

# Network Asset Managers, Infrastructure Owners and Regulatory Distributors – the future of Distribution?

## Introduction

Recent developments in the UK (such as Western Power Distributions' bid for Hyder and the joint ventures of London/Eastern ('24seven') and Yorkshire/CAP Gemini ('Middlethorpe')) and elsewhere (such as the bids for Citipower in Victoria and the South Australian network assets), seem to provide support for the development of a radical new way of thinking about network utilities, what they own and what they do.

In this article Thomas Yeung of PHB Hagler Bailly offers a personal view on three different organisational forms (Network Asset Managers, Infrastructure Owners and Regulatory Distributors) that may evolve in liberalising energy markets around the world. He starts by describing the context in which these new entities will operate, outlines their likely characteristics, and finishes by commenting on the potential impact of these entities on other players in these markets.

While this article focuses particularly upon electricity network businesses, many of the ideas and concepts are directly applicable to other regulated network businesses such as gas and water.

## The Context

Energy markets around the world are liberalising, and, while each program of reform (quite properly) reflects the particular characteristics of the existing industry and the political/social/regulatory objectives of the reforming government, a number of common threads are apparent. These include:

- **introduction of competition wherever possible:**  
This may be at the aggregate level, (e.g. two or more integrated entities compete head to head to win customers) or at the individual business activity level (e.g. a large energy service company splits its business into separate activities (e.g. generation, retailing, customer service, engineering, metering, etc.)). While the first form of competition is often the most visible, many companies in the sector have organised themselves (either formally or informally) into a mesh of linked activities, and competitively outsource many activities that previously would have been done in-house.
- **separation of regulated and non-regulated activities:**  
Where areas of natural monopoly exist, or where it is uneconomic to introduce competition, reform agencies typically introduce some form of regulation. One of the key responsibilities of most regulators is ensuring that the regulated entities do not abuse their monopoly position to gain unfair advantage in other (competitive) activities. This may be achieved by forbidding certain combinations of activities (such as transmission and generation) or by requiring clear ring-fencing and separate financial reporting for the regulated activities such as distribution and the potentially non regulated activities (such as supply). However, doubt continues to

exist about the effectiveness of ring-fencing, and some jurisdictions (such as New Zealand) have required full separation of supply and distribution.

- **restructure of the value chain:**

Most competition and regulatory authorities recognise that companies can and should benefit from combining certain activities to gain efficiencies of scale and scope. However, they also have an obligation to ensure that companies do not use their market power to the detriment of customers or other players in the market. Thus, it is now commonplace to see regulators breaking up large organisations to introduce competition, while at the same time allowing other players in other parts of the sector to merge. Examples include splitting portfolio generators into competing entities yet allowing the new baby gencos to buy supply businesses (observed in the UK and New Zealand), and dividing a monopoly state gas supplier into three competing entities, and then selling one of them to the largest electricity supplier in the state and another to the dominant gas company in the adjoining state (observed in Victoria, Australia). As a result, a number of new organisational forms have emerged (generation/supply, fuel supply/generation, pure energy traders, pure customer service, etc.) to join the more traditional geographically-focused supply/distribution entities.

- **separation of ownership and control:**

In relatively mature markets, some companies have begun to recognise the value of influence/control without necessarily owning assets. Energy traders now treat large purchase contracts as virtual generation, and can manage their energy requirements through a combination of physical and contractual generation. In the UK, the acquisition of supply businesses (Midlands' by National Power, and SWEB's by London Electricity) and other activities such as metering has been complicated by the implications of having a single PES licence. A number of complex contractual arrangements have had to be developed whereby the business is managed by one entity (National Power, for example) but regulatory responsibility remains with the original owner. Similarly, under the terms of the recent JV announced by TXU and EdF, the distribution assets in the former London Electricity franchise area will be managed by TXU through the JV, but the licence obligations remain with EdF.

- **transfer of best practice:**

Most industry reformers believe that competition will force the rapid adoption of best practice, as anything else will be sub-optimal and less competitive. Where competition is impossible, regulators often use benchmarking techniques to identify best practice and 'encourage' the regulated entities to follow this approach. If, say, a network organisation selects its subcontractors through regular and open competitive tender, it can be argued that they have all the correct incentives to achieve best practice, even without regulatory intervention.

We believe that these pressures are forcing energy and utility companies to reassess their position and structure, and some of them may choose to adopt some or all of the organisational forms described in this article.

## **The Concept**

While in principle there is no ‘loss of competition’ reason why regulated network businesses should be prevented from merging, we recognise that regulators and investors will have a number of potential concerns about allowing two or more network businesses to merge. These might include:

For the regulator:

- Fewer companies for comparisons and bench marking
- Legal issues related to licences and ‘obligations of final resort’
- Potential problems if any part of the new JV owns generation or supply activities

For investors:

- Limited operational savings (linesmen, jointers, etc.) except at boundaries between adjoining areas
- No guarantee that the operational practices of the ‘better’ organisation will prevail
- Twice as big doesn’t necessarily mean twice as hungry for efficiencies

The potential benefits of a merger are likely to arise from cost reductions in central services, regulatory and commercial activities such as price setting, and the transfer of best practice.

So instead of proposing a conventional merger between two or more network businesses, we suggest that the potential benefits (economies of scale, transfer of best practice, potentially greater expertise in central functions etc.) may be achieved without the problems listed above by separating out the three core activities (Network Asset Management, Infrastructure Ownership, and Regulatory Distribution) and building a competitive market for these activities.

## **The Network Asset Manager (‘NAM’)**

In general, existing network businesses can and should consider outsourcing some or all of the operations and maintenance, where cost effective. If a large, efficient, and cost-effective network asset management organisation existed, it is not inconceivable that it would serve more than one distribution company, since its marginal costs would be lower and its performance standards potentially higher, than the incumbents. In this case, while ownership and licence obligations would still be separate, the network asset manager (‘NAM’) could benefit from any economies of scale and transfer of best practice, and the existing distribution businesses would gain from lower costs and or higher standards.

From the regulator’s point of view, this is a good outcome: instead of the regulator having to determine best practice and then forcing it upon the regulated entities, the distributors themselves achieve best practice through competitive procurement, and potential NAMs are forced to continue to innovate in order to stay competitive.

Now, turning around that concept, a large efficient NAM specialising in network asset management (say, 24seven for example) could, in principal, proactively target smaller network owners, offering to provide a total outsourced package for them. This may include taking on some or all of their existing staff, undertaking planned network refurbishment and some limited augmentation under the direction of the distributor as the licence holder and asset owner.

In the early stages, we expect that the contractual arrangements between the distributor and the NAM will be similar to conventional outsourcing arrangements (the distribution business pays an agreed fee to the NAM for services identified in advance), but over time we expect that relationship to evolve into a more risk sharing approach, where the NAM is compensated on a volume or customer number basis (perhaps reflecting the way that the distributor is itself compensated).

NAMs will make their money by increasing efficiencies and cutting costs faster than their revenues, which are themselves constrained by the prices being offered by their competitors or the distribution business' own internal costs.

### **The Regulatory Distributor ('RD')**

This is an entity that specialises in setting DUOS and other network charges and managing the regulatory interface. It is the licence holder and regulated entity, but is unlikely to manage the network assets itself – rather it sub contracts this to a specialist NAM. It may or may not own the distribution assets.

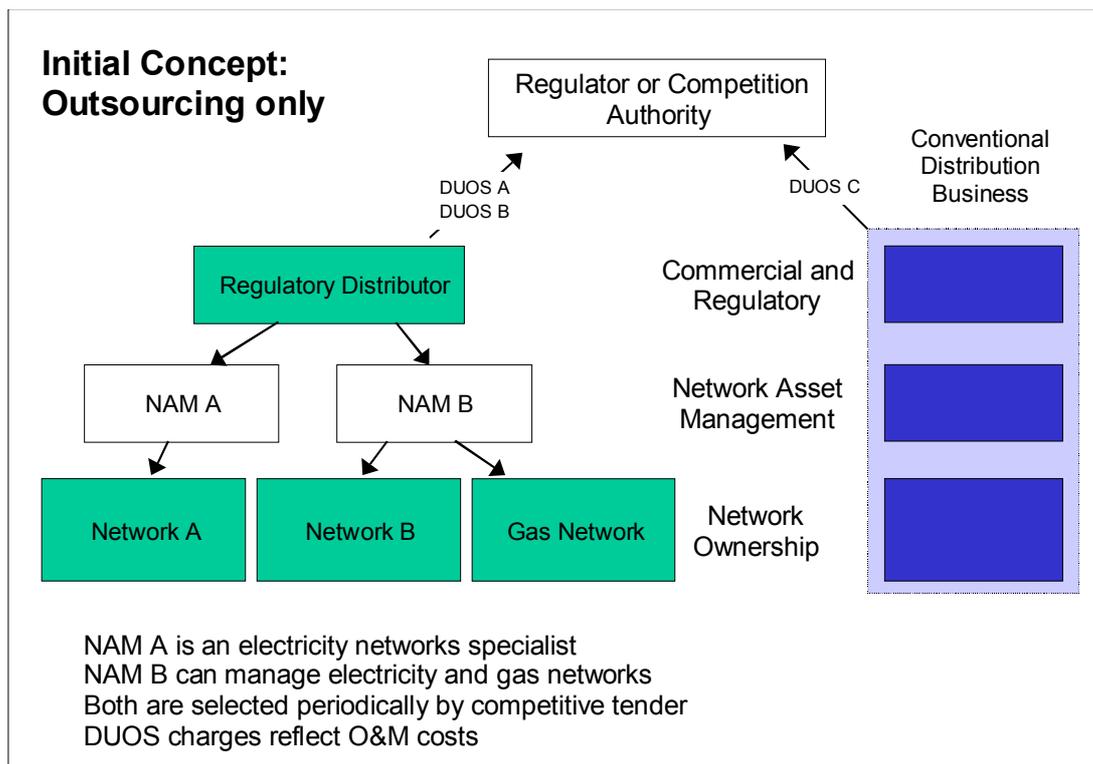
In many markets, regulated distribution businesses are prevented from owning or controlling generation or supply businesses connected to their network, because it is considered that otherwise they might possibly abuse use their monopoly position in distribution to disadvantage potential competitors. However, there are no regulatory or competition reasons why a single RD can not hold licences for more than one network, and the fact that a specialist NAM looks after each network means that an RD can own gas and electricity networks simultaneously without having detailed technical skills in each.

RDs will make their returns by negotiating well with regulators and competition authorities (to increase allowed revenues and to manage the regulated asset base), driving down contract prices (agreed with NAMs), and developing appropriate network pricing structures. If they own regulated network assets, they are also likely to be granted 'reasonable' regulated returns on the regulated asset base.

### **The Infrastructure Owner ('IO')**

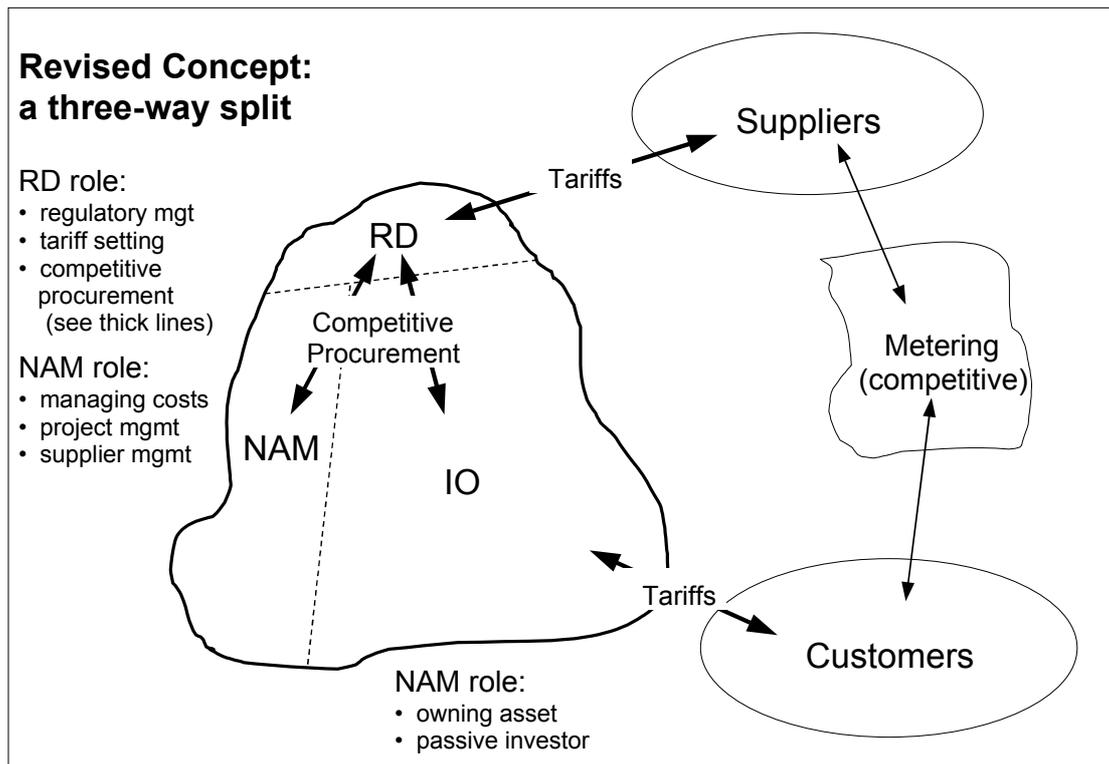
As indicated above, the regulated assets may be owned by the RD or by a separate entity, the Infrastructure Owner ('IO'). If separate from the RD, the IO will be paid an agreed return on an agreed asset base for an agreed period by the RD, and so the investment in regulated assets is very similar to investing in treasury bonds. The only risk carried by the IO is the (low) risk of default by the RD, and this can be factored into their calculations of required returns.

We have already observed some of the existing distribution companies securitising their assets, and clearly there are some banks and other financial institutions that are willing to take on this risk. Outright sale of the assets to a financial institution is simply an extension of this concept, whereby the assets belong to the bank/pension fund/other institutional investor, who makes them available to the RD and receives an annual payment in return. There would have to be some kind of requirement for the RD to maintain the quality of the assets (the RD would probably contract the NAM to do this), and some arrangement for discussions between the RD and IO for increasing or decreasing the size/value of the RAB. This would probably be led by the RD, which is responsible for all dealings with the regulator and would be best placed to assess how best to manage the RAB.



In the diagram above, we show how a conventional integrated distribution business (shown in dark blue, on right) is equivalent a combination of an RD (responsible for more than one network) and associated NAMs (example on left). In this example, the RD owns all three networks, and simply outsources network asset management to the appropriate NAM.

Under this competitive arrangement, the regulator can be confident that NAM A and NAM B are offering competitive terms to the RD, otherwise the RD would choose other organisations to manage the network. However, it is not clear what proportion of this benefit would be passed through to the consumer (those customers connected to the various networks), and so the regulator would still have to review the prices being charged to consumers (connection charges and DUoS charges) periodically.



In the second diagram, the RD has no physical assets, and therefore would have to enter into long-term contracts with appropriate network owners to ensure it can meet its regulatory obligations. Under this form of contractual arrangement, one can envisage the following risk/reward allocation:

- IOs are paid an agreed fee by the RD under a long-term contract, which is independent of how much the asset is used. Effectively, the Network Owner carries minimal risk, and there receives little more than the regulated return on the value of the contracted assets. Because no technical, commercial, or operational expertise is required, the asset owners need not be a conventional utility player.
- NAMs are paid an agreed fee by the RD for providing a specified level of services on the network. They may choose to take on additional risk by guaranteeing particular availability levels or response times, and if so would expect to receive additional rewards for doing so. Some may choose to own network assets themselves (either by acquiring them from network owners, or by retaining ownership of any network augmentation they undertake), and to the extent that these are regulated assets, they would expect to achieve regulated returns on these. However, if their network assets are unregulated, they have the possibility of achieving supernormal returns, but also carry the risk of the assets being stranded.
- RDs are exposed to regulatory risk. In markets where allowed prices are capped and revenues are proportional to volumes, they are exposed to volume risk as well. Accordingly, the returns for RDs should reflect the risks that they face, and we expect that they will be significantly higher than those of NAMs or network owners.

## **The Implications**

NAMs already exist. Some, like 24seven, have been formed by combining the engineering divisions of existing distribution companies, while others, such as Middlethorpe, involve utilities working with third party service providers. A number of smaller groups (such as MBOs formed as distribution businesses down size, and the more ambitious of the engineering firms) have expressed ambitions to provide NAM type services to multiple utilities, and there are also other large organisations that can undertake certain well defined activities such as emergency call centre facilities, and billing, and central procurement & stores management more cost effectively than the incumbent distribution business.

IOs do not currently exist: to date, all PES licence holders have retained ownership of the regulated assets, and the regulatory agencies have expressed no interest in changing this situation. This suggests that (at least in the electricity industry) the regulators feel happier that they can lean on the licence holders to provide 'last resort' services to customers while they still own the network assets. To me, at least, it seems that the regulatory agencies and competition authorities do not yet have confidence in the power of competition and contractual arrangements to provide network services to customers to deliver the RD's regulatory obligations.

The existing licence holders (the twelve PESs in England and Wales) would be natural contenders for the role of Regulatory Distributor. However, once the concept of separation of assets from regulatory responsibility becomes more accepted, we believe that a number of these licence holders would fall, as some relinquish their licences to become NAMs or IOs, others merge to form larger RDs (possibly with no regulatory assets!), and others exit the industry completely. In the long term, we can envisage a number of specialist new entrant RDs, expert in contract management and regulatory economics. These need not have any in-depth operational expertise of managing the networks, and could even be government agencies, academic institutions, or not-for-profit groups.

In the very long term, as the number of separate RDs fell, one could even imagine a future where the regulator or some other government agency takes on the role of RD for the whole country, managing a portfolio of IOs and competing NAMs in order to achieve the best result for consumers. Of course, this form of direct central control for customer benefit is very different from the current concept of light-handed regulation, and would require a change of regulator and of Government. Or would it?

## **The Author**

Thomas Yeung is a Principal at PHB Hagler Bailly and is based in London. He has advised major energy and utility clients from the UK, US, Australia, New Zealand and Singapore on strategic and commercial issues for four years, and has particularly focused on repositioning and reshaping organisations in preparation for competition and likely market developments.