



Response to Consultation
Ofgem's Five Year Strategy 2008 - 2013

on behalf of

**Siemens Transmission
and Distribution Ltd**

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Siemens in energy

Siemens has been established in the UK since 1843 and has been working in the energy and water industries ever since. Today, it serves every aspect of the energy sector, from building and maintaining power stations through to customer data collection. Individually, Siemens' products and services are designed to deliver premium performance. They create resilience, security of supply and safety, as well as timely, high quality data, all of which underpin the infrastructure of the energy sector. Siemens has created energy infrastructures in some of the world's most demanding environments and its experience in the UK has provided a deep and detailed understanding of the way the market is developing.

Siemens Transmission and Distribution Ltd

Siemens Transmission and Distribution Ltd (STDL) is the UK's largest transmission substation contractor, employing around 700 employees in the UK. Headquartered in Manchester, STDL also has principal sites and offices in Hebburn (South Tyneside) and Garforth (Leeds) as well as at a number of other locations around the UK.

STDL designs and constructs AC and DC substations for UK generation, transmission and distribution companies and industrial customers. In addition it provides services covering all stages of transmission and distribution asset lifecycles including power network studies, operation and maintenance and decommissioning. Siemens also offers a full range of substation equipment including switchgear, transformers and protection for all network voltages.

Siemens is a key partner in the Northern Electricity Alliance which is delivering a five year framework contract to upgrade the transmission and distribution infrastructure (substations) in the north of England.

Siemens is also committed to supporting the renewables industry in the UK and has built or provided equipment to several onshore and offshore wind farm connections. The business is currently working on design and build contracts for three UK offshore wind farm connections.

Based on our experience the UK electricity and transmission and distribution industry either as a main contractor or consortium partner, we are delighted to be able to provide our response to Ofgem's invitation to submit proposals for its five year strategy.

Further information

If you wish to discuss or clarify any part of the following response, or to receive further information on Siemens involvement with the energy sector please contact:

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OVERVIEW AND INTRODUCTION

Siemens Transmission and Distribution believes that the greatest challenge to Ofgem in the period covered by this strategy will be in keeping the regulatory system fit for purpose in an industry facing some unprecedented changes.

Since privatisation the trading arrangements, licenses and regulatory processes have been developed and refined and have proven successful in meeting Ofgem's duties. However this complex system inherently favours the status quo and delivers only gradual changes. For example the various review panels for amending agreements and codes such as CUSC and Grid Code are made up mainly by incumbent market players. The industry has asset lifetimes measured in decades and there has rightly been a focus on avoiding asset stranding, or sudden changes that introduce a regulatory risk premium.

Government policy, disruptive technologies and world market conditions point toward the need to make more radical changes in a number of areas. We believe it is unlikely that the existing review mechanisms can make the necessary changes and they would certainly not manage them in a timely manner. Ofgem will have to lead the change process.

Drivers for change include:

- Gas – Move from mainly North Sea to imported gas is changing the nature of the UK transmission and storage network.
- Electricity Generation – Changes in fuel mix and in particular EU renewable generation targets likely to result in a target for around 30% of electricity from renewables by 2020. This cannot be achieved without some significant changes to the BETTA market and to transmission systems.
- Distributed generation – will require local networks to be managed more actively to cope with more variable and bidirectional power flows.
- Introducing 'smart metering' – as a demand side measure
- Electricity Use - New uses e.g. potential massive increase in domestic air conditioning if we have a hot summer. Use of switched domestic refrigeration to manage demand in support of system operation.

The increase in Intermittent (or variable output) wind generation in particular will require changes to some of the underlying concepts that form part of the trading arrangements and codes:

- Plant margin as a concept has less relevance.
- The planning standards of SQSS will need to change and be less deterministic.
- Access 'Products' such as TEC will no longer have the same meaning.

- The GBSO will need to balance capital and revenue expenditure where there are options between reinforcement and constrained or more flexible operation.
- Existing fossil generation assets will move down the 'merit order'. They may generate less often, or even close. The way the market is arranged will guide which generators change and how fast.

We recognise that Ofgem is already consulting on changes in some of these areas. However, to date these exercises have each focussed on an individual aspect of the change. We would urge Ofgem to find ways of taking a more holistic approach to change.

Ofgem has successfully managed changes and provided incentives or allowed revenues for activities that were not considered in earlier price reviews, e.g. in allowing funding for RETS phase 1 and the Innovation Funding Incentive. There is always a caution from a regulator in taking such actions e.g. concerns over legal challenges or MMC referrals. We believe Ofgem has to take more of a leadership role and be braver in its assertions than to date.

Key challenges facing the industry in the short to medium term

1.1 Security of Supply

The electricity transmission and distribution networks are the critical and vital link between generation and the consumer. A significant proportion of the existing networks were installed over forty years ago in the 1960's and are now overdue for replacement and up-grading.

Security of supply requires these networks, whilst being adequately maintained, to be up-graded to utilise the latest technology which will also help deliver improved efficiency to support energy saving targets.

In previous price reviews on the RPI-X revenue price control has not led to the DNO's spending capital on their networks at the envisaged rates. The higher allowances in the current price review have yet to deliver the intended increased investment.

We would recommend that Ofgem undertake an audit and monitoring exercise to understand the many reasons why allowed money is not so far being spent and take an active involvement in resolving cross industry issues, such as resource scarcity, together with incentives to ensure DNO's deliver the much needed refurbishment and replacement, within the agreed time-frames to minimise the risk to security of supply.

1.2 Investment Planning

Investment planning needs to be more efficient and anything Ofgem can do to support an increased focus and expediency of the planning process would be of major benefit in helping the industry be more effective in planning resource requirements and increasing the rate of much needed asset replacement and system development.

1.3 Resource Scarcity and Focus on Training and Education

These are critical issues facing the whole industry. All parties must be encouraged to place engineering and science education (at all levels in the education spectrum) and training at the top of their agendas.

An immediate problem is in finding and training sufficient and skilled resource to deliver the required upgrade of the network in general, which is exacerbated by the diversion of an already scarce engineering labour resource focusing on the engineering requirements associated with the 2012 Olympics and on other engineering 'hungry' projects in the South of England.

Specific encouragement / incentives to DNO's and TO's may be required to make sure they actively support the resolution of these issues.

1.4 Relationship with Suppliers/Contractor - Procurement

Suppliers and contractors such as Siemens have a major part to play in the updating of the networks. DNO's should be encouraged to adopt more modern procurement practices to get the best from their supplier base. We believe that DNO's feel constrained to demonstrate value for money to Ofgem in a very simplistic way ie. the traditional 'three quotes for everything'. We find they take little or no recognition of capability or previous performance and often tender processes are unnecessarily lengthy as a result. This is highly inefficient and ties up valuable resources in repetitive tendering exercises.

DNO's should be encouraged to embrace different types of contractual partnership relationships to make the most efficient use of the limited skills and resources and use of the latest technology.

More long term partnering, such as alliancing which has been successfully introduced by National Grid, should be considered as the delivery of engineering solutions become more complex and challenging.

1.5 UK Energy System

The conclusions and activities from the energy policy review need to be actively pursued through legislation as necessary. Ofgem is heavily involved with several of the associated work streams and it is rightly supportive that any new regulation supports the aims of the energy policy development, balanced but not over ridden by Ofgem's statutory objectives.

1.51 Generation – Balanced Energy Supply

This topic continues to be a major challenge, where policy and direction are still unclear. Ofgem must take a leading part in ensuring a balanced energy supply portfolio is developed efficiently. Siemens has capabilities and expertise in all forms of generation including wind farms, coal, nuclear and gas.

1.52 Energy Efficiency

Siemens is particularly interested in 'Smart Metering' with the benefits this brings to energy saving via its Siemens Energy Services metering business which has also made a (separate) submission to this consultation.

1.53 CO2 Emissions Reduction

Ofgem must continue to stress the importance of targets and actions to effect the reduction in carbon emissions from the energy industry. Siemens fully supports this and places major emphasis on this area with its environmental policy under the heading of climate protection.

Further details on Siemens corporate position can be found by clicking [here](#) or, if you cannot access this link electronically, by visiting the corporate responsibility pages of Siemens web site at: <http://w1.siemens.com/en/corporate-responsibility/>

1.6 Regulation

In order to avoid 'over-regulation' there is a requirement to ensure that any regulation affecting the industry can be applied effectively both in terms of time and investment.

For example, if there are only three Scottish Island connections to be made, it would be simpler and faster to regard them as one off projects, rather than attempt to create an enduring regulatory regime.

2. Ofgem's response to the challenges

Much of this is covered in section 1 but we would like to further highlight the following:

Whilst maintaining its influence on energy price levels and on promoting a safe, efficient and environmentally responsible industry, Ofgem must take account of the development required in all areas ie. Generation, transmission and distribution by examining the life-cycle and age profiles of equipment and investment shortfalls over the last 10 years.

Siemens encourages Ofgem to maintain the increased CAPEX in the current DPCR 4 through the next DPCR 5

3. Consultation

Ofgem consults widely in most areas of its work. As part of our engagement with our customers and the industry, Siemens is keen to continue to play an active role. Like most commercial organisations, we have finite resources available to devote to consultations and therefore want them to be as efficient and effective as possible and to know our voice will be heard.

We believe that the consultation process could be improved in the following ways:

i) There are too many consultations each looking at a narrow area. Some could be combined into deeper reviews, as discussed above.

ii) The written process limits the opportunity to make use of collective industry expertise to shape Ofgem thinking. Stakeholder events are used mainly for one-way communication to explain Ofgem thinking.

iii) We support the use of industry representative groups, such as OTEG that was created to advise on offshore transmission licensing. We were disappointed to see that group disbanded early.

iv) Working groups need to be more efficiently managed - e.g. the Offshore Transmission SQSS group tied up the industries experts in nearly 30 meetings.

Working groups on related issues need to be better co-ordinated. They should have the ability to work more closely, rather than all co-ordination happening within Ofgem and not visible to the participants.

v) On occasions there has been highly selective invitation to participate in working groups. Some groups established and met before their existence was published. We support the need to make groups a manageable size, but would urge Ofgem to ensure that all its working groups are representative of interested stakeholders.

vi) Siemens has significant experience of best practice in process improvement in private and public sector settings. We feel that some of the changes that need to be managed would benefit from collaborative development and scenario testing, rather than the traditional format of written consultations, requesting individual written responses.

vii) Working recently with The British Wind Energy Association (BWEA) Siemens recently proposed use of a process mapping workshop to 'war game' offshore transmission licensing options. This would be a way to more quickly identify the key issues and make best use of the expertise that is available in the industry, rather than the approach usually taken.

viii) Joint Department for Business, Enterprise and Regulatory Reform (BERR) and Ofgem consultations feature BERR Regulatory Impact Assessments that must be signed off by BERR ministers. The idea is good, but in our experience they are written to justify the decision made and highly selective of which impacts and alternatives to include.

This bias undermines the consultation process and discourages participation. Ofgem and BERR have to take some difficult decisions, but as an independent regulator we would like to see that Ofgem considers all options before decisions are made.

3. Order of Priority.

All of the points highlighted in section 1 are of importance to the industry however in terms of priority we would highlight the following:

3.1 Scarcity of Resource, Training and Education

Fully trained, professional employees are vital to the future of the Industry and the reliability of future supply. Whilst this may appear a medium term problem, unless it is tackled with some focus and urgency it will have severe consequences. Graduates and apprentices must be attracted into the Industry. Organisations such as Ofgem need to give direction and lead on this topic which is recognised by Siemens as an importance focus area by its establishment of apprentice and graduate training programmes, the latter most notably through the IET's Power Academy scheme.

3.2 Security of Supply

Following recent extreme events, such as the severe flooding in the summer of 2007 and the increased threat of terrorism, the industry is acutely aware of the country's critical reliance on the continuity of energy supplies. Whilst we cannot plan for contingency supply eventualities around all such disasters, it does stress the vital importance the security of supply is to the economic and social infrastructure of the country. As such it is of vital importance that the strong, historic performance and safety of the network is not allowed to deteriorate further through lack of investment in aging assets.

3.3 Efficient Planning Processes

Without compromising public and network safety, and in support of a more robust and efficient industry the effects of excessively bureaucratic planning procedures and associated time delays, must be minimised. We strongly support any attempts by Ofgem to make current planning procedures much more efficient. This will help to ensure an appropriate allocation and utilisation of resource and keep unnecessary planning costs under greater control.

Conclusions

There are many elements of the transmission and distribution industry which need to be taken in to account in devising future Ofgem strategy and the three priorities highlighted above namely scarce resources and training, security of supply and the need for an efficient planning progress are especially key and critical to the future success of the industry.