early stage the areas are that likely to be impacted by the changes, the full scope and scale of the effects must be fully assessed during the early stages of the Programme. An initial identification of potentially affected systems can be found in Section 7.
- 4.5 New processes will be required to support the new trading activities and operate the new systems and their linkages, including the transfer of information from systems outside the remit of the SO and the MO(s) into the overall balancing/ imbalance cash-out activities.
- 4.6 There will be a requirement to control, through a central authority, the interaction of all systems, interfaces and processes so that the market runs “end-to-end”. In addition there will be a need to ensure that the policies and detailed rules that are developed are capable of translation into an operable market. That is, the ability to allow the events and activities identified to be ordered/sequenced and carried out in the manner and timescales defined by the new market rules. The Programme will need to identify the most appropriate tools, techniques and level of detail required for any such modelling of the new arrangements.
- 4.7 A full understanding of the volume, frequency and replication of data transfer between participants, processes and systems will be necessary in order to design and operate the new trading arrangements efficiently and securely. The implementation of new processes and systems will also require an extensive change management programme, including training of personnel.

Costs & Funding

- 4.8 Costs cannot be quantified in detail until a more precise design is available and the nature of the transition from current Pool activities to the new arrangements is better understood.
- 4.9 OFFER's Programme Management and support costs (accommodation, staff, consultancies, contract staff, etc.) will be met from the OFFER budget.
- 4.10 Parties who successfully tender to develop and operate certain central Market systems may propose to fund them with costs being recovered through operational charges. If appropriate, the procurement process will identify alternative mechanisms for financing the development of such central Market and associated settlement systems.
- 4.11 Generators, suppliers, providers of ancillary services, traders and any others who need to modify, replace or establish systems will implement the systems and processes they deem necessary for the trading position they adopt and acquire any necessary equipment or networks.

TRANSITION TO NEW ARRANGEMENTS

Transition Principles

- 4.12 The Programme will need to define not only the operational and implementation details of the new arrangements but also a strategy for moving parties from the present arrangements to the new ones. These transition arrangements must also recognise those items on the critical path for the delivery of the new arrangements but which are outside the direct scope of the Programme.

Parallel Operation of the New and Existing Trading Arrangements

- 4.13 Whether or not there is a period of parallel operation of existing and new arrangements, the nature of the competitive supply settlement mechanism is such that reconciliation and settlement under the Pooling & Settlement Agreement (P&SA) rules will need to continue for 14 months after the introduction of the new arrangements.

Contractual, Legal & Accreditation Issues

- 4.14 In addition to the development of the new Code, the implementation of the proposals will require the amendment of existing contractual and regulatory documents and legislation.

Regulatory Documents

4.15 Modifications of licence conditions will be required. Depending on timing, this may need to be facilitated by the establishment of standard licence conditions referred to in the DTI's October consultation document and other changes will have to be made to take account of the separation of supply and distribution within the PES licences.

- *Transmission Licence:* Modifications required to the transmission licence held by NGC include amendments of the requirements relating to central despatch and the merit order and its obligations in relation to the P&SA and settlement system administration. It is to include new obligations relating to the Code and system operation and balancing under the Code. Changes in relation to NGC's price control may also be required, depending on the exact treatment of costs of balancing, constraint management and ancillary services and common system costs.
- *Generation licences:* The obligation of a generator to submit certain units to central despatch, to be a Pool Member and to comply with the P&SA will need to be removed and new obligations developed, including to be bound by and/or comply with the Code. Further obligations might be included as to behaviour under the Code.
- *Supply licences:* As with the generation licence, obligations relating to the P&SA will need to be removed and replaced with obligations in respect of the Code. In addition, certain other conditions which refer to the P&SA will require modification (for example, in relation to the Generation Security Standard).
- *Exemption orders:* Consideration may be required to the possible inclusion of conditions in exemption orders related to participation under the Code.
- *General authority:* The DGES's general authority to issue licences will need to be modified consistent with the changes required to licences noted above (again, subject to the possible introduction of standard conditions).
- *Grid Code:* The Grid Code is likely to require substantial amendment, with much of the existing content deleted. Possibly, information requirements to support the Code may be included in the Grid Code in place of existing scheduling and despatch provisions. Some other modifications may be required, for example in relation to provision and procurement of reserve.

Contractual Documents

- *P&SA:* There will be a significant impact on the P&SA. This will need to be managed and the contractual arrangements for competitive supply presently contained in the agreement will need to be perpetuated by some means.

- *Master Connection and Use of System Agreement (MCUSA)*: This will need to be modified, at least to remove the obligation to be party to the P&SA.
- *Other contracts*: In addition to the above central industry contracts, parties to various bilateral agreements may decide to amend such agreements, for example, contracts for differences. In particular, NFFO contracts refer to Pool prices and accordingly may require modification.
- *Ancillary Service Agreements*: These will need to be renegotiated once the final details of the Balancing Market have been developed.
- *Contractual framework*: The complete framework of agreements, their interdependencies and cross references will need to be reviewed and if necessary modified.

4.16 The Programme will need to identify when the market design will be sufficiently complete to allow work to begin on these agreements and licences including, if necessary, timescales for a Monopolies & Mergers Commission reference. The timetable for drafting legislation may set an early initial date for the definition of supporting clauses in a Utilities Bill.

Programme Deliverables

4.17 The Programme will be directly responsible for the definition, delivery and procurement of a number of items as detailed below:

- Specification, procurement and implementation of balancing market/imbalance cash-out processes and systems – including details of the form of bids and NGC bid acceptance;
- Procurement of the Short-term Bilateral Market including advice on the design of such a market;
- Potential procurement of additional market(s) eg Capacity Options and Day Ahead Market;
- Appointment of MO(s) for the Short-term Bilateral Market and the Balancing Market;
- Appointment of Settlement Administrator(s);
- Development of rules for provision of information including physical notification (both initial and final) to NGC;
- Establishment of the legal basis, governance and management arrangements for the new trading arrangements, including amendments to licences, market agreements and legislation and production of the Balancing and Settlement Code;

- Provision or procurement of any central infrastructure or other systems and networks essential to the new market's operation;
- Testing, trialling, migration and commissioning;
- Management of dependencies on other related activities which are not directly part of the Programme, but which have a bearing on it, (e.g. provision of Forward & Futures markets);
- Synchronisation of any changes to NGC and/or Pool systems under the new arrangements or during the transition to them;
- Liaison with other related Working Groups e.g. the Transmission Users' Group, the Grid Code Review Panel and those emerging from other Government Reviews;
- Development of arrangements for the publication of suitable information on contract prices;
- Establishment of a communications strategy to ensure that Programme processes and progress are understood to allow interested parties to understand the pace of change and how it affects them; and
- Establishment of a quality assurance plan and strategy which will ensure consistency and robustness across all Programme procedures and deliverables.

4.18 Products internal to the Programme will be produced by projects supported by the industry members participating in the Programme through their allocated staff, and also via consultants and specialist advisers where appropriate.

4.19 Some aspects of the work required to implement the new trading arrangements will fall outside the direct scope of the Programme and hence the Programme Director's immediate control, for example modifications to generator energy management centre systems that will be necessary to interface with the Balancing Market. Section 6 gives a fuller description of the Programme Director's remit. In these cases the Programme Director, acting on behalf of the DGES, will need to establish strong communication links with other programmes and projects, to monitor progress and to co-ordinate the testing, trialling and commissioning activities for the whole market.

Main interactions and dependencies with activities outside the Programme

4.20 The previous section highlighted the need for the Programme Director to co-ordinate activities outside the direct remit of the Programme. The following items represent some of these interactions and dependencies.

- Definition of interfaces in relation to the Forwards and Futures Market.

- Pool interaction and the dependency for orderly transition between the two regimes, particularly during the transition and the 14 month run-off (this will include access to trading and metering systems, as well as Pool knowledge and resources).
- Interactions with market participants on the design and delivery of market components and interfaces and process alignment for “end to end” market operation.
- Any other initiatives that have been commissioned as part of the Government’s Review of Energy Policy and that impact upon the delivery of the new trading arrangements.

5. ORGANISATION AND STRUCTURE

5.1 The following sections set out the considerations that have influenced and informed the development of the organisation and structure that will take the Programme forward. The proposed resources, roles and responsibilities are also described.

Programme Characteristics

5.2 The Programme design process took into account several factors including:

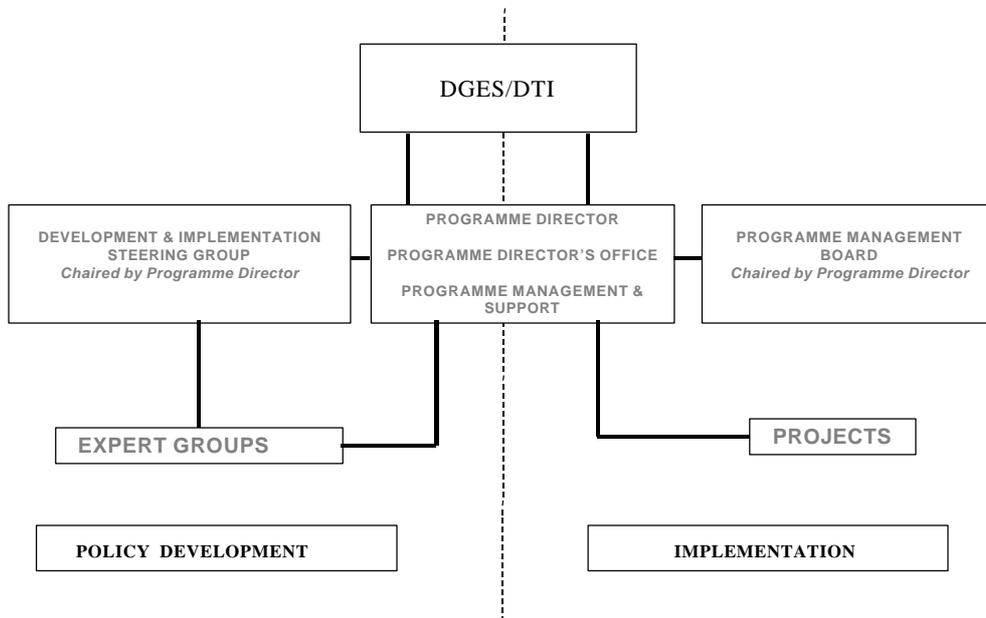
- The key principles from the Proposals document and the Minister's statement;
- Recognition that Programme development and implementation will be carried out with a target of April 2000 for fully operational, integrated systems and processes;
- Industry participation – customers and customer representatives, generators, suppliers, distributors, traders, brokers, NGC, the Pool, settlement organisations, meter operators, data collectors, data aggregators, central Government, regulatory authorities, financial organisations, distributors, clearing houses and consultant advisers;
- Recognition that participants have different management cultures, with varying capabilities to undertake significant organisational change;
- Recognition that many of the projects giving effect to the Programme objectives will not be under the direct control of the Programme management team; and
- Recognition that there will be many interactions and dependencies with systems and processes external to the Programme.

5.3 These factors, together with a number of secondary factors, were reviewed in the context of a number of generic organisational structures to identify the main elements of a framework for the Programme.

5.4 The Proposals document also outlined the need for further development of the new trading arrangements and the consideration of the issues leading to their implementation. In recognising that the design of the new arrangements and their practical implementation are two distinct activities, requiring different approaches, the Programme structure outlined in the July Proposals document has been supplemented in order to allow these to be treated separately. This has been achieved by the creation of a Programme Management Board which will be responsible for the delivery of specific projects once their requirements have been defined. The DISG will continue to be responsible for the resolution of outstanding issues and consultation with the wider community. The Programme Design Phase has also clarified the role of the DGES and DTI in providing overall approval and acting as a decision making body where consensus is not achieved.

Proposed Programme Organisation Structure

5.5 The diagram below illustrates the organisation developed as a result of the discussions of the Programme Design Phase Steering Group



DGES and DTI

5.6 The DGES and DTI will provide leadership and will give overall guidance to the Programme together with the necessary policy direction. They will confirm recommendations made by the DISG. They will give direction where DISG members are unable to reach an agreed recommendation or where options are put forward. Dr Eileen Marshall will lead the Programme on OFFER's behalf and the Programme Director, who will report to Dr Marshall, will attend meetings with the DGES and DTI.

5.7 The DGES and DTI are expected to draw on the services of other senior, independent advisers as necessary. To ensure wide views and access to advice, the DGES and DTI will also seek the advice of experts such as legal and economic specialists. From time to time they will consult more widely.

DEVELOPMENT AND IMPLEMENTATION STEERING GROUP

Role of DISG

5.8 The Proposals document defined the expected role of the DISG in taking forward the development of the new trading arrangements. The Programme Design Phase has

developed this role further. The DISG will be responsible for developing the detail of the new trading arrangements and will seek to resolve differences of view between interest groups.

It is envisaged that the DISG will have three main functions:

- Commissioning, review and management of Expert Groups' activities;
- Communication with all interested parties, with the objective of maximising consensus to the Expert Groups' recommendations; and
- Seeking approval from the DGES and DTI for recommendations made by the DISG.

5.9 The DISG will develop the policy under which the Expert Groups will operate, and will establish clear deliverables and timescales for the Expert Groups' work. The DISG will ensure that the overall framework is consistently represented in the individual Expert Groups' deliberations. It is expected that staff drawn from the PDO or appointed professional advisers will chair most of the Expert Groups.

5.10 It is envisaged that the second role of the DISG - communications and consensus seeking - will, as appropriate, be supported by plenary sessions, that interested parties will be allowed to attend as observers so as to discuss progress and recommendations. Additionally, it is planned to hold formal "checkpoint" meetings at which the DISG will present to the industry the progress achieved and the key principles and proposed rules that have emerged from the work to date.

5.11 During the Implementation Phase, the function of DISG is likely to reduce in scale. It will have a continuing role, however in:

- User assurance: arranging for Expert Group members to monitor progress towards project deliverables. In this way, the Programme Director will gain reassurance that the emerging project outputs continue to reflect the rules and designs endorsed by the DGES and DTI;
- Arranging for additional research and analysis by Expert Groups, when the delivery project reveals that the endorsed market rules and designs need reconsideration, or when the original policy brief is superseded by new requirements; and
- User acceptance: the review and formal acceptance of the delivery project outputs.

5.12 Members of the DISG will have a strong commercial background, an understanding of how the Proposals will affect their organisation or area of interest, and will be accustomed to negotiating and developing policy and strategy. It is expected that representatives will be senior staff with sufficient stature for their views to carry the weight necessary for their representation to, and acceptance by, the industry. They

should also be capable of taking an industry view as well as representing their own constituency's interests.

- 5.13 The DISG is likely to comprise a group of representatives - perhaps 15 or more individuals. It will be constituted as a standing committee, although the composition may change slightly over time to reflect the varying composition of Expert Groups and its function in providing User Assurance during the Implementation Phase. Members of DISG will be expected to respect the obligations (as well as the rights) of membership. Considerable commitment will be expected from representatives, including their regular attendance at DISG meetings. The DISG is likely to meet fortnightly during the Policy Development Phase of the Programme.

Expert Groups

- 5.14 Expert Groups will be created to develop the detail of specific technical areas. However, as each area will to some extent be influenced or modified by other areas, it may be difficult to treat each Expert Group's task as a stand alone project. Nevertheless, they must work to timescales consistent with the Programme Plan (as agreed by the DGES and DTI), and operate to defined deliverable requirements. At any time several Expert Groups will be operational.
- 5.15 The focus of the Expert Groups is likely to change as the Programme moves from Policy development into Implementation. Initially, the focus of DISG will be in Policy Development for which Expert Groups will take forward specific proposals, to a time-frame consistent with the overall Programme targets (the PDO will need to support the process by carrying out careful planning of Expert Group resources). Later, during Implementation, the Expert Groups will monitor project outputs to ensure consistency of deliverables with their design, and to initiate any additional analysis work commissioned by the DISG.

Programme Management Board

- 5.16 The Programme Management Board will provide direction to the delivery of the overall market design arising from the DISG and Expert Groups. The Board will include participants from industry and consumer groups. It is envisaged that members will be drawn from customer interest groups, generators, suppliers, traders, NGC, OFFER and DTI.

Programme Support

- 5.17 The Programme Director will be supported by a PDO which will include the following roles and functions:
- Programme Support Managers;

- Programme Manager;
- Heads of identified “workstreams” (groups of projects);
- Chief Architect & Central Design Authority;
- Testing, trialling & commissioning manager;
- Programme Planning;
- Programme administration;
- Financial reporting;
- Risk manager;
- Quality manager;
- Contracts manager;
- Contract management support; and
- Change management specialist.

5.18 The diagram at Appendix Two outlines the suggested structure of the PDO.

Resources - General

5.19 Differentiation is necessary between those required activities and projects that will be undertaken by industry participants and those delivered as part of the central Programme. The former are a matter for individual industry participants, who will commission, fund and resource them. The Programme, through the Programme plan and its communications strategy, will establish the necessary co-ordination with these participants, ensuring adherence to a single end-to-end design and managing the effective end to end testing, trialling and commissioning of the new arrangements.

5.20 Within the Programme the principle is that, as far as possible, resources will be acquired from the industry on an advisory, project or secondment bases. It will not be a consultancy-led programme, though consultants and external experts will be used within the overall Programme framework to advise on economic, legal and IT issues, and to provide support to the Programme management activities.

6. TERMS OF REFERENCE FOR KEY ROLES AND PROGRAMME WORKFLOW

Definition of roles - Introduction

- 6.1 This section sets out at a high level the principal roles, responsibilities and reporting lines of the main Programme bodies and individuals. A description of the Programme workflow (i.e. the main routes for communicating information, recommendations and decisions) is also provided.

TERMS OF REFERENCE

DGES and DTI

- 6.2 The DGES and DTI will give overall direction and leadership to the Programme, undertake final review and approval of the proposed rules and operation of the new trading arrangements, make decisions on areas requiring resolution, authorise expenditure within the Programme, and agree to the procurement of services for market operation.
- 6.3 The DGES and DTI will:
- Review and approve the Programme Director's workplan for Policy & Principles Development activities necessary to deliver the objectives for the Programme;
 - Be responsible for overall timescale - the achievement of planned timescales will require timely resolution of issues on the critical path;
 - Resolve high-level policy issues;
 - Take overall responsibility for the identified Programme benefits; and
 - Refer the accepted proposals as "Agreed Requirements" to the Programme Management Board for delivery, and approve the Programme Management Board's delivery strategy.

Development & Implementation Steering Group

- 6.4 The DGES and DTI will invite individuals to sit on the DISG from those nominated by industry companies, consumer bodies and others. Indicative numbers are given in brackets. Those appointed will guide the definition of the new trading arrangements. The appointments will be made to achieve an appropriate balance of views and expertise. It is proposed that the DISG will be composed broadly as follows:

- Generators, [5] with representation for Portfolio, IPPs, Nuclear, Small Independents, CHP and NFFO generators;
- Suppliers, [5] with representation for PES and Second Tier Suppliers;
- Customers, [3] with representation for small, medium and large customers;
- Financial bodies, [1] some of whom may assume risk positions in the Forwards, Futures and Bi-lateral markets;
- Inter-connected parties [1]; and
- NGC [1].

6.5 The DISG should expect to meet every two weeks, at least in the early months. It will also include representatives from OFFER and DTI. The Programme Director, will chair the DISG. One or two representatives of the PDO will normally assist him. The chairs of Expert Groups will be invited to attend the DISG as appropriate. Other expert advisers will be invited to attend as necessary.

6.6 The DISG will:

During the Policy Development Phase:

- Structure the issues in the Programme Director’s approved workplan into areas for consideration by Expert Groups;
- Appoint the participants of each Expert Group and provide the task brief, setting clear outputs, timescales, and interim and final deliverables;
- Monitor progress and deliverables, ensuring consistency of approach across all workstreams;
- Implement mechanisms for consultation to encourage consensus amongst the industry and consumers;
- Review the recommendations of the Expert Groups, before submission to the DGES and DTI for approval;
- Communicate the DGES’ and DTI’s approved “Agreed Requirements” to the industry and consumers, to permit discussion of issues relating to delivery; and
- Resolve policy issues within its remit.

During the Delivery Phase:

- Monitor the implementation project(s), to ensure the Expert Groups’ recommendations and objectives are accurately translated into project deliverables;

- Resolve issues or conflicts raised by user groups during delivery;
- Identify any requirement for additional studies, for example resulting from modified or new requirements or workability issues passed to it by the DGES and DTI;
- Prepare the brief for the additional studies, and direct the Expert Groups' progress on these additional studies (as described above); and
- Act as the user acceptance group for project deliverables.

6.7 In summary, the role of the DISG is to develop the framework within which the Expert Groups will work to meet the overall requirements set by DGES/DTI. It will also review and agree Expert Groups' deliverables, co-ordinate the communication of their views to the various constituencies, and resolve issues and conflicts.

Expert Groups

- 6.8 Expert Groups will be commissioned by the DISG as described above. They will be commissioned to deal with specific matters and, on satisfactory accomplishment of their task, will be disbanded.
- 6.9 Expert Groups are likely to include industry staff with expertise in the area under development as well as customer representatives where appropriate. They will be charged with making technical recommendations within a defined policy framework. Although expertise is the key attribute for membership of an Expert Group, the recommendations made must recognise wider industry and customer views and constraints.
- 6.10 Expert Groups will generally be chaired by a member of the PDO, or by a legal or economic professional adviser. This will promote consistency of approach across the workstreams. In addition, the PDO will provide a number of core team members for each Expert Group to provide administration and support.
- 6.11 An Expert Group could comprise a single individual, briefed to investigate a particular aspect of new market arrangements. Typically, however, Expert Groups may have up to perhaps six members.
- 6.12 Core members will normally work full-time on the development of the overall recommendations. Other members may meet weekly, to refine or to modify recommendations in the light of feedback from the DISG.
- Recommendations to the DISG will normally be presented by means of a paper or papers outlining the recommendation for the element of market design, supported by research and analysis. It is envisaged that papers will be supplemented by documents indicating the level of cross-industry support, and details of any reservations over the proposals.

6.13 They will:

- Deliver the outputs of investigations and analysis commissioned by the DISG to the agreed timescales;
- Develop the market rules and operational arrangements for specific elements of policy, presenting financial implications and recommendations;
- Identify additional specialists to consider specific areas of detail (for example, systems specification elements); and
- Carry out supplementary studies directed by the DISG during the Delivery Phase.

Programme Management Board

6.14 The Programme Management Board's remit will be to define and control a portfolio of projects that will provide the systems, infrastructure and process support for the rules that will emerge from the work of the DISG and the Expert Groups. It will supervise the orderly and timely delivery of the constituent projects in the Programme so that the new arrangements come into force in accordance with the overall programme.

6.15 The number of members must be small enough to allow the Board to work effectively, but must encompass all industry views. The DGES and DTI will appoint members to the Board. Members will be expected to provide advice and support to the Programme Director and ensure that the requirements of all participants are met during the delivery of the agreed new market arrangements. The Programme Director will chair the Board which would normally expect to meet once a month.

6.16 The Programme Management Board will:

- Initiate the projects giving effect to the Agreed Requirements received from the DGES and DTI;
- Direct overall project delivery activities and monitor programme status;
- Review the status of other participants' programmes, verifying that all interfaces with the Programme are properly identified and controlled;
- Endorse major project deliverables before their submission to the DISG for user acceptance; and
- Report to the DGES and DTI any policy or practical issues that arise in the course of project delivery and that require further investigation by the DISG and Expert Groups.

6.17 In summary, the role of the Programme Management Board is to oversee the Programme delivery so as to ensure that the new arrangements are implemented to the required quality, time and cost. It will seek to ensure continuing alignment of project deliverables with the designs for the new trading arrangements as developed by the DISG and Expert Groups.

Programme Director

6.18 The Programme Director is accountable to the DGES and DTI for the delivery of the Programme to time, quality and cost and for maintaining alignment between the Programme and the objectives set out by DGES/DTI. In so doing, his responsibilities will include:

- Chairing the DISG and helping to develop the framework of technical activities to give effect to the programme;
- Briefing the DISG on the agreed Policy Development workload;
- Establishing the overall workplan and timetable for Expert Groups' activities;
- Establishing the implementation programme and securing programme resources;
- Managing Expert Group and Programme priorities, issues and risks;
- Reporting to the DGES and DTI on programme status, including high level issues and risks;
- Chairing the Programme Management Board;
- Directing communication initiatives, with the aim of maximising consensus amongst industry, consumers and other interested parties;
- Directing co-ordination activities with the aim of securing satisfactory commissioning of the new trading arrangements; and
- Supporting resource planning activities by other industry participants, and monitoring interfaces with their programmes.

6.19 In summary, the Programme Director will deliver the technical content of the trading arrangements, the processes to operate them and the systems, rules and infrastructure to support them.

Programme Director's Office

6.20 The PDO will be responsible for a number of distinct, but related, areas of activity, including:

- Direction of overall Programme activities and leadership of individual “workstreams” (groups of related projects), through the two Programme Support Managers;
- Professional support for managing the portfolio of projects and interfaces with other industry participants’ programmes, through the Programme Manager’s team; and
- Administrative support to the programme, individual projects and the various governing bodies (Programme Management Board, DISG etc.).

Programme Support Managers

6.21 It is envisaged that the two Programme Support Managers’ responsibilities will include:

- Managing the Programme budget;
- Managing resources and priorities within the workstreams, and supporting the projects;
- Developing and implementing a communications strategy;
- Monitoring and securing reports on the projects’ progress, and monitoring any issues and risks which may arise; and
- Monitoring interfaces between projects (inside and outside the Programme), identifying dependency problems and proposing remedies.

6.22 In addition the Programme Support Managers will manage:

- Programme Workstream Leaders; and
- Administrative Support.

6.23 In summary, the Programme Support Managers will manage the industry communication programme and the contracts with external advisers, contractors and suppliers. They will also manage the administration support and the programme workstream leaders. It is expected that one of the Managers will be based in Birmingham and one in London.

Programme Workstream Leaders

6.24 The Programme Director will appoint a number of “heads of department” to lead specified workstreams. They will provide continuity of functional management throughout the Programme life cycle for the Programme Director. They will

constitute an executive management team to whom the Programme Director will delegate authority via the Programme Support Managers. It is envisaged that the leaders of the workstreams will:

During the Policy Development phase:

- Chair the relevant Expert Groups formed by the DISG;
- Identify any specialist resource required to supplement the work of Expert Group members; and
- Oversee the production of papers, reports and recommendations.

During the Delivery Phase:

- Act as lead in user assurance of projects (including any projects not specifically identified in Expert Groups' recommendations, such as training to support new systems and processes);
- Direct the project activities to deliver the Programme;
- Provide direction & support to project managers;
- Monitor projects' progress and project interfaces on behalf of the Programme Director; and
- Monitor interfaces and dependencies with other participants' projects

6.25 In summary, the principal roles of the head of each workstream are to direct their respective Expert Group(s), and then support delivery of the market design.

Administrative Support

6.26 The administrative support team will provide:

- Secretarial and administrative support;
- Documentation control; and
- Day-to-day support to the Programme Management Board, Programme Director, DISG, Expert Groups, and to projects under the direction of the Programme.

Programme Manager

6.27 The Programme Manager will report both to the Programme Director and the Programme Management Board. He will be accountable for the management and

planning at Programme level of the portfolio of projects that lie within the scope of the Programme and which will be necessary to deliver and commission the new trading arrangements.

6.28 During the Policy Development Phase, the Programme Manager's team will incorporate Expert Groups' activities in the Programme plan, against which monitoring and reporting activities will be performed, in a way that is analogous to the "physical" projects conducted in the Implementation Phase. In other words, the Expert Group's activities will be treated as "projects", with a precise brief, timetable, and a definition of the deliverable or decision required. The main differences in approach between the two phases relate to the processes for managing issues, as described elsewhere in this document.

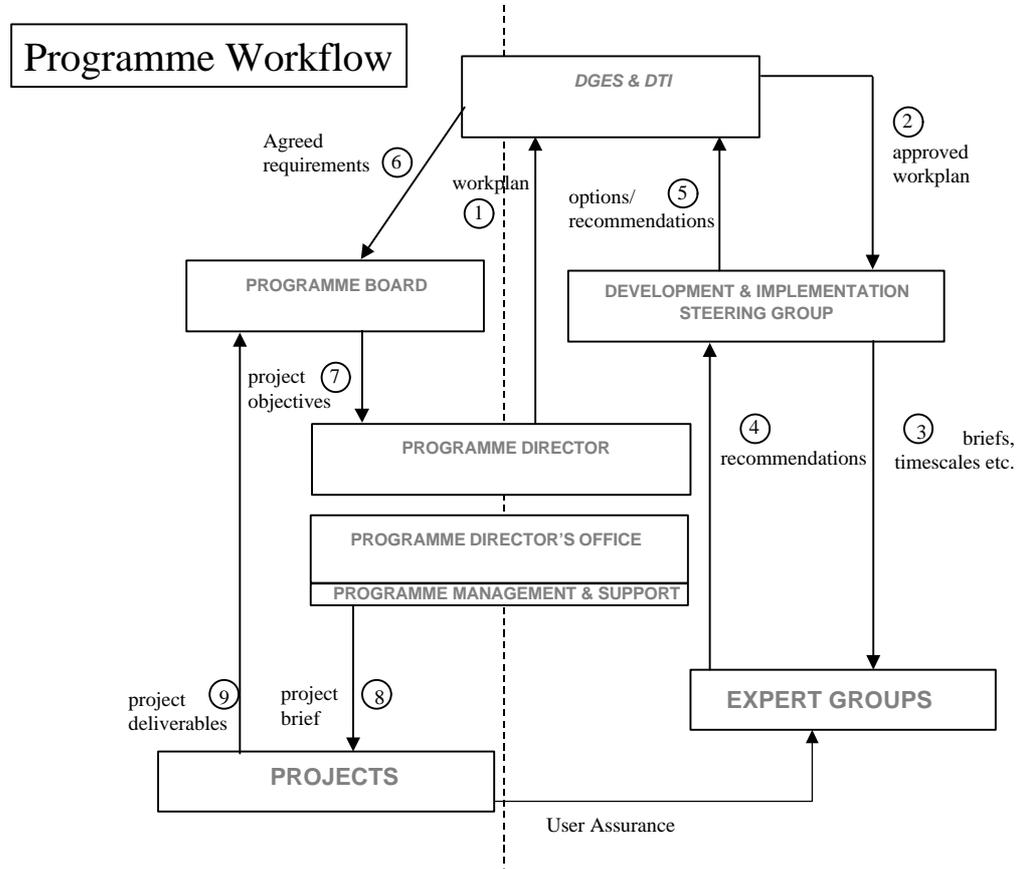
6.29 The Programme Manager's team will:

- Develop and apply consistent project standards in planning, monitoring and control;
- Support the establishment of the portfolio of projects, and develop the Programme plan, identifying interfaces and dependencies between projects;
- Maintain the Programme plan linked to project plans, including monitoring interfaces and dependencies;
- Co-ordinate the identification and management of issues and risks;
- Undertake benefits analysis and reviews;
- Administer change control;
- Provide general support to the PDO, DISG, Expert Groups and the Programme Management Board as required;
- Provide the technical secretariat support to the Programme Management Board
- Liaise with the projects co-ordinators of other participants;
- Provide advice & support to project managers;
- Undertake special support tasks;
- Establish and operate a quality assurance policy for the Programme and
- Establish and manage a central design authority which will build and maintain the end-to-end business process model of the new trading arrangements.

6.30 In carrying out these activities, the Programme Manager will draw on the resources of the Programme Support team as required.

Programme Workflow

6.31 The following diagram illustrates schematically the expected flow of information between the Programme participants, described above.



7. PORTFOLIO OF PROJECTS & HIGH-LEVEL BREAKDOWN

- 7.1 The Proposals Document identified a number of areas where further detailed work is required to develop the proposals for reform into a consistent model. During that phase of work the Expert Groups will work to resolve the issues and make recommendations to the DISG on the various unresolved aspects of the markets. An indication of the issues that will need to be considered initially by the DISG (and their probable order of priority) are given in Appendix Three. Broadly, the portfolio of projects required to deliver the major components of the Programme is expected to comprise four major streams: rules, legal framework, systems and enduring arrangements.
- 7.2 There will also be a significant testing, trialling, migration and commissioning activity. The amount of testing required to ensure confidence in the new markets amongst present Pool Members and other interested parties will also potentially have a significant impact on the timescales involved.

Rules

- 7.3 The rules will guide and define the operational processes by which the new markets are expected to operate. Rules will be developed by Expert Groups and are likely to cover a broad range of areas.

Legal Framework

- 7.4 Licences, contracts, agreements and codes will need to be amended. The Proposals stated that a new Balancing and Settlement Code Panel would need to be established (to which there are parallels in the gas industry) as an early task. Once again, details of tasks required will follow from early Expert Groups and legal advice.
- 7.5 There will be a significant impact on the P&SA. A large section of this will have to be replaced (though some sections will be re-used as they enable many of the 1998 arrangements). As part of this, combined with potential extensive restructuring of the P&SA, corresponding arrangements will need to be made for the terminating and surviving:
- Pool Rules⁵;
 - Agreed Procedures⁶;
 - Service Lines⁷; and

⁵ Schedule 9 to the P&SA governs the market's operation and the calculation of payments due to and from each Pool Member

⁶ Agreed Procedures are documents that support the P&SA and the Pool Rules and provide a description of the processes and associated timescales of various activities within the Electricity Pool

- Pool contracts (for example with service providers).

7.6 To facilitate the new arrangements, and to reflect, for example, the changes to the P&SA, changes will be needed to:

- Supply licences;
- Generation licences;
- Master Connection and Use of System Agreement;
- Transmission Licence;
- British Grid System Agreement; and
- Grid Code, and others

7.7 The redesign of parts of the settlement processes will impact the current arrangements between participants' banks and the Pool Funds Administrator and, consequently, these changes will have to be filtered through to new Funds Transfer Agreements.

Systems

7.8 Substantial new central settlements systems will be required. The precise nature of the systems will need to be established as and when the market design is finalised but it is anticipated that there may be some scope to re-use some elements of the existing Pool system. It is anticipated that the new systems will differ from existing systems in the following areas:

- Price setting processes and supporting technology (if the decision is made to use pricing similar to the current SMP method, there may be scope to reuse some of the present systems);
- Reports - many reports are currently generated from the existing system, for example the Day Ahead Report that defines prices, total demand and total availability of generating sets. Reporting requirements will need to be reviewed in the context of the new trading and settlement arrangements;
- Price reporting - currently, prices are published daily in the Financial Times. Provision will need to be made for forward price discovery and publication of forward contract prices; and

⁷ Service Lines are a mechanism by which the Pool sets out the requirements of services to be provided and the responsibilities of Service Providers and Agents

- The Ex-Post Unconstrained Schedule (EPUS). The EPUS is used to split some costs within Pool Price (Uplift). The separation of these costs allows the application of management incentives on transport-related transmission costs.

7.9 Many system changes will also be driven by changes in industry documentation; for example, reference has already been made to a likely change in:

- The funds transfer processes and systems currently managed by the Pool Funds Administrator;
- In-house system changes by parties providing ancillary services;
- Energy despatch systems; and
- Systems for the treatment of interconnectors & integration of external market participants

7.10 There is an assumption that data collection and settlement systems which have been developed to support the implementation of full domestic competition will be able to provide aggregated supply data to the new arrangements. These may also be impacted by the new arrangements. Interfaces with any new systems will have to be configured.

7.11 Early modelling of the volume and frequency of data flows in the new market will give an indication of the extent to which the current NGC-generator communications network can be reused or enhanced, or whether it must be replaced.

7.12 NGC's systems may need extensive overhaul, those likely to be critical include:

- The reusability of the generator scheduling tool - in whole or in part - in either the short or the long term (this will depend on how the "merit" or "loading" stack is to be constructed under the new arrangements);
- Generator scheduling hardware;
- Grid operator systems; and
- Monitoring of Generator performance against instructions given by the SO.

7.13 These may all have some elements that can be reused.

Key Deliverables

7.14 The following table outlines some of the key deliverables in the Programme with an indicative timetable for delivery. As soon as the Programme is initiated one of the immediate activities will be to develop the plan further and will include the identification of key dependencies for achieving the target date of April 2000.

There are a large number of key issues (outlined in Appendix 3) that need to be addressed in order to achieve the deliverables identified below, and which will therefore need to be taken account of in the detailed planning process. The development of the plan will also include identification of opportunities for parallel development, early starts and rapid development techniques. It will also consider reusing existing systems and solutions wherever possible.

Deliverable	Mechanism to address
Market Model and Policy definition	DISG to commission Expert Group to define model with support from PDO
Evaluation to provide confidence	DISG to provide assurance that new trading arrangements operate satisfactorily in respect of: Security of Supply, Transparency, Liquidity, Interconnectors, NFFO, renewables and CHP
Testing, trialling, transition and migration plans	Testing, trialling and commissioning manager to produce with support from PDO by Spring 1999
Quality Assurance Plan	PDO to produce January 1999
Consideration of measures to deliver Transparency	DISG to consider means to ensure that trading arrangements are sufficiently transparent by Spring 1999
Day Ahead Auction & Capacity Options	DISG to consider the desirability of introducing these market elements by Spring 1999
Communication plan	PDO to produce by January 1999
Balancing Market	DISG, through Expert Groups, to define rules, enduring management arrangements and establishment plan
Settlement system	Programme to provide "cash out" system to DISG requirements including enduring management arrangements
Procurement of Market Operators	DISG to define procurement process

Deliverable	Mechanism to address
Short Term Bilateral Market	DISG, through Expert Groups, to define establishment plan
Balancing & Settlement Code	Principles will be compiled as decisions are made on market design and commercial arrangements. Formal drafting in the legal work stream
Communication strategy	Establish extent of work required and commission activities as appropriate
Forward & Futures markets	DISG, through Expert Groups, to set out required interfaces and standards
Integrity of 1998 Programme	DGES and DTI to ensure that Programme does not undermine 1998 arrangements

Enduring Arrangements

7.15 Enduring arrangements will need to be established for a number of functions and processes. These include the arrangements for the enduring governance of the balancing and settlement activities, provision for resolution of disputes, performance assurance measures (possibly including accreditation of service providers), operational audit and design authority. Some of these - particularly operational audit - may impact on systems design.

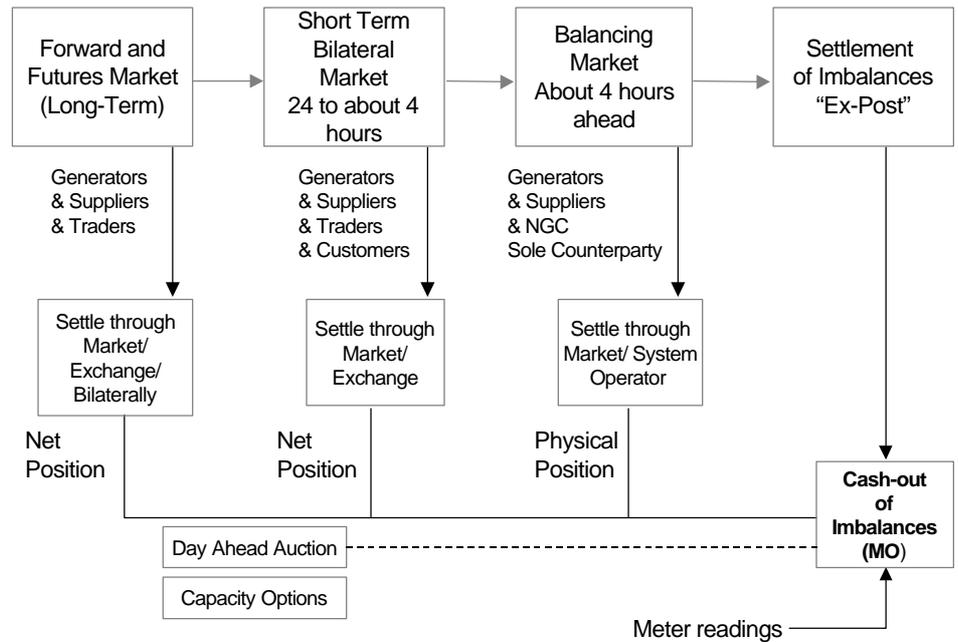
8. TIMETABLE & NEXT STEPS

- 8.1 The Proposals document outlined a target delivery date of April 2000. This date assumed a Ministerial statement on the Proposals by July and full mobilisation of the Programme by 1 September. To enable alignment of other Government initiatives in the energy sector, the Ministerial announcement was made in October therefore postponing the full mobilisation of the Programme until the end of November. In the period between the publication of the Proposals document and the Ministerial announcement, the Programme Design Phase was commenced to allow timely initiation of the Programme. The Programme Design Phase is now complete and some refinement of the organisation structure outlined in the Proposals Document has been suggested. The impact of later mobilisation of the Programme and the feasibility of the April 2000 target implementation date will be assessed at an early stage of the Programme.
- 8.2 For the Programme to operate effectively it is necessary for the appropriate people from the industry, customer groups and interested parties to participate as fully as possible. Resources from companies, customer groups and other interested parties will staff the DISG and Programme Management Board. Participation will require considerable commitment and continuity of attendance at DISG meetings will be key.
- 8.3 OFFER is seeking nominations from companies, customer groups and other interested parties for the DISG and Programme Management Board. OFFER and DTI will invite individuals to represent each of the categories described from those nominated to participate in the DISG, such that an appropriate balance of interests and experience is achieved within the group. The Programme Director has begun to develop an initial workplan for review and approval by the DGES and DTI. In parallel, actions are being taken to establish the DISG. It is expected that the first DISG meeting will take place on 16 December, at which it will use the initial workplan as a basis for planning its actions and identifying which Expert Groups should be set up as a priority. The following timetable outlines the activities that are likely to be undertaken in the forthcoming weeks:

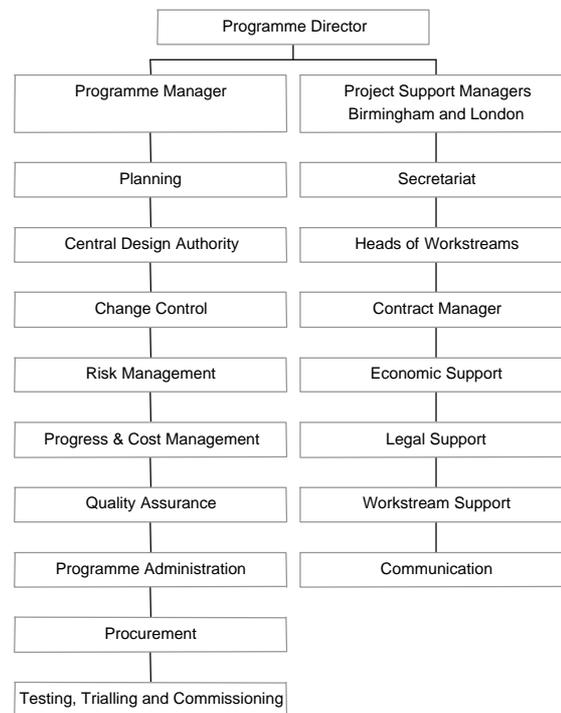
Activity	Planned Date
Selection of Tenders for Programme Management, Economic and Legal advice	Week commencing 23 November
Receive DISG, PMB, Expert Groups Nominations	Week commencing 7 December
PDO Established	End November
Produce Initial Work Plan	Early December
Establish DISG	Mid December
Produce Trading Arrangements Framework ⁸	Complete March 1999
Establish Quality Assurance Strategy	January 1999
Produce Implementation Plan	First draft – January 1999
Establish Communications Strategy	January 1999
Produce Procurement Plan	January 1999
Build Market Model	Ongoing
Procure MO(s) (Short-term Balancing Market, Day Ahead Auction, Balancing Market, Capacity Options)	To be determined
Establish Balancing Market	To be determined
Establish procedures for settlement of imbalances	To be determined

⁸ Ie The “Blueprint” referred to in OFFER’s July Proposals document

Market Characteristics



RETA Programme Office



IDENTIFYING AND PRIORITISING THE KEY ISSUES

Categorisation of Issues

In his Proposals on the Review of Electricity Trading Arrangements, the DGES outlined a number of areas where further detailed work is required to develop the proposals for reform into a complete and an internally consistent model. In addition, the Minister's statement⁹ outlined a number of issues which he wished to see addressed. Work is also required to structure the Programme, to develop the commercial framework underpinning the new trading arrangements and to plan for a seamless migration from the existing arrangements.

The key issues that the Programme will therefore be required to resolve fall within a number of broad categories, as follows:

- **Programme Issues:** include the establishment of the Programme structure and contractual and funding arrangements;
- **Overall Market Issues:** include the specification and implementation of the legal framework that will underpin the new arrangements;
- **Market Elements:** include the detailed definition of the rules of each element of the new trading arrangements; and
- **Implementation Issues:** include the procurement, migration, testing and trialling of the necessary systems and infrastructure to support the new regime.

An indication of some of the changes which may be required is given below.

Programme Issues

A number of initial tasks will require to be undertaken in order to establish the Programme structure.

Overall Market Issues

There are a number of issues and factors that will have an impact on the overall design of the new trading arrangements and that will need to be considered or addressed by the Programme:

⁹ Conclusions of the Review of Energy Sources for Power Generation and Government Response to Fourth and Fifth Reports of the Trade and Industry Committee, 8th October 1998.

- i) It will be necessary to define the overall legal framework required to underpin and enable the new trading arrangements. This will include specifying amendments to the existing licensing and multi-party contractual arrangements. In doing so, consideration will need to be given to the implications of European legislation, including the EU Electricity Directive and the impact that these requirements will have on the design of arrangements for trading across interconnectors
- ii) The Government is presently considering whether legislation will be necessary to ensure that implementation of the new arrangements is effective. Any such legislation will be included in the Utilities Reform Bill. The Programme will need to be aware of the extent of any such legislation and its impact.
- iii) It will be necessary to define the arrangements for ownership and management of the various market elements at an early stage, in order to allow responsibilities to be clearly set out and procurement strategies to be developed.
- iv) It will be necessary to define the means by which contractual obligations created in each of the market elements will be fulfilled. The form of delivery, the terms and extent of network access rights etc. will require specification.
- v) Consideration will need to be given to the issue of locational pricing signals within the new trading arrangements. Locational energy pricing would introduce a different set of risks to each of the separate elements of the new market and could be important in the design of those elements.

Market Elements

The proposed new trading arrangements, to be delivered by the Programme, encapsulate the following individual market elements:

- A mandatory process for settlement;
- A voluntary balancing market;
- A voluntary Short-Term Bilateral Market; and
- Interfaces with voluntary forwards and futures markets as required by market participants.

In addition, it has been left open for consideration by the DISG whether two further market elements should be developed as part of the Programme. These are:

- A voluntary day-ahead auction; and
- A capacity options market.

The specific high level issues arising in respect of each of these market elements are set out below.

Settlement

- i) The concepts of “balance” and “imbalance” will need to be fully understood and defined. For example, whereas this will be broadly defined with reference to the difference between market participants’ contract positions and metered volumes of output or take, it remains to be decided at what level of disaggregation the balance should be measured. The appropriate price(s) for imbalance settlement will also need to be reviewed.
- ii) Any requirements in respect of audit of contract notifications and other general audit requirements will need to be defined.
- iii) Consideration will need to be given to the metering and data arrangements required to support the settlement process. For example, there is likely to be a need for contract volume data from earlier markets.
- iv) Any credit and security cover provisions to apply to parties to the settlement arrangements will need to be defined.
- v) It will be necessary to define the ownership and management arrangements to apply in respect of the imbalance settlement process. Specifically, this means specifying who will procure, own and operate the relevant systems. It will also be necessary to set out the process for setting and modifying the imbalance settlement rules. Consideration will also need to be given to the legal arrangements required to underpin the settlement rules and procedures and to ensure compliance by all relevant parties.

Balancing Market

- i) It will be necessary to define the “product” that is being traded in the balancing market, with particular reference to the unit, price, timing and point of delivery.
- ii) It will be necessary to define the detailed rules for trading in the balancing market, including bidding rules.
- iii) It will be necessary to develop provisions to ensure adherence to operating instructions.
- iv) It will be necessary to consider the appropriate timing for the opening of the balancing market (e.g. four hours before the start of each trading period).
- v) The issue of any inter-period interaction of bids and actions in the balancing market will need to be addressed.
- vi) It will be necessary to define the requirements for provision of relevant information (e.g. physical notifications) to the SO, including the form and timing of such data.

- vii) It will be necessary to develop a settlement process for Balancing Market trades and to consider the data interface to the Imbalance Settlement process.
- viii) Consideration will need to be given to any interaction between the operation of the balancing market and the provision and procurement of ancillary services.
- ix) It will be necessary to consider the incentives that should be placed on the SO in respect of actions in the balancing market. To do so it may be necessary to formulate a method for distinguishing constraint costs from energy balance costs.
- x) It may be necessary to define communication procedures that will provide signals to market participants in sufficient time such that they can react appropriately.
- xi) It will be necessary to consider any “fail-safe” provisions that should be put in place (e.g. what procedures should be followed in the event that there is insufficient trade in the balancing market to meet system needs).
- xii) The implications of the detailed balancing market rules and procedures for system operation will require close consideration.
- xiii) It will be necessary to define the ownership and management arrangements to apply in respect of the balancing market. Specifically, this means specifying who will procure, own and operate the relevant systems. It will also be necessary to set out the process for setting and modifying the balancing market rules. Consideration will also need to be given to the legal arrangements required to underpin the balancing market rules and procedures and to ensure compliance by all relevant parties.

Short-term Bilateral Market

- i) It will be necessary to define the requirements for provision of relevant information (e.g. notification data from other markets) to the MO, including the form and timing of such data.
- ii) The implications of the detailed exchange rules and procedures for system operation will require close consideration.
- iii) It will be necessary to define the ownership and management arrangements to apply in respect of the short-term exchange. Specifically, this means specifying who will procure, own and operate the relevant systems. It will also be necessary to set out the process for setting and modifying the exchange rules. Consideration will also need to be given to the legal arrangements required to underpin the exchange rules and procedures and to ensure compliance by all relevant parties. Regulation of the exchange should also be addressed (e.g. whether or not it falls under the jurisdiction of the Financial Services Authority).

Day Ahead Auction

- i) It has been left open for consideration whether a voluntary day ahead auction should be developed as part of the Programme, or indeed whether one should be encouraged, or allowed, to develop independently. It will be necessary to specify criteria to guide any decision on this matter (for example, by reference to the impact on the liquidity of other market elements; cost; development timescales; desirability to participants etc.). If a day ahead auction is to be developed, it will be necessary to decide which of the following issues should be the responsibility of the Programme to address and which could be left to the market participants to define.
- ii) It may be necessary to define the general requirements for trading in the auction mechanism, including participation and bidding rules.
- iii) It may be necessary to define the “product” that is being traded in the auction, with particular reference to the unit, price, timing and point of delivery.
- iv) It may be necessary to define the requirements for provision of relevant information to and from the auction mechanism, including the form and timing of such data.
- v) Any credit and security cover provisions to apply to parties trading in the auction may need to be defined.
- vi) The implications of the detailed auction rules and procedures for system operation will require close consideration.
- vii) If it is decided to proceed with a voluntary day ahead auction, it will be necessary to define its ownership and management arrangements. Specifically, this means specifying who will procure, own and operate the relevant systems. It will also be necessary to set out the process for setting and modifying the auction rules. Consideration will also need to be given to the legal arrangements required to underpin the auction rules and procedures and to ensure compliance by all relevant parties.

Capacity Options Market

- i) The Programme should take steps to encourage the provision of an options market, to reduce risks and spread payments for generators and suppliers, perhaps as a part of the other market elements. If such an options market is developed, it will be necessary to decide which of the following issues should be the responsibility of the Programme to address and which could be left to the market participants to define.
- ii) It may be necessary to define the detailed rules for trading in the capacity options market, including participation and bidding rules.
- iii) It may be necessary to define the “product” that is being traded in the market, with particular reference to the unit, price, timing and point of delivery.

- iv) It may be necessary to define the requirements for provision of relevant information to and from the market, including the form and timing of such data.
- v) Any credit and security cover provisions to apply to parties trading in the options market may need to be defined.
- vi) The implications of the detailed market rules and procedures for system operation will require close consideration.
- vii) Any interaction between a capacity options market, supplier obligations and generation security standards will need to be given close consideration.
- viii) Any potential impact that the development of a capacity options market may have for the operation of the balancing market will need to be given close consideration.
- ix) If it is decided to proceed with a capacity options market, it will be necessary to define its ownership and management arrangements. Specifically, this means specifying who will procure, own and operate the relevant systems. It will also be necessary to set out the process for setting and modifying the market rules. Consideration will also need to be given to the legal arrangements required to underpin the rules and procedures and to ensure compliance by all relevant parties.

Forward and Futures Markets

- i) It will be necessary to fully understand the extent of interaction between the forward and futures markets and the other markets.
- ii) If a forwards and futures exchange is created, it will be necessary to define any requirements for accreditation, testing, trialling etc., to the extent that an interface with the other market elements exists.
- iii) Consideration will need to be given to the issue of whether contract form in the forward markets should be restricted for the purposes of compatibility with the operation of other market elements, or vice versa.
- iv) The implications of the detailed forward and futures market rules and procedures for system operation will require close consideration.

Implementation

- i) Whereas the DGES suggested in his Final Proposals that the new trading arrangements should come into effect upon a particular day the Minister has asked that consideration should be given to the issues of phased introduction of the new trading arrangements, any parallel operation of the existing and the new arrangements and any provisions for a “soft landing” approach to implementation.

- ii) It will be necessary to undertake complete testing and trialling of the new systems and processes and to define and implement a robust migration strategy.
- iii) The implementation of new processes and systems will require an extensive change management programme, including training for market participants.

PRIORITISING THE ISSUES

The following tables ascribe a priority to the resolution of each of the issues identified above. For current planning purposes, this prioritisation exercise is more concerned with identifying the critical path and timing for resolution of the issues, than with identifying which individual issues are particularly critical to the overall market design.

“High” priority denotes that an issue needs to be considered and resolved early in the Programme in order to allow further progress on the overall design of the trading arrangements;

“Medium” priority denotes either that an issue can only be addressed following the resolution of a related high priority issue, or that it is not sufficiently material in nature to justify deflecting effort from the resolution of the high priority issues; and

“Low” priority denotes either that an issue can only be addressed following the resolution of a related medium priority issue, or that it is not sufficiently material in nature to justify deflecting effort from the resolution of the medium priority issues.

Programme Issues	Priority
Develop Programme infrastructure, funding, methods, resources, standards, plans, etc.	High

Overall Market Issues	Priority
Overall legal framework	Medium
Impact of legislation	Medium
Define Commercial Arrangements	Medium
Develop procurement strategies	High
Specify form of delivery, network access rights etc.	High
Consider locational issues	High
Interconnectors	Medium

Settlement of Imbalances	Priority
Define “balance”	High
Define audit requirements	Low
Metering and data provision arrangements	Medium
Credit and security cover	Low
Define procurement, ownership, management and rule setting arrangements	High

Balancing Market	Priority
Product definition	High
Rules definition	High
Provisions ensuring adherence to operating instructions	High
Timing – market opening	High
Inter-period interaction	High
Metering and data provision arrangements	High
Settlement process and imbalance settlement interface	High
Interaction with ancillary services	High
Incentives on SO	High
Communication procedures	Low
Fail safe provisions	Low
Implications for system operation	Medium
Define ownership, management and rule setting arrangements	High

Short-Term Bilateral Market	Priority
Metering and data provision arrangements	Medium
Implications for system operation	Medium
Define ownership, management and rule setting arrangements	High

Day Ahead Auction	Priority
Decision on development of auction	High
Define general requirements	Medium
Product definition	Medium
Metering and data provision arrangements	Medium
Credit and security cover	Low
Implications for system operation	Medium
Define ownership, management and rule setting arrangements	High

Capacity Options Market	Priority
Encourage provision of options market	High
Rules definition	Medium
Product definition	Medium
Metering and data arrangements	Medium
Credit and security cover	Low
Implications for system operation	Medium
Interaction with supplier obligations / generation security standards	Medium
Impact on operation of balancing market	Medium
Define ownership, management and rule setting arrangements	High

Forward and Futures Markets	Priority
Interaction with other market elements	Medium
Interface requirements	Medium
Restriction of contract form	Medium
Implications for system operation	Medium

Implementation	Priority
Phased introduction, parallel running, soft-landing	Medium
Testing, trialling and migration	Medium
Change management and training	Low

PROGRAMME DESIGN PHASE STEERING GROUP

The following individuals attended the Programme Design Phase Steering Group that was responsible for the production of this Framework Document:

Main Members:

Mrs Dorcas Batstone – Chair (OFFER)
Dr. Brian Saunders – (OFFER)
Mr David Haldearn (DTI)
Mr Jeff Scott (NGC)

Supporting Members:

Mr Mark Baldock (OFFER)
Mr Ian George (OFFER)
Mr Roger McDermott (DTI)
Mrs L Parminter (OFFER)
Mr G Forrester (Electricity Pool)

Advising Consultants:

Mr Mike Kelly (Deloitte & Touche Consulting)
Mr John Perry (Deloitte & Touche Consulting)
Mr Peter Simon (Deloitte & Touche Consulting)

The following also attended some of the meetings:

Mr Charles Wood (Denton Hall)
Ms Lesley Chapman (Deloitte & Touche Consulting)
Ms Karen Pownall (Deloitte & Touche Consulting)
Mr Richard Haigh (NGC)

Ernst and Young Consultants also provided commentary on the document and the approach to the Programme design, as did a number of consumer representatives, trade bodies and other industry representatives.