

## Waving the baton—the prospects for an ISO in Britain

Ofgem recently put the concept of an Independent System Operator (ISO) for the GB electricity transmission networks up for debate. In this week's *Energy perspective* we explain why change is being considered now and why it is probably inevitable.

### Setting the tempo

Currently National Grid Electricity Transmission (NGET) is SO for the three separately owned transmission networks of England and Wales, southern Scotland and northern Scotland. National Grid, Scottish Power and SSE are the companies that are the transmission owners (TOs) for the three wires networks.

In its Integrated Transmission Planning and Regulation (ITPR) project ([ES445, p13, 13/10/14](#)), Ofgem reopened the issue around the SO role, which was last considered—but only fleetingly—in the run up to Betta in April 2005. On that occasion the government conceded the different functionality of asset ownership from system operation and called for tenders for a GBSO before appointing National Grid to that role.

Ten years on the regulator asked directly under ITPR whether NGET's SO role should be extended from its current short-term responsibilities of ensuring that the system balances and runs smoothly to longer-term responsibilities with respect to coordinating planning of the networks. With appropriate safeguards to prevent conflicts of interest with National Grid's own position as an asset owner, the regulator saw this as a way of benefiting customers immediately, without making it more difficult to move to other institutional arrangements in the future.

But as we explain below Ofgem is also continuing to work on the idea of an ISO.

### Crescendo

The ITPR project is intended to address concerns arising from the way that currently parties responsible for network planning—including onshore transmission owners, offshore generators and interconnector developers—focus on their own geographic areas and projects. The project was commenced in early 2012 and has already progressed through four landmark phases, and we are now into the finalisation of the projects conclusions.

#### ITPR timetable

Stages 1 and 2 February 2012- June 2013	Stage 3 June 2013-September 2014	Stage 4 October 2014 - Spring 2015	Implementation From Spring 2015
Identification and analysis of issues <i>Publication of two open letters and a consultation on emerging thinking</i>	Review of stakeholder feedback and assessment of options <i>Consultation on draft conclusions and impact assessment</i>	Finalisation of project conclusions and impact assessment	Implementation of measures, including licence changes and development of the framework for use of competition onshore

No party currently has responsibility for taking an overarching view of system development, leading to a risk that opportunities for coordination are not recognised or acted upon. This is particularly true in the context of the increasing scale and technical complexity of multiple network owners—including the new breed of OFTOs and interconnector operators—and the need for more joined up investment planning going forward. The regulator is also mindful of its stated desire to extend competitive tendering already introduced for offshore networks to high value projects onshore.

The SO is well placed to extend its role into system planning and coordination, beyond its current core business of balancing. In many ways it is anomalous how the debate around SO functionality in GB has concentrated around the notion of residual balancing, or last resort intervention. Debates over market design in other places especially on North America and Australia presuppose the existence of a planning entity with teeth. Nevertheless National Grid already has a system-wide role interacting with generation and demand and can also provide information about the operational

impacts of the different facets of system operation, such as network constraints. It also has an interest in ensuring effective network solutions are developed, given its responsibilities and ability to refocus the SO incentive scheme.

Currently the SO's principal role in system planning is to provide the primary customer interface by managing the connections process and to produce the *Electricity Ten Year Statement*—although for both of these roles it is largely coordinating inputs from the transmission owners (TOs). This statement is itself a relatively new innovation introduced in 2012, building on the previous seven year statement and also incorporating the Offshore Development Information Statement. But it has recently begun to work more with the Scottish TOs on major infrastructure projects (Strategic Wider Works) submissions. It has also begun identifying potential coordination opportunities in offshore transmission, which remains a very weak area of the current regulatory framework.

Against this background through ITPR Ofgem has proposed that the SO would have a greater role in identifying the needs of the network by providing additional information and analysis to network developers to support their investment decisions. It should assist by coordinating across parties, providing its assessment of the options for major new capacity and, possibly, tendering for new assets under a competitive process. It would play a role in the investment plans that are considered as part of the RIIO-T2, providing advice and analysis. The role of the SO would be enhanced, although individual TOs, interconnector developers and generators would continue to take investment decisions.

However, in its draft ITPR conclusions issued last September, Ofgem went further and said it saw merit in an independent body that did not own any transmission assets taking responsibility for planning and operating the transmission system. The regulator is considering the ISO model further as part of stage 4. It could provide “greater focus” to the SO role and mitigate conflicts of interest (of which more below).

The proposal would also need to be considered in the context of institutional arrangements for the GB energy industry as a whole. But the regulator considers that there are immediate benefits to be gained from enhancing the SO's role now. In particular it notes there is clearly a need to guard against the new role becoming embedded in a way that is difficult to extract if the ISO model is then confirmed following the further work as the way forward.

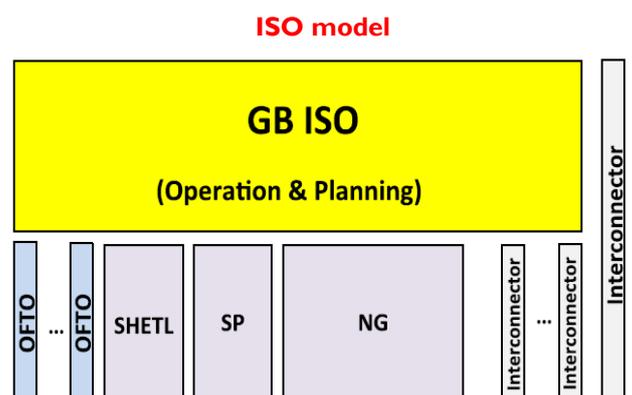
**Spiccato**

One obvious advantage of increased ring-fencing and/or separation is a reduction in the potential for conflicts of interest. For example, in its role in coordinating solutions for network reinforcement, National Grid could in theory bias solutions towards its own preferred outcomes and investments. As SO the company would also have access to sensitive information that could benefit it as TO.

Therefore Ofgem is proposing to implement conflict of interest mitigation requirements through a new special condition in National Grid's licence. These would be separate but not dissimilar to the ones arising from the company's functions in offshore transmission and Electricity Market Reform (EMR). They include requirements for ring-fencing of information and decision-making, and business separation as well as obligations on principles of conduct, enhanced regulatory scrutiny and a transparent system planning process.

The EMR arrangements are an obvious benchmark, but are yet to be tested; and it is clear that the measures proposed demonstrate that the perception of the many ways that conflicts of interests might occur requires mitigating measures. But a stronger approach is clearly needed here than under EMR where the SO's role is advisory. Under the increased planning role that Ofgem envisages National Grid would have a direct say in deciding what investments go forward.

The direction of Ofgem's thinking also seems to be firming up. While giving evidence to the energy and climate change committee last month, Ofgem chief executive Dermot Nolan commented that the ISO model had appeal because it addressed these concerns around conflicts of interest.



Source: Imperial College and University of Cambridge



### Con bravura

A report prepared for Ofgem by Imperial College and the University of Cambridge (IC & UC) in June 2013 explored an ISO model. In this instance, a key difference from the current structure would be that instead of relying on profit maximising incentives, as the SO does now, the majority of the ISO functions would be set through a set of rules and a broad mandate to maximise social welfare. It would be independent from any market participants and also have a more prescriptive planning role (see chart above).

In this model, and in line with other international examples such as ERCOT in Texas, the ISO would be a not-for-profit entity, and these can be either public or membership based. The authors note that attempts to establish for-profit ISOs to date have been unsuccessful; it is difficult to maintain a for-profit entity that is independent. Moreover, as ISOs are asset light, creating powerful incentive schemes can be very difficult, as the financial penalties that can be imposed for underperformance may be very low in relation to the negative

effects that the underperformance can impose on the whole market (for example, blackouts).

Instead “grid codes, well defined processes and rules, supporting decision making through transparent social welfare maximisation [cost benefit analysis] CBA” would ensure the ISO maximises efficiency of system operation. The ISO would then be funded through Balancing Services Use of System charges, and could be established through divestment of the current SO from National Grid.

The report acknowledges that a key concern for this model is that, because of its non-profit nature, the ISO is likely to be very risk averse and tend to favour conservative system planning and operational measures. Currently, the SO incentive scheme is very short term—the current scheme runs for two years to 31 March 2017, with the assessment against scheme targets operating on an annual basis. Ofgem intends to undertake a review of the scheme to consider how a “more enduring framework” could incorporate any potential changes to the SO’s role and prevailing market arrangements. But this has been its stated objective for some years, and progress has been difficult.

Indeed, in its ITPR conclusions, Ofgem said that there were challenges to introducing incentives to promote economic and efficient system planning outputs. This is because system planning decisions need to be made against a background of uncertainty, and in many cases the success of decisions will only be known over the long term. The regulator is not proposing to introduce incentives for system planning at this time, but progressing thinking on this issue is fundamental if the ISO model is to be further developed.

Ofgem has indicated that it will issue an informal consultation on licence modifications to enhance the role of the SO in March, and has previously said that it will make its final decision on licence conditions in the summer. Establishing an ISO would be a decision to rest with government. However, any decision on this clearly goes much further than whether the SO sits within or outside National Grid.

### Coda

The outcome of the election could have an important bearing on how fast and whether we will land at a full ISO model. The Labour Party has already signalled its intention to establish an “Energy Security Board”, which would serve as the “guiding mind” that can coordinate the SO and infrastructure planning, with the strategic direction set by the secretary of state. The board would be independent, and work with the SO, the newly proposed regulator and DECC. It would have a statutory responsibility for identifying national energy needs, taking co-ordinated action to meet them and providing a framework for investor certainty.

This is a far more prescriptive role, in terms of planning, than that contemplated under Ofgem’s proposal with or without an ISO. Whatever decisions Ofgem takes arising from ITPR and irrespective of how the political balance settles, it is looking increasingly likely that an institutionally separate SO function will emerge.