Security of Supply Post Network Sales (A paper by NGT)

1. Summary

Security of supply concerns the likelihood that all reasonable demands for gas will be met. Security of supply also has an important impact on safety, as a failure to meet demand could cause an uncontrolled loss of pressure on the network with associated danger. The sale of Transco's distribution networks represents a significant restructuring of the industry. This paper considers how the proposed sale of the four DNs would impact upon security of supply, and how the development of the commercial framework to support this new structure and associated supply emergency arrangements the licence holders will have in place, will ensure security of supply is maintained.

It concludes that system security will be maintained following the Network Sales process and that the efficiency of the investment process is likely to increase. Furthermore, it concludes that the sales process will not adversely affect the safety of the wider system. The HSE will need to be satisfied on this latter point before they consent to the sale by accepting the associated safety case.

In many ways the situation post Network Sales will be similar to that in electricity where there has always been separation of ownership between transmission and distribution. It is worth noting that this separation has not prevented security of supply being managed effectively across the wider electrical system.

2. Purpose of this Document

NGT has agreed to sell four of the Distribution Networks, subject to consent from Ofgem/DTI. Whilst many of the changes resulting from this move would be beneficial, for example allowing Ofgem to compare the performance of distribution companies, the creation of new entities, with separate responsibilities and new interfaces, will need to be managed closely. This is particularly true of security of supply where the creation of new entities requires clarity over the roles and responsibilities of each party, especially in relation to the interface between the NTS and the DNs.

This paper describes how security of supply issues have been considered by Ofgem in defining the commercial and regulatory framework to support a divested industry structure and its subsequent development into detailed proposals by NGT. The paper is intended to inform interested parties of the steps that have been taken to ensure that security of supply is maintained and allow them to form a view of how security of supply is liable to be affected by network sales.

3. Regulatory Background

Ofgem have conducted a series of Regulatory Impact Assessments to inform their decisions in relation to Network Sales. The decisions in the subsequent conclusions documents can be summarised as follows:

Roles and Responsibilities

Under a Network Sales scenario, it is important to consider the roles and responsibilities assigned to individual network owners. Ofgem's Roles and Responsibilities RIA considered three models for allocation of roles and responsibilities. In Option 1 the DN would take full responsibility for its network in terms of planning, control centre and field operations. Conversely, the other two options allocated responsibilities to both the DN and NTS.

NGT supports Ofgem's decision to choose Option 1 on the grounds of clarity of responsibility and accountability, i.e. owners being responsible for the operation of the networks they own. If there is a division of roles, this will dilute the responsibility for security of supply. For example, should there be a failure of supply, it would need to be established which of the parties had failed to meet its responsibilities. Option 1 places all the responsibility onto one party, thus removing the possibility of confusion or debate.

Accordingly, we believe that the clarity of the DN's role under Option 1 will preserve current levels of system security, with individual networks owners being responsible for the planning, development maintenance and operation of their own networks, consistent with their statutory obligations. We believe that this is decision is key to ensuring network owners remain fully responsible and accountable for maintaining the current level of system security.

The Roles and Responsibility RIA conclusions also assigned the residual gas balancing role to Transco, as owner of the NTS. This will not only avoid any fragmentation of the wholesale gas market, but ensure that the national gas balancing role remains with a single party, i.e. Transco. This, we believe, will ensure that Transco retains full responsibility and accountability for balancing supply and demand across the whole GB gas network, thus ensuring this aspect of security of supply is not impacted by Network Sales.

Offtake Arrangements

Under a divested industry structure, new interfaces will be created between the NTS and the DNs at the NTS/DN offtake points. It is essential that robust commercial arrangements are put in place at this interface to support the new industry structure, to ensure DNs and other users of the NTS are treated equally to minimise the scope for undue discrimination, to promote efficient investment and system operation, and to preserve security of supply.

The offtake arrangements RIA set out the alternatives for allocating capacity between users at the NTS/DN interface. Ofgem concluded that Option 2 provided the most appropriate set of commercial arrangements to ensure customer's interests are fully protected under a divested industry structure. Under Option 2, connected parties would bid for capacity. At three years ahead and beyond, when investment is possible, capacity would be allocated on an unconstrained basis. Subsequently, it would be constrained in shorter time-scales.

NGT support this view. This option will create a common set of capacity products under a common pricing structure that will be available to all NTS users. Users would be able to access the capacity they require to satisfy their security of supply obligations, any scope for undue discrimination would be minimised, and the financially backed investment signals derived from these arrangements would promote the efficient and economic development of the NTS. By retaining the "1 in 20" obligations for gas transporters, Option 2 will provide continuity with the existing standard that underpins the development of the pipeline network.

Ofgem went on to decide that diurnal storage should be made available on a commercial basis to DNs and NTS direct connects. This is on the basis that it avoids the lack of competition/potential for discrimination associated with allocation, whilst

limiting the scale of reform required. Again, NGT supports this proposal and is developing the concept as described later in the paper.

Interruption Arrangements

The exit/interruptions RIA concluded that interruptible capacity on the NTS should be made available at the day-ahead stage. Furthermore, for additional demand management on the NTS, NGT should adopt a tender process for the provision of demand management (interruption) services in the appropriate parts of the network. This would enable users to better signal the value they place on providing demand management services, and will provide for more efficient investment and operational decisions. Although access to the turndown elements of demand management will be on a more commercial footing, these reforms are not expected to reduce the level of demand management available – hence not impacting on system security. It is more likely that commercialisation of this service will increase the numbers of providers willing to offer demand management services, thus benefiting security of supply.

Ofgem further concluded that DN interruption should not be directly linked to network sales, but will be brought forward at a later date. We support these proposals and discuss their impacts in more detail later in the paper.

4. Overview of System Security

Security of supply can be divided into two main strands, the overall balance between supply/demand and the capability of the individual pipeline networks to transport the required gas from entry points to consumers. Each of these is discussed in more detail below:

Balance between Supply and Demand

The balance of supply and demand on the Transco network is delivered via market forces. Customers enter into a contract with suppliers who in turn contract with shippers and producers to ultimately inject the necessary gas into the pipeline network. If participants fail to honour their obligations, then the associated errors are cashed out at System Buy Price and System Sell Price. As these reflect the cost of the balancing actions taken by the system operator they reflect prices in the very short term and hence tend to be less attractive than those that could be negotiated in the longer term. The uncertainty of imbalance prices, coupled with the expectation

that they will be unattractive compared to forward prices, provides participants with the incentive to forward contract. This mechanism is “self regulating” as supply shortages are likely to lead to increasing prices in the short-term, hence providing a stronger incentive to forward contract at times of shortage. It can be seen from a consideration of Ofgem’s decisions in relation to Network Sales that the proposals would leave this contract path intact, and hence the overall incentive for balancing supply with demand is retained.

However, in the present arrangements Transco’s actions can tend to reduce these market signals. When Transco interrupts a customer to match demand to available supplies, this has the effect of making more gas available without increasing the System Buy Price. There is a risk that, by truncating the market signals participants are exposed to, this process reduces the financial consequences of a participant being “short” and ultimately affects security of supply. As discussed later in this paper, the changes proposed to the interruption arrangements associated with Network Sales would remove this effect, thus benefiting security of supply.

Whilst the market can deliver a commercial balance between supply and demand, there will still be a residual balancing role to correct for any differences between contracted positions and physical out-turns. The Roles and Responsibilities RIA concluded that the residual balancing role should be retained by NTS in its role as system operator. This will ensure that Network Sales does not impact on this aspect of security of supply.

In the unlikely event that inadequate gas supplies are available to meet demand, for example because of multiple failures offshore, it is essential that demand is managed so as to avoid an uncontrolled loss of pressure on the network. Whilst not strictly a security of supply issue, this is sufficiently closely related that this paper discusses how such a situation can be planned for and managed. As described later in the paper, the planning will be completed under the “1 in 50” obligation and its execution would be via emergency powers, rather than interruption. This approach will maintain clarity between normal economic operation of the system and when emergency powers are being used to prevent physical danger.

Overall, in light of Ofgem’s proposals for the commercial and regulatory framework to support a divested industry structure, Network Sales will not impact on the supply/demand balance component of the security of supply equation.

Capability of Pipeline Network

Ensuring that the pipeline network is adequate is central to Transco's current obligations and is based upon its "1 in 20" obligation. Whilst this is described later in more detail, it broadly requires that the network should be adequate to meet demand in 19 winters out of 20. Ensuring that this condition is satisfied requires a series of activities:

- Forecast 1 in 20 peak demands allowing for interruption where appropriate
- Model supplies and demands to forecast flows on existing network
- Identify requirements for increased capacity and/or storage
- Develop investment schemes to deliver these requirements economically
- Deliver the required schemes
- Produce winter operating plans (including managing outages)
- Monitor and control the network to deliver security on the day

The Roles and Responsibilities RIA concluded that networks owners should be responsible for planning and development of their own networks, consistent with their statutory obligations. Furthermore, the 1 in 20 security of supply obligation will apply to each separately owned network, as will the statutory obligation regarding the development and maintenance of an efficient and economic pipeline system. Accordingly, the process outlined above will be retained within each separately owned network, thus maintaining individual responsibility and accountability for the economic provision of a safe and secure network.

This paper now goes on to discuss in more detail the relevant changes associated with network sales. For clarity this has been organised into three sections, gas transporter obligations, network planning and operational time-scales.

5. Relevant Licence and Network Code Obligations

There are two current obligations that have particular relevance to system security.

Supply and Demand: "1in 50" Requirement

The 1 in 50 severe annual gas demand is the annual demand represented by the area (above a demand threshold of zero) under the 1 in 50 load duration curve, being the curve which, in a long series of years, with connected load held at the levels

appropriate to the year in question, would be such that the volume of demand above any given demand threshold (represented by the area under the curve and above the threshold) would only be exceeded in one out of 50 years.

The 1 in 50 standard is the established security standard in the gas industry for severe winter planning. With the move from interruption to turndown contracts on the NTS, it will cease to underpin the balance between supply and demand, which will be driven by market forces, but will ensure that the system can be managed safely in all expected operating conditions. The Network Code requires Transco as owner of the NTS to forecast 1 in 50 system demand and to establish appropriate mechanisms to ensure that, under all expected operating conditions, all customers on its network are protected from a supply emergency. The arrangements to achieve this are outlined in the Safety Case. Briefly, each customer is assigned to either the "protected by isolation" or "protected by monitor" category. These safety monitors are established, and published to the market each year, to ensure that sufficient storage stocks are held throughout the winter to enable supplies to be maintained to "protected by monitor" customers.

The above obligation will remain on the NTS post Network Sales. The necessary information from DNs to support this will continue to be made available by the DNs via the NTS/DN operator arrangements and emergency procedures, which will remain, unchanged. These arrangements will also be outlined in the relevant safety cases. Accordingly, Network Sales will not impact on this aspect of security of supply.

Network Capacity: "1 in 20" gas peak day

The 1 in 20 peak day firm gas demand is the peak day demand that, in a long series of winters, with connected load being held at the levels appropriate to the winter in question, would be exceeded in one out the 20 winters each winter being counted only once.

The 1 in 20 standard is the established security standard for network security in the gas industry for the peak day. Under its Gas Transporter Licence, Transco is required to develop its system to have the capacity to transport 1 in 20 peak demand.

The 1 in 20 condition will remain relevant to the operation of Distribution Networks and is included in the drafting for the distribution licences going forward and remains relevant to the safety case. Further to the Roles and Responsibility RIA conclusions,

network owners will have clear responsibility and accountability for developing and maintaining their networks consistent with satisfying this obligation. Accordingly, we consider that the retention of this obligation on all network owners will ensure that long-term security of supply is preserved following Network Sales.

In the case of the NTS, it is worth considering how the auctions for entry capacity have operated. These auctions have provided valuable information on the need for entry capacity, backed by firm financial commitments from connectees. Inevitably, these market signals are supplemented with other information such as knowledge of forthcoming developments that have yet to bid into auctions. If such information were to be ignored, there is a risk that the system would be developed in a piecemeal and hence inefficient manner. Such a development could then be considered to breach our general obligation to develop an efficient system. The current debate surrounding the size of pipe required at Milford Haven is a case in point. We believe that, on the exit side, a 1 in 20 obligation would be helpful in providing clarity on the extent to which such additional information should be used in developing the network. A combination of the auction information through the exit reforms, underpinned by firm financial commitments and a "1 in 20" obligation would represent an overall improvement in the process for the efficient and economic provision of a safe and secure network.

6. Network Planning

Key to proving long-term pipeline security of supply across the NTS and DNs is the co-ordinated planning and investment in new pipleline capacity to meet future demand. The planning process starts with the determination of the "1 in 20" demand that must be met, taking account of turndown contracts where these exist. Network studies are then performed to identify where increased capacity and/storage is required. Schemes are then proposed and tested to ensure that the required capability is achieved as efficiently as possible. Finally, the required enhancements are delivered. To a large extent this is an iterative process: for example a decision between a turndown contract and the alternative of investing in the network can only be made when the costs of both are known.

The following discussion tracks through this planning process under a Network Sales scenario, demonstrating that the proposed changes to the regulatory and commercial framework will ensure that planning process will continue to deliver a safe and secure pipeline infrastructure across all networks. This assessment focuses on the interface

between the NTS and DN as this will be the key change to the process introduced by the sales.

Demand Forecasts

Following network sales the same group of staff within NGT Transmission will produce long-term gas demand forecasts. The assumptions underpinning these forecasts will remain subject to internal challenge and review. NTS's forecast methodology, consistent with requirements of the Network Code, is published on the company website. An exchange of information will take place between NTS and the DNs to support the forecasting process. The NTS's forecast will be provided, without charge, to all DNs via the NTS/DN operator arrangements. However, the DNs will be placed under no obligation to use the NTS view of local demand. NTS and DN forecasts will be published in the respective Ten-Year Statements, at this point any discrepancies between forecasts will become apparent.

DNs will be responsible for their own demand forecasts, consistent with planning and operating their own networks. Security of supply will be under-pinned by the continued availability of NGT's forecasts to a stated methodology. If there is a discrepancy between NGT's forecasts and those of a DN, this will be apparent, enabling the cause to be identified and the issue resolved.

Interruptions

At present, interruptible customers have agreed that their supplies can be curtailed to either meet an imbalance between supply or demand or a constraint on the pipeline network. Interruption is an important mechanism under the present framework as it allows demand on the system to be controlled in those circumstances where the level of supply within the DN is insufficient to meet all unconstrained demand. The potential consequence of demand exceeding supply in the DNs is an uncontrolled loss of pressure in the network, leading to a highly dangerous situation. After such a loss of supply, it would be necessary to visit all affected properties to ensure that the system is restored safely, leading to significant inconvenience and cost, in addition to the safety hazard.

Under the proposed commercial and regulatory framework interruptible exit capacity from the NTS will be sold at the day ahead stage. Where it is necessary to have the ability to reduce demand even if no interruptible capacity has been sold, "turndown"

contracts will be used. These contracts will be awarded following a tender round and can be with either the shipper for a directly connected consumer or a distribution network.

Under all non-emergency operations, turndown contracts and/or interruption will only be used to resolve transmission capacity constraints. Any supply/demand imbalances will be resolved via market mechanisms, for example purchase of gas via the On the day Commodity Market. Only in the event of a potential, or actual, gas supply emergency being declared would demand reduction be instructed to resolve a shortage of supply.

On the Distribution Networks, the present interruption arrangements, with Network Sensitive Loads and Transco Nominated Interruptions, will not be altered as part of the network sales process. Where this interruption is required because of a capacity constraint on the transmission system, staff at the Gas National Control Centre will be able to access the required interruption via a request to the Distribution National Control Centre.

The change to the use of turndown and interruption exclusively for managing transmission capacity constraints, rather than network sales per se, gives the market a greater role in resolving mismatches between supply and demand. This will ensure that market participants will be exposed to the pricing signals of the market, rather than these signals being artificially truncated by the use of administered actions such as interruption. Under this regime participants are more likely to respond to these signals and new methods of managing demand in response to market signals are likely to emerge, potentially enhancing the current arrangements. Under such arrangements, gas would be allocated to those who value it most, rather than via an administered process. System safety will not be impaired, as the Gas National Control Centre, in conjunction with the Distribution Control Centres will retain the right to curtail non-priority demand by declaring a potential, or actual, gas emergency. The existing supply emergency provisions will also be maintained.

NTS Exit Capacity Planning

Immediately following network sales the capacity of the system will be adequate, as there will be no change to the pipeline network or the demands placed upon it. As investment in the NTS and associated offtakes generally has a three-year lead-time, investment plans are already in place to cover the anticipated demand growth over

this period. However, the network will only remain adequate if it continues to be developed as the pattern of supply and demand evolves. This section only considers the provision of NTS exit capacity, as this represents the new interface commercial interface between NTS and the DNs: the processes for NTS entry capacity and NTS network flows will not be affected by Network Sales.

The above lead-time for investment has been reflected in the reform of the exit regime currently being developed, where unrestricted volumes of capacity can be purchased in the long-term auctions three years out and beyond. It can be seen that, as any party can request any volume of capacity which will then be reflected in the development of the NTS, the network will continue to be developed to meet customers emerging needs. Indeed, the firm financial commitments associated with bidding for capacity provide a stronger incentive to provide accurate information compared to the pervious planning process.

Where possible, additional demands will be accommodated by auctions in shorter time scales. NGT is discussing an incentive scheme with Ofgem to encourage the release of incremental exit rights. However, it is important to recognise that this mechanism is mainly intended to provide access to unsold capacity. If a participant is not allocated the capacity requested in short or medium term auctions, this should be viewed as a risk of not requesting capacity in the unconstrained auction and not as a security of supply issue. This reflects the fact that it was a risk that the participant chose to take, knowing that there was no guarantee of capacity.

It can be seen that Network Sales will not be a barrier to a party having access to exit capacity under Option 2, either in terms of long-term investment or access to existing, but unallocated, capacity. Indeed the enhanced transparency and greater financial commitment are likely to enhance the efficiency of the arrangements when compared to today. Overall, the proposed offtake arrangements will provide DNs access to the NTS capacity they need to ensure they meet their security of supply obligations, and the investment signals provided through this process to the NTS will provide valuable information to assist the NTS is developing its system to meet its security of supply obligations. Furthermore, the proposed arrangements will minimise the scope for undue discrimination in the allocation of capacity, thus avoiding the potential for one network to be unfairly allocated capacity at the expense of another, which might otherwise impact on security of supply on the disadvantaged network. Accordingly, we believe that these arrangements will ensure security of supply can

be maintained across the new commercial interface created between NTS and DNs following Network Sales.

Flexibility/Diurnal Storage

Whilst the rate that gas enters the network is fairly uniform, its consumption varies widely throughout the day. It follows that the network must be capable of storing gas such that it can be released during periods of high demand during the day and then stores replenished overnight when demand is low. The requirement for this within day diurnal (as opposed to longer-term) storage is largely achieved through varying the pressure of the upper pressure tiers of the DN, the use of low-pressure gas-holders and the right to take diurnal storage from the NTS. Hence the necessary storage is divided between the NTS and the DN. Following Network Sales, whilst the DNs will retain control of storage within their networks, if this is insufficient to meet their needs, then they will need to enter into arrangements with the NTS. The economics of these forms of storage can be summarised as:

- Operation of low-pressure gas-holders has associated costs both in terms of energy required to boost the gas out of them and staff to maintain/carry out operational checks. Where appropriate the use of these holders is avoided.

- Lowering the pressure of a gas pipeline reduces the volume of gas it is able to flow. Therefore, varying the pressure across the day will also reduce the volume of gas that can be transported in a 24-hour period. Where there is spare capability within a pipeline, this spare capability can be utilised to provide storage capacity at a low cost. However, on a fully utilised pipeline, additional storage could only be created by limiting the gas flow or investing in additional pipe, both of which are relatively expensive.

If NTS capability exists at low cost, NTS storage is likely to prove an attractive option to DNs compared to using their own gas-holders, subject to the physical constraints of holder operation. However, as the utilisation of a pipeline increases towards maximum capability, the amount remaining that can be utilised for storage becomes smaller and the storage can only be maintained by reducing the flow or investing in more pipe, both of which are relatively expensive.

The mature regime under development, consistent with Ofgem's Offtake RIA conclusions, will allow DNs and directly connected customers to purchase diurnal storage capacity from the NTS as a distinct flexibility product unbundled from exit

capacity. This product will also be applicable to gas-fired power stations that wish to operate flexibly, with any additional costs incurred being reflected in the bid/offer prices submitted to the electricity balancing mechanism.

The diurnal flexibility product will be sold on an unconstrained basis at the three-year ahead stage and as available in subsequent auctions. As the current investment plans incorporate the projected requirements for storage over the next three years, sufficient storage will be available in the interim. Reflecting the costs incurred by the NTS will enable the DNs to maintain system security by having access to the necessary diurnal storage they require, whilst minimising storage costs across the system as a whole. Furthermore, discovering the price of diurnal flexibility will provide an incentive for the development of any other economic means of storage.

Overall, the proposed reforms will create a distinct flexibility product, enabling connectees to book exit capacity and flexibility independently. As both exit capacity and flexibility are affected by network investments, the auctions will be held at the same time-scales with and DNs and direct connects will be able to purchase flexibility on an unconstrained basis (> 3 years out) or on a constrained basis in shorter time-scales. Alternatively, where a DN believes that it can provide some or all of the flexibility it requires more economically by investing in its own network, then there will be an incentive to do so. In the interim period, DNs and direct connects will continue to have access to the level of diurnal storage necessary to run their networks securely or operate their plant in line with current practice.

Distribution Network Capacity

The design of the Distribution Networks will remain subject to the 1 in 20 licence condition and so the investment process can continue as now, with no impact on security of supply. Considering the DN/NTS interface, DNs will be able to book firm exit capacity and, if necessary diurnal storage, from the NTS in the long-term auctions three years ahead and beyond, consistent with these 1 in 20 demands. In shorter time scales they, like other users, will be able to request additional capacity. Where the capacity is available it will be allocated by the NTS. Accordingly, the proposed offtake arrangements, combined with assigning responsibility for network planning and investment with network owners in accordance with the Roles and Responsibilities RIA conclusions, will ensure network security continues to be maintained following network sales.

7. Operational Timescales

In operational time-scales, processes operate more quickly with less options available to the operator. The process starts by considering the forecast peak demand from the planning process and developing an operating plan for the network. On a daily basis, day ahead forecasts and exit nominations are then made and the network operated in real time in accordance with the operating plan to deliver security of supply.

DN Operating Plans

The DN operating plans cover the following issues:

- Expected demand levels
- Requirements for storage
- Plan for use of storage and cost order of storage
- Planned maintenance activities
- Planned use of Network Sensitive Loads and interruption
- Emergency arrangements

It is worth considering outage plans and the need to co-ordinate between the NTS and DNs in more detail. The proposed licence drafting will prohibit gas transporters from acting such as to jeopardise the operation of another gas transporter. In effect this will require gas transporters to co-ordinate their outage plans. In reality, it is in the parties' interests to co-operate: any resultant gas security of supply incidents would be highly detrimental to both the DN and NTS.

Where an action on one network does have an impact on the operation of another, for example altering flows to accommodate a pigging run on the NTS, this can be handled by one party buying/buying back exit capacity rights as appropriate.

In electricity, transmission and distribution have always been operated separately and the companies co-operate effectively to manage the impact of outages at the interface. The proposed regulatory regime, combined with the companies' desire to protect their reputations will ensure that gas transporters will do the same to maintain the current level of security of supply.

Daily Operations

Demand Forecasts

Short-term demand forecasts will continue to be completed by control room staff in the DNCC as at present.

Exit Nominations

At present the flow of gas from the NTS into the DNs is an internal matter to Transco. Whilst, post Network Sales, this will be an inter-company issue, there will be two levels of safeguard for system security. In the first instance the offtake arrangements will contain obligations on the NTS to provide the contracted capacity/pressures and rules to ensure that parties cannot make nominations that would jeopardise the NTS network's ability to deliver. Secondly the licence condition discussed under outage planning above would oblige the parties to co-operate if it were found that the rules in the offtake arrangements were not sufficiently comprehensive. Any defect in the offtake arrangements could then be corrected by raising an amendment proposal.

Real Time Operation

Network Sales will have a significant impact on a number of safety critical processes in the real time operation of the network:

- Initially, NGT will operate the sold networks under the System Operation Managed Service Agreement under the direction of the DN. This arrangement will permit the Network Sales to be completed in a shorter time scale than could be achieved if the new owners were required to develop their own system operation capability for completion. This arrangement will underpin the operation of the system as the same staff will operate the network initially and, before any change can take place, the HSE must be satisfied that the amended safety case arrangements are at least as robust as the existing arrangements. A secondary advantage is that the hand over of control can be completed to its own timetable: it is decoupled from any other processes/timetables. (Similar arrangements worked between the CEGB and Area Boards when the ownership of the 132kV network was transferred some years before operational control.)

- Emergency Call Centres and Dispatch of Operational Staff will also be handled by NGT initially. The single telephone number for reporting gas leaks will be retained indefinitely to preserve the single point of contact for the public. The dispatch of operational staff to attend gas-leaks etc will transfer to the sold networks at a later date, subject to HSE being satisfied that there is no degradation of safety.

- Staff in DNs will be subject to a licence condition to continue to provide the first line response to incidents on the NTS. This is to ensure that callout response times can be maintained without incurring the large costs of duplicating the standby arrangements within the NTS.

Whilst there will be considerable changes to real time operation associated with Network Sales, the key processes will not be affected on day one. Subsequent changes can then only be made if the HSE are satisfied that the new arrangements are at least as safe as the existing ones.

8. Gas Supply Emergencies

Regarding emergency arrangements, any changes to the accepted safety case will be submitted to the HSE through a process which requires the licence holder to demonstrate the changes proposed will improve or maintain the current level of emergency arrangements.

The sale process cannot proceed unless each gas conveyor has demonstrated to the HSE, through their safety case, how they will minimise the risk of, and manage, supply emergencies on their network. At each stage of the DN sale process the relevant safety cases have been written to reflect how the NTS, DNs and iDNs will meet their obligations regarding emergency arrangements for managing supply emergencies. Version 4 of the GT safety case separates out the responsibilities of the proposed sale networks from those to be retained regarding emergency arrangements.

The NEC's obligations will not change as a consequence of the DN sale process and he will retain responsibility for co-ordinating the actions of conveyors on the network during a Network Gas Supply Emergency.

9. Scottish Independent Networks

Some remote networks in Scotland are supplied with Liquefied Natural Gas (LNG) by road tanker. Network sales will not affect either the arrangements for the physical delivery of the gas or obtaining access to the LNG at Glenmavis. The safety of these processes will continue to be subject to a safety case that will be subject to HSE acceptance.

10. Conclusions

System security can be split into two strands: balance of supply/demand and adequacy of the pipeline network. Network Sales will only affect the balance of supply and demand to a limited extent by the removal of NTS “interruptions” with the associated potential to truncate System Buy Price. By removing a barrier to participants being exposed to the full pricing signals from the market, this will strengthen the commercial incentives for securing adequate supplies and hence increase security of supply. The NTS will retain the national gas balancing role, thus ensuring that Network Sales does not impact on the supply/demand balance aspect of security of supply.

Turning to the issue of pipeline planning, development and maintenance, transportation companies will continue to be obliged to meet the required security of supply obligations. Following the conclusions of Ofgem’s Roles and Responsibilities RIA, DNs will retain responsibility and accountability for maintaining the security of their own networks. The proposed regime will involve connectees entering into firm commitments three years ahead, this is likely to improve the accuracy of the information provided and therefore the efficiency of the planning process. Taken together, we consider that these arrangements will serve to maintain current levels of system security.

The arrangements for security of supply have been central to the development of network sales, through both the determination of policy and the subsequent development of detailed proposals. This paper considers the changes that have been identified and discusses how they will affect security of supply. This analysis leads to the conclusion that the current proposals will ensure that system security will be maintained and the greater financial commitment and transparency at the NTS/DN interface will support increased efficiency.

Beyond system security, the wider system must be managed to avoid danger under both normal operation and emergency conditions. The proposed network sales will involve no reduction in safety standards. Indeed, if network sales did jeopardise safety in any way, the HSE would reject the associated safety case and prevent the sales.