Common Arrangements for Gas (CAG)

Conclusions on the options for the Gas Operational Regime

16 February 2009

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Executive summary

The Utility Regulator and the Commission for Energy Regulation previously issued two consultation documents regarding the appropriate operational arrangements and regime for the Common Arrangements for Gas (CAG) project. Giving regard to the responses received and further analysis conducted by the RAs, a number of conclusions have been made with respect to the CAG operational regime.

The final conclusions of the RAs fall into three main areas:

- Functions of the CAGSO[1]
- The structure of the CAGSO - whether these functions should be the responsibility of a single entity or remain the responsibility of the existing TSOs who would discharge them through a single services provider (SSP).
- The scope of the CAGSO's activities – transmission only or including distribution as well and the number of network codes.

Our final conclusions are summarised below and explained later in the document.

The RAs are now in a position to initiate a number of work-streams on the basis of these conclusions, including further consultations to finalise the design of the single CAGSO, the content and specifics of the code and licences. Given the need for legislation, the final decision on initiating CAG and these work streams rests with the Departments. Therefore, any detailed work must be undertaken in line with the Department's work programme on legislation to implement CAG. The RAs will align their work plan with the Departments' timetable for implementing CAG legislation.

Functions of the CAGSO

Determining the functions of the CAGSO involves clarification of the division of responsibilities between the CAGSO and the different asset owners. In this respect, conclusions on the functions of the CAGSO are divided into functions that are likely to be directly carried out by the CAGSO and those functions that are likely to require input from both the CAGSO and the asset owners. The details of how these functions will be apportioned and assigned between the CAGSO and the asset owners will be discussed further as part of the work-stream to develop the contractual regime underpinning CAG.

The RAs envisage that the CAGSO will directly perform certain all-island system operation functions. These include:

- Long-term management of the system
- Day-to-day operations of the system
- Balancing of the system

[1] The CAGSO refers to the operator of the CAG operational regime. At this point it does not differentiate between the Single Service Provider (SSP) or the Single TSO options.

- Capacity trading
- Aspects of congestion management
- End-of-day allocations
- Administration of connection policy and standards
- Provision of consolidated market reports
- Administration of the financial security policy
- Monitoring gas quality

Other functions which are likely to require input from both the CAGSO and the asset owners include:

- Planning and development[2]
- Maintenance

Further scoping is required in the areas of metering, collection and disbursement of transportation charges, Health and Safety, other aspects of congestion management, and the co-ordination of emergencies. The roles of the different parties with respect to these functions will be dependent on the formal design of the CAGSO. In particular, with respect to Health and Safety, the roles and relationships between the CAGSO and the asset owners will need careful consideration. The Health and Safety Executive Northern Ireland (HSENI) and the CER as the relevant authorities for gas transmission and distribution safety in both jurisdictions will consider the all-island safety regime and changes that may be required to accommodate CAG.

Section 3 further outlines and explains these conclusions. As we work through the licences, contract and code implementation issues, the exact nature of the roles of the CAGSO and the asset owners will be considered in further detail as they arise.

Structure of the CAG SO

The structure of the CAGSO is an important aspect if the CAG operational regime is to succeed and deliver the perceived benefits of single system operation. Respondents to the previous consultations proposed that the structure must be at least, efficient, accountable, transparent and governed appropriately.

Given the assessment criteria, the RAs have concluded that a single TSO framework will best meet the needs of CAG and deliver the benefits of a single operational regime. Therefore the RAs envisage that a single entity, the CAGSO, will be licensed and regulated jointly by the RAs to perform the functions outlined above. Section 4 sets out an explanation for these conclusions. Further work is needed on how the CAGSO will be licensed in each jurisdiction.

[2] To avoid any misunderstanding here, this does not mean that asset owners will have a decision making responsibility for planning and development decisions.

In developing and implementing a CAGSO, the RAs are mindful that a CAGSO will need to be sufficiently independent and transparent. However, the level of independence of the CAGSO will require a decision by the Departments in both Northern Ireland and Ireland.

The CAG Code arrangements

In the previous consultation paper the RAs proposed a unified transmission code which facilitates separate distribution codes. Respondents were generally in favour of this approach. The final conclusions with respect to the CAG code are set out below.

- Provided legislation is in place, the first phase of the CAG project will concentrate on the harmonisation of arrangements at transmission level. Therefore, the RAs envisage that the all-island functions of the CAGSO will extend only to transmission arrangements.
- A unified network code for the island will be developed which facilitates opt-outs for distribution codes in Northern Ireland.
- Responsibility for the management of the all-island network code and modifications to the code should rest with the CAGSO and be overseen by both RAs. We will need to consider further how any all-island modification group will be created and function in practice.

Section 5 sets out an explanation for these conclusions.

1 Introduction

1.1 Purpose of this document

This is the third paper published as part of the consultation process on the high-level design of the operational regime for Common Arrangements for Gas (CAG). In May 2008, the Utility Regulator and the Commission for Energy Regulation (the Regulatory Authorities or RAs) issued a discussion document outlining the operational options being considered for CAG. A further consultation paper was published in October 2008 which set out the RAs' initial conclusions on the design of the operations regime. Both consultations sought responses to specific questions and also general comments/suggestions from stakeholders on the options that should be considered in the design of the CAG project. The Regulatory Authorities hosted open workshops during the consultation periods, engaging with industry and discussing the options proposed.

Subsequent to these consultations, this paper sets out the high level conclusions of the RAs with respect to the CAG operational regime in light of the responses received at both stages of consultation, including comments made at the industry workshops, and further analysis conducted by the RAs.

Further to these conclusions the RAs are now in a position to initiate work-streams for the further design and development of the CAG operational regime; for example on, the roles and responsibilities of the CAGSO and asset owners, the structure of the CAGSO and the content of the code of operations. Given the need for legislation, the final decision on initiating CAG and these work streams rests with the Departments. Therefore, any detailed work must be undertaken in line with the Department's work programme on legislation to implement CAG. The RAs will align their work plan with the Departments' timetable for implementing CAG legislation.

1.1.1 Responses to the October discussion paper

The Regulatory Authorities received eight responses to their consultation, one of which was confidential. Non-confidential responses are listed below and are published on the websites of the RAs. One respondent requested that their response should be treated in confidence and not published.

- Phoenix Natural Gas Ltd.
- Viridian Power & Energy
- Airtricity
- Gaslink
- PTL and BGTL
- Bord Gáis Eireann
- Bord Gáis Energy Supply

We would like to thank the respondents for their time and input into the consultation process.

1.2 Structure of this document

The remainder of this document is structured as follows:

Section 2: Assessment criteria
Section 3: All-island system operation functions
Section 4: Single system operation
Section 5: Scope of system operation and the CAG network code
Section 6: Responses to consultation
Section 7: Next steps

2 Assessment criteria

In their two previous consultations, the RAs outlined certain assessment criteria for the analysis of the CAG operational regime. It was the view of the RAs that any regime to accommodate CAG should be; efficient, cost effective, customer friendly, transparent and consistent and compatible with developments in the EU. Some stakeholders in response to the previous consultations suggested that the assessment criteria should also include, for example, certainty and stability of the industry structure, clarity and ease of operation of the market arrangements, and market responsiveness and innovation. The RAs agree that these are important to the assessment of any CAG operational regime but are of the view that these proposed criteria are accounted for and contained in the assessment criteria set out by the RAs.

As detailed below, the RAs confirm the assessment criteria for the project. These are based on the statutory duties of the RAs and were consulted on in May and October 2008 and accepted by stakeholders. The criteria are used at other appropriate points in this document to assess the options and conclusions relating to the CAG operational regime.

- **Efficient**

The arrangements should allow for gas to be moved in an efficient manner, regardless of ownership of pipelines. This arrangement should ensure that the current set of transmission assets are operated to optimise fuel costs, balancing costs, additional investment, available capacity and other associated costs. The arrangements should also ensure that network users (including all power stations in the SEM) face consistent gas transmission costs.

- **Cost Effective**

The arrangements should ensure that any regime is incentivised to deliver the optimal operation at the most efficient cost. This will require appropriate regulatory oversight and approval of costs.

- **Customer Friendly**

The arrangements should deliver a single interface between shippers and other network users and the operator(s). Optimally, there should only be a requirement for one set of nominations, allocations etc. for each supplier/exit point. The number of network codes suppliers have to sign up to should also be minimised in order to lower transaction costs.

- **Transparent**

The arrangements should result in a clear and transparent regime where adequate information is available to shippers and where there is clarity on the role and responsibilities of both a system operator and an asset owner. There should also be clearly defined roles and rules at operator/owner interface points and sufficient independence between the different parties. This criterion is a necessary requirement of the project if all industry participants are to accept and support all-island arrangements. It is also an important feature of any regime if it is to foster and attract potential new investors.

- **Consistent with EU legislation**

The arrangements should be consistent with EU Directives and with the European Commission's proposals for the third legislative package for electricity and gas markets, such that the arrangements should deliver benefits to customers by ensuring that gas is bought and sold in competitive markets, at the wholesale and retail levels.

- **Compatible with present and future developments towards an EU Single Market in Gas**

The arrangements should also be consistent with developments in the interoperability of energy markets at European level.

The RAs have previously stated that the safety, reliability and integrity of the gas systems on the island will be enshrined in whatever operational arrangements are put in place by the CAG project. The independence of the system operation is also an important feature of any CAG operational regime.

3 All-island system operation functions

This section outlines the RAs considered views on the functions of the CAGSO at this point in the process. Further detailed work and consultation will be required as part of the work streams on the licensing and contractual regime underpinning CAG.

Section 3.1 outlines those system operation functions, responsibility for which the RAs envisage will be transferred from the current TSOs to the CAGSO. For the other functions outlined in sections 3.2 and 3.3 it is not possible at this stage to define precisely what the role of the CAGSO and the asset owners will be. However, we have outlined our likely approach to the respective roles of the parties where it is possible to do so at this stage.

3.1 Functions for which the CAGSO is to be responsible

We have concluded that the CAGSO should directly perform certain all-island system operation functions. These are:

- Long-term management of the system
- Day-to-day operations
- Balancing of the system
- Capacity trading
- Aspects of congestion management
- End-of-day allocations
- Administration of connection policy and standards
- Provision of consolidated market reports
- Administration of the financial security policy
- Monitoring gas quality

This section describes the all-island SO functions in more detail – the precise definition of each function will become clearer when a decision is made with respect to the structure of the CAGSO and will be further discussed when drafting the licence, contractual arrangements, and code changes necessary to implement CAG.

Long-term management of the system

This function involves managing how network users utilise the transportation system on a short-term, medium-term and long-term basis through the offering of suitable products. The RAs envisage that the CAGSO should offer products to network users in accordance with the code and be responsible for the development of new products such that the utility of the network is maximized and in compliance with emerging European legislation and the needs of the network users. Also that provision of capacity products and capacity services will be hosted on a single IT system and interface for all network users, managed by the CAGSO.

Under the function ‘long-term management of the system’, the CAGSO should (but should not be limited to):

- provide facilities for the booking of capacity in accordance with the code
- host and manage the IT system and interactions with market players
- facilitate the transfer of capacity between market players
- develop new transmission products
- manage the Code Modification process

Day to Day operation of the transportation system

On a day-to-day basis, the RAs envisage that CAGSO should; accept nominations from network users, allocate usage after the day, and reconcile the system. Also, manage the actual flow of gas on the day based on nominations made by network users, the physical capabilities of the system and maximize the efficiency of the entire network. In managing the day-to-day operations of the transportation system, the CAGSO should also be responsible for allocating any system imbalances, overruns and facilitating after-the-day trades.

Balancing the system (including purchasing of gas)

This role is a function of the CAGSO's responsibility to manage the day-to-day operation of the network. The CAGSO should ensure that the network is balanced, such that the pressures are maintained and the gas entering the system is equal to what is exiting the system. This function should involve:

- Taking balancing actions to ensure the physical balance of the transportation system
- Purchasing balancing gas in a transparent manner and at market based prices
- Managing disbursements with respect to balancing and shrinkage actions

Capacity Trading

The CAGSO should play a facilitators role in providing an interface (either by bulletin board or by some organized interface) whereby network users can trade capacity with other network users. This information will feed into the CAGSO normal booking and allocation process for the purpose of allocating each network users end-of-day-quantity. This 'secondary market' could be facilitated on the IT system hosted by the CAGSO.

Measurement and end-of-day settlement and allocations

This relates to actual throughput on the system on the day. The CAGSO should meter what gas was put into and taken off the system at each entry, exit and supply point and allocate these appropriately to the relevant network user. This includes responsibility for initial allocation, reallocations, final allocations and the management of disbursements such that each shipper pays or is paid for gas taken from or left on the system. As part of its measurement responsibilities, we envisage that the CAGSO should also monitor Gas Quality on the system, ensuring that it is in keeping with the standard outlined in the Code and take appropriate action where it does not meet the specification. Work on gas quality

will be taken forward as an independent work-stream and it is expected that the outcomes will be implemented as part of the CAG code.

Aspects of Congestion Management

This refers to providing access to the system on a structured basis when there is physical congestion in the pipe lines. In terms of congestion management, the RAs envisage that the CAGSO will deliver products and arrangements that alleviate congestion management on a short-term basis. In the short-term to medium-term, the CAGSO may, in accordance with its agreements with the asset owners, change how the system is physically operated to account for new demand and/or develop short-term, interruptible or UIOLI products to curb demand at peak times, on a difficult day or on restricted days. In the long-term, congestion management may involve coordination with the regulatory authorities to develop and obtain approval for investment plans. The details of long-term congestion management arrangements will require further clarification and will be progressed as part of the work-streams to progress the licences and the contractual arrangements between the CAGSO and the asset owners.

In order to perform each of these functions, the CAGSO should own and host the single IT system. Further consideration of the IT system to be used on an all-island basis is also needed.

Administration of Financial Security Policy and Connections Policy

A financial security policy and a connections policy for the island will be approved by the RAs for implementation and administration by the CAGSO. Further work on scoping these policies will be required and again they will be progressed as part of the working group to develop a code of operations for the CAG regime.

Provision of Consolidated Market Reports

It is envisaged that the CAGSO will have access to both system and metering data and in accordance with Regulation EC1775/2005, it is envisaged that the CAGSO will provide reports to the market on the capacity/capability of the system and throughputs on the system on a regular basis.

As a result of responses received from industry participants to the last consultation, administration of the financial security policy and the monitoring of gas quality have been added to the list of functions the CAGSG should directly perform since the previous consultation. An assessment of these additional functions against the CAG criteria is outlined in Appendix 1.

3.2 Functions of the CAGSO and the Asset Owners to be Clarified

As stated previously, the exact nature of the roles of the CAGSO and the asset owners will be considered in further detail as we work through the licences, contractual, and code implementation issues. At this stage however, a number of functions have been identified

which are likely to require input from both the CAGSO and the asset owners.[3] These include;

- Planning and development
- Maintenance

The initial view of the RAs on the balance of responsibilities between the CAGSO and the asset owners is outlined below.

Planning and development of the transmission system

This function involves forecasting the future supply and demand scenarios for the system such that it can anticipate when and where investments may be required on the system or how the system operation may change to better facilitate future demand. In planning and developing the transmission system, the CAGSO could have responsibility for the preparation of long-term development plans for the network and to up-date these plans on an annual basis. However, any proposals for developing the system would need to be approved by the RAs and carried out to the standards proposed by the CAGSO and approved by the RAs.

When preparing long-term development plans, we envisage that the CAGSO would communicate with the asset owners, producers and shippers regarding their respective systems; e.g. on forecasts, security of supply, and expected developments. Asset owners would submit plans and consult with the CAGSO on any future developments to their respective networks or to assets that will be connected to the network.

Higher level policy aspects of gas development will remain unchanged by CAG, such that either jurisdiction will be free to roll-out the connection of new towns or industrial facilities as appropriate and the costs will be recovered through the respective exit tariffs.

Maintenance of the transportation system

Maintenance of the network refers to the day-to-day maintenance and long-term maintenance of the assets. This could be carried out physically by the asset owners, such that they will retain that responsibility in their licence. The CAGSO's role could be to propose the standards for the system for approval by the regulatory authorities and to satisfy itself that maintenance is carried out to the approved standards by the asset owners.

In cooperation with the asset owners, the CAGSO could schedule when maintenance is physically carried out by the different asset owners such that maintenance will not interfere with the normal operations of the transportation system.

[3] The October consultation document referred to the functions in this section as functions to be 'coordinated.' We consider that the term coordination did not properly reflect the balance of roles between the CAGSO and the asset owners, mainly because the balance of roles is not yet clear. We have therefore renamed this section to indicate that responsibility for these functions remains to be clarified. For clarity, we have moved a number of the functions previously listed in this section (those where we envisaged that the CAGSO will have responsibility for administration) to section 3.1.

3.3 Other potential functions

The previous consultation papers proposed other functions that could also be carried out by the CAGSO. These were:

- Metering
- Collection and disbursement of transportation charges
- Other aspects of congestion management
- Co-ordination of emergencies

Again, a final conclusion with respect to these functions will not be made until such time as the structure of the CAGSO is more clearly defined.

With respect to metering, the RAs continue to believe that the CAGSO will require immediate direct access to metering data if it is to control the system and carry out its allocation functions.

There is likely to be a role for both the CAGSO and the asset owners in managing, planning and coordinating emergencies. The CAGSO could have a role in ensuring and maintaining the operational security and integrity of the system as a whole and also have a role in coordinating All-Island Emergencies. An emergency plan will need to be developed outlining the role of the CAGSO, the asset owners, network users and other relevant third parties (such as the governments, the regulatory authorities etc) in the event of an emergency, and the procedures to be followed by the relevant parties in the event of an emergency. The CAGSO may not have a direct role in local area emergencies, other than in adjusting the operation of the network when informed of an emergency in a specific area.

The division of responsibilities between the asset owner and the CAGSO has a particular relevance with respect to health and safety. The Health and Safety Executive Northern Ireland (HSENI) and the CER will need to consider whether the asset owners and the CAGSO will each need to submit a safety case. The RAs have discussed this issue with the relevant personnel in the HSENI and the CER, who will formally consider the issue once the precise balance of responsibilities is known.

4 Single system operation

4.1 The SSP v Single TSO models

The October 2008 consultation paper detailed two models of system operation for further consideration – the SSP model and the single TSO model. The SSP is a form of coordination between the existing TSOs. The single TSO model involves a single entity (the CAGSO) being licensed to provide all-island system operation services.

The RAs have not drawn any conclusions with respect to the appointment and governance of the CAGSO at this time; the legal and operational requirements of any model for joint regulation will require further discussion with the respective Departments. The SEM model of joint governance could be extended and adopted for the regulation of the CAGSO or a new CAG committee could be created. This will be the subject of further consultation.

The sections below present the RAs conclusions with respect to the individual SSP and single TSO options presented by the RAs in their October consultation paper. In assessing the different options, the RAs were mindful of the assessment criteria established as part of the overall consultation and the need for an independent and transparent mechanism to facilitate all-island arrangements.

Also in the assessment of the two models, the RAs examined the implementation costs of both options and conclude that although quite different in substance and approach, both models would incur similar costs to implement. As described later in section 4.2 the SSP model will require few licence changes, however, it would require two complex contractual regimes to underpin the arrangements; contracts between the co-ordinating TSOs and contracts between each co-ordinating TSO and the SSP. The single TSO model would require changes to the current licence regime but only one contractual regime between the CAGSO and the asset owners. This is not to say that the RAs do not recognise the complexities involved in each model, however, an initial analysis would indicate that the costs of implementation are not overtly dissimilar and in the magnitude of approximately €600,000.

4.2 Final conclusion on the SSP model

The consultation papers in May and October described the SSP as an agent providing services under contract to the TSOs. The TSOs would remain directly responsible for these services both from a legislative and regulatory point of view. For this reason the RAs envisaged that they would not regulate the SSP. The SSP model requires a contract to be put in place between the SSP and the TSOs for the provision of system operation services by the SSP. This contract would be collectively managed by the TSOs.

As the licensed TSOs, responsible for the provision of TSO services and duties, the TSOs can only sub-contract certain functions of a mechanical nature to the SSP, e.g. day-to-day operation and balancing of the system. The SSP cannot take decisions with respect to

functions which affect how the system is operated as the TSOs remain responsible for these functions, e.g. planning and development. Those functions which cannot be subcontracted to the SSP would need to be discharged collectively by the TSOs which would require an agreement between the TSOs covering how these services will be coordinated, ensuring that decisions are made collectively, on an all-island basis and disputes resolved.

In considering the merits or otherwise of this model the RAs have considered the responses to consultation which generally did not advocate the SSP option over other options given the disadvantages which respondents perceived associated with it. We have concluded below at 4.2.1 that the disadvantages of the model outweigh the advantages. We also conclude that this model does not meet the CAG criteria as effectively as the single TSO model, see the assessment of the SSP model against the CAG criteria at Appendix 2a.

4.2.1 Assessment of the advantages/disadvantages of the SSP model

Table 1: Summary of advantages/disadvantages of the SSP model

Advantages	**Disadvantages**
Entails fewer changes to licences and TSO responsibilities	Not directly regulated by the RAs
No implications for existing safety cases	SSP is a mechanical role – it cannot make any decisions
Single IT interface can be provided	Limits to sub-contracting – SSP cannot carry out all CAG functions outlined previously, therefore coordination of some functions will be required
	The on-going costs of coordinating the activities of the TSOs and managing the activities of the SSP and the contracts associated with this
	May be problematic to develop an effective dispute resolution and decision-making framework
	Will be more difficult for the TSOs collectively to take an all-island perspective on strategic issues

Advantages of the SSP model

These have been set out in the May and October 2008 consultation documents. Briefly, the SSP model appears advantageous in that it facilitates system operation by a single party – the SSP - and a single interface for network users which would be managed by the SSP. The model also avoids major changes to the responsibilities of the existing TSOs. As explained above they would remain responsible by licence for system operation. The SSP would be unlicensed, it would simply be a contractual entity created to manage certain

functions of the TSOs. However, the minimal changes inherent in the model in fact give rise to a number of disadvantages which are elaborated below.

Disadvantages of the SSP model

Firstly, because the SSP will not be licensed, its cost and activities cannot be directly regulated by the RAs despite the critical role the SSP will play in the functioning of the transportation system. Several respondents have stated that they are uncomfortable with the fact that the SSP will not be regulated by the RAs and have asked for the SSP to be licensed. Licensing the SSP would essentially be creating a single TSO but with further contractual layers between the SSP and the TSOs.

Assuming that the SSP is not a licensed TSO, the second disadvantage of the SSP option is that the SSP cannot make decisions on behalf of the TSOs as it would otherwise be acting as a TSO. This limits the ability of the SSP to carry out all the functions identified in section 3. Legal advice suggests that a TSO can only subcontract the exercise or implementation of 'mechanical' or 'non-discretionary' system operation functions. This would preclude the SSP from having a role in the strategic elements of operations such as the long-term development of transportation arrangements, emergencies, planning and development, the procurement of fuel for balancing purposes and congestion management. In effect the SSP could only be sub-contracted the functions of operating the system on a day-to-day basis, i.e. managing bookings, nominations and allocations and processing capacity trades. It may have a role in coordinating an emergency and/or informing the planning and development process, but the strategic management of these functions will rest with the TSOs.

Accordingly, the SSP option will require that all-island responsibilities of the TSOs which cannot be sub-contracted to the SSP will need to be discharged via coordination between the TSOs. The element of coordination inherent in the SSP model reduces the attractiveness of this option. The fact that the TSOs would need to coordinate in order to take decisions on those functions which cannot be subcontracted to the SSP effectively makes the SSP model a hybrid between the service provision and multiple TSO coordination models. We assessed the coordination model against the CAG criteria in the October consultation paper and concluded that coordination is the least efficient and cost effective of the models originally proposed.

On an ongoing basis, the more complicated, indirect framework for regulation implicit in the SSP model is likely to give rise to greater ongoing administrative costs both for the TSOs and the RAs due to the level of coordination required. For example, the SSP option will require complicated coordination mechanisms to ensure that the TSOs take decisions in concert and each TSO has an appropriate level of representation in decision-making. Also, the TSOs will need to manage the SSP collectively on an on-going basis and will need to be able to satisfy the RAs that their responsibilities are being discharged appropriately through the SSP. In addition, the contracts needed to underpin coordination and the management of the SSP will likely require amendment if the role of the SSP changes as the market develops. Consequently, these ongoing administrative costs make the SSP option less cost effective in the long run.

An effective decision-making and dispute resolution framework between the TSOs will be required to underpin this model, given that decisions will be made by a committee composed of multiple parties. It could therefore prove difficult to coordinate decisions, for example, to invest in new IT equipment. Also, strategic issues, such as recommendations for new investments may prove difficult to coordinate because there is a risk that each asset owner might focus on their own strategic interests rather than the network as a whole. If the TSOs were to have too much regard to the needs of their own networks, this would limit the ability of this model to deliver an all-island perspective on strategic issues.

The RAs have also assessed this model against the CAG assessment criteria – a summary of which is included in Appendix 2a. Although the SSP model is likely to meet the criteria of being customer friendly, consistent with EU legislation, and compatible with developments towards a single EU market, the RAs do not believe that it will meet the other key criteria of being efficient, cost effective or transparent.

4.2.2 Summary

In summary, although the SSP option may, to a certain extent, meet a number of the assessment criteria proposed by the RAs, the RAs do not believe that it is the most appropriate structure to meet the requirements of the CAG operational regime. Firstly, from a legislative perspective, an unlicensed SSP would not be in a position to carry out all of the CAG functions and this option would involve a level of coordination between the different TSOs to fully implement the proposed CAG operational regime. In this regard, the SSP option essentially becomes a hybrid between the SSP option and the coordination option, which has previously been discounted by the RAs.

The SSP option would involve a contract between the TSOs and the SSP, but the SSP would not be regulated by the RAs. Respondents to the RAs previous consultation expressed concern at this arrangement, particularly at the lack of direct regulatory oversight and influence on the operations of the SSP. Furthermore, this option and the contracts underpinning this option could give rise to complexities in the event of a dispute either between different TSOs contracting with the SSP or between the SSP and one or more of its contracting TSOs.

4.3 Final conclusion on the single TSO model

The consultation papers in May and October described the single TSO as a single entity, who would be responsible for performing all-island TSO functions across the two jurisdictions and would be licensed by both RAs. The single TSO would carry out the functions identified in section 3 for all parties downstream of Moffat.

In considering the merits or otherwise of this model the RAs have considered the responses to consultation. Three respondents believed that the Single TSO would deliver the maximum benefits of CAG but the other respondents either refrained from expressing a view or asked that no substantial changes be made until the outcome of the third package is known. Those who supported the Single TSO felt that it addressed the deficiencies of the

SSP option. We conclude below at 4.3.1 that the disadvantages of the SSP model can be addressed by the single TSO model. We also conclude that the single TSO model meets the CAG criteria most effectively. This assessment is set out in Appendix 2b.

4.3.1 Assessment of the advantages/disadvantages of the single TSO model

Table 2: Summary of advantages/disadvantages of the Single TSO model

Advantages	**Disadvantages**
Single TSO would be licensed therefore would be directly regulated by the RAs	Requires changes to the licence responsibilities of the current TSOs
Single entity responsible for all-island SO functions - no need for coordination between TSOs	Responsibility for health and safety needs to be delineated
Single IT interface can be provided	
Better all-island decision-making	
Greater flexibility to amend the operational rules in future	
Better interaction with the electricity system operators	

Advantages of the Single TSO model

The advantages of the single TSO model are that it would facilitate a single IT interface for shippers and avoids the need for coordination between multiple TSOs as a single entity – the CAGSO – would be responsible for the all-island system operation functions. Also, as the single TSO would be licensed, it would be directly regulated by the RAs.

The RAs believe that the single TSO model will result in better all-island decision making compared to the SSP model because the CAGSO, as a single entity licensed north and south will contribute a single national perspective to decision-making. This is more difficult to achieve with four TSOs even if all are similarly licensed to work for the best interests of all customers on the island.

On an ongoing basis, the single TSO model also delivers greater flexibility to the system and its development. Although the implementation of the single TSO will require significant changes to the current licence/contractual regime, once in place it will provide a robust system, which without the constraints of co-ordination between licensed parties, will be able to implement change effectively in the interest of the system.

The single TSO model also facilitates better interaction with the electricity system operator which is important given the reliance of electricity generation on gas. The single TSO model would better facilitate communication between the gas and electricity system operators compared to four gas TSOs communicating with the electricity TSOs. This clarity and ease of communication would be essential in the event of an emergency on the island.

Disadvantages of the single TSO model

The downside of this structure is that it requires changes to the licensed responsibilities of the current TSOs (most notably in Northern Ireland where those companies who own the pipelines also operate them). Changing the responsibilities of the TSOs and asset owners potentially impacts on each party's responsibility to present a safety case to the relevant authorities. In designing and implementing a structure for the CAG operational regime, the RAs will work with HSENI and industry participants to ensure that the safety, reliability and integrity of the gas systems on the island will be enshrined in whatever operational arrangements are put in place by the CAG project. As stated above the HSENI and the CER will formally consider the implications of CAG on the safety case regime once the division of responsibilities between the CAGSO and the asset owners are known.

An assessment of the single TSO model against the CAG criteria is included in appendix 2B. The RAs are of the view that this model can achieve each of the criteria; however the extent to which the criteria will be met is dependent on the structure of the single TSO model that is implemented. This is a decision for further consideration by the Departments in both jurisdictions.

4.3.2 Summary

The RAs are of the view that a single TSO will deliver the most robust mechanism for the delivery of the CAG operational regime in the long-term. The single CAGSO will be jointly and directly regulated by both RAs and will take direct responsibility for certain of the CAGSO functions. Assuming that the CAGSO is sufficiently independent, as highlighted by the RAs as a key feature of any design, the CAGSO option is also the most transparent model to deliver the CAG operational regime.

4.4 Implementing the CAGSO in the form of a single TSO

The single CAGSO can be implemented under different models and a discussion has not yet taken place as to the exact structure of the CAGSO. This will require further analysis of; how to licence the CAGSO, the precise structure of the CAGSO (i.e. whether it will be an appointed single entity or a joint venture, and if a single entity, what legal structure will underpin the CAGSO), the relationship between the CAGSO and the asset owners.

Apart from these important issues there are a number of matters of principle which remain to be decided. These have been highlighted in earlier consultation documents and are elaborated further below.

4.4.1 Independent system operation

The May 2008 consultation document highlighted the importance that the RAs attach to independent system operation in the context of CAG. This point was reiterated at the workshop in November 2008.

To recap briefly, the RAs wish to ensure that whoever operates the pipelines on the island has sufficient incentives to operate and develop the network in the interests of all users, and is clearly perceived as such by key stakeholders. In order to achieve this, the RAs believe that system operation should be independent from production, shipper and supply companies and that the TSO cannot favour one pipeline over another.

A sufficiently independent CAGSO will avoid the problems caused by bundling system operation with production and supply activities identified by the European Commission which are:

- The transmission system operator may treat its affiliated companies more favourably than competing third parties
- Non-discriminatory access to information cannot be guaranteed as there is no effective means of preventing the TSO from releasing market sensitive information to its affiliated production or supply companies.
- Investment decisions may favour the TSO's affiliated companies rather than the market as a whole.

We have given consideration to preventing the problems identified by the European Commission from emerging in the all-island market. Accordingly, the RAs believe that if the structure for the CAGSO complied with the following principles, the CAGSO could be considered sufficiently independent:

a. **Control.** The CAGSO should not be controlled by any company with supply, shipper or production affiliates. A definition of control can be taken from the draft third package which defines control as 'any rights, contracts or any other means which, either separately or in combination and having regard to the considerations of fact or law involved, confer the possibility of exercising decisive influence on an undertaking, in particular by (a) ownership or the right to use all or part of the assets of an undertaking; (b) rights or contracts which confer decisive influence on the composition, voting or decisions of the organs of an undertaking.'
b. **Resources.** The CAGSO must have the resources it needs to carry on its functions without depending on the asset owners (such dependence could enable the asset owners to control the CAGSO's activities).
c. **Transparent decision making.** The CAGSO must take its decisions in a transparent way so as to demonstrate that it is acting fairly and in the interests of all users. The CAGSO should be able to demonstrate to the asset owners that it is not favouring one pipeline over another.
d. **Regulatory monitoring.** The RAs will closely monitor the activities of the CAGSO in order to identify any problems in the market and take action where necessary. Market information should be made publicly available by the CAGSO on a periodic basis.

In practical terms such a structure would unbundle all-island system operation from production, shipper and supply interests. System operation would become the responsibility of the CAGSO which would need sufficient resources to operate the pipelines. In practice

we believe that the CAGSO should own and operate the control room, including maintenance and development of control room IT systems, if it is to be properly independent.

The RAs recognise that the independence and the ultimate structure of the CAGSO will require a decision by both Government Departments. We will discuss these principles with our respective Departments over the next few months.

4.4.2 Contestability of system operation services

In the draft conclusions paper, the RAs proposed to consider the merits of contestability with respect to the CAGSO once the functions of the CAGSO were more clearly defined.

Three respondents addressed the area of contestability in their submissions to the RAs. In general, respondents argued that contestability would not facilitate the goals of CAG in terms of stability and safety of the system in the case of the CAG Single TSO. However in the case of a CAG SSP, one respondent suggested that contestability would be an important feature of any contract between asset owners and a SSP. The respondent felt that contestability would allow asset owners to better control and monitor the SSP, which is essential if each asset owner is to manage its own license and legislative responsibilities effectively.

The RAs will give further consideration to whether contestability is appropriate as part of the CAGSO establishment work. We will need to balance consideration of the efficiencies to be gained, with the specialised nature of the role, and the need to ensure the ongoing safety and integrity of the system.

5 The Scope of System Operation and the CAG Network Code

In the previous consultation paper the RAs proposed a unified transmission code which facilitates separate distribution codes. Respondents were generally in favour of this approach. The final conclusions with respect to the CAG code are set out below.

- If legislation is in place, the first phase of the CAG project should concentrate on the harmonisation of arrangements at transmission level. Therefore, the RAs envisage that the functions of the CAGSO and the scope of the network code will extend only to transmission arrangements. Licences for the CAGSO and asset owners will be developed in this phase.
- The contractual arrangements between the CAGSO and asset owners will also be developed in this phase.
- A unified network code will be developed for the island which also facilitates opt-outs for distribution codes in Northern Ireland.

- Responsibility for the management of the all-island code and modifications to the code will rest with the CAGSO and would be overseen by both RAs. We will need to consider further how any all-island modification group will be created and function in practice.

The RAs believe that a unified network code for CAG which also facilitates opt-outs for distribution codes meets the CAG criteria. This outcome is assessed against the CAG criteria in Appendix 3.

6 Responses to consultation

6.1 Comments received

The RAs received 8 responses to the draft conclusions paper from interested papers and we would like to thank to thank the respondents for their input. Non-confidential responses are listed below and are published on the websites of the RAs. One respondent requested that their response should be treated in confidence and not published.

- Phoenix Natural Gas Ltd.
- Viridian Power & Energy
- Airtricity
- Gaslink
- PTL and BGTL
- Bord Gáis Eireann
- Bord Gáis Energy Supply

The sections below summarise the responses we received and the comments of the RAs on the responses. The RAS are encouraged by the level of industry support for the proposed high level design of the CAG operations regime.

6.2 Functions of the CAGSO

Five out of eight respondents addressed the functions to be performed on an all-island basis and all agreed with the scope of functions as proposed in the October consultation paper. Some proposed added functions of; transmission code modification and operational change management; CAG TSO market development in support of competition and efficiency; network safety coordination; shipper query resolution procedures; billing synergies. One respondent stated that balancing required further consideration, as this is a safety case function in NI. One respondent felt that functions could not be distributed between CAG SO and AO until such time as there is a better structure on the CAG SO.

Only three respondents directly referred to the single IT system/interface. All those that addressed it were supportive of a single interface/IT system.

The RAs are encouraged by the degree of consensus evident on which system operation functions should be performed by the CAGSO. As stated in section 3 the exact nature and scope of the CAGSO and asset owners' roles will be considered in further detail as we work through the licences, contractual and code implementation issues.

6.3 Options for system operation

6.3.1 Single Service Provider model

Generally, respondents did not advocate the SSP option over other options given the perceived disadvantages associated with it. The respondents either refrained from expressing a view or supported the Single TSO option or asked that no substantial changes should be made until the outcome of the third package is known. Some respondents did not express a preference for either of the options, but did express reservations about the SSP option.

One respondent would favour the SSP option if the service contract was tendered for a medium term only (five-eight years).

The RAs are of the opinion that this would not alleviate the key disadvantages of the SSP option – lack of regulatory control and limits on decision-making.

Two other respondents did not express a view due to uncertainty about the third package and its impact on CAG.

While we agree that the precise shape of the third package is not yet decided, its broad outline, including the options currently under consideration, are clear and we expect a final agreement on the package in the next couple of months.

One respondent proposed an interim solution pending resolution of the third package which would involve creating contractual joint ventures to operate the all-island network, and provide a single code and IT system. BGN would be contracted to operate the system on a day to day basis as at present.

The RAs believe that due to the contracts that would be necessary to underpin it, the interim solution proposed would be complex and time consuming to implement relative to the amount of time this solution might actually be in place. Therefore it would not be cost effective.

6.3.2 Single TSO

Three respondents believed that the Single TSO would deliver the maximum benefits of CAG and felt that it would be the best structure to support CAG, the single code and the

single IT interface. The other respondents either refrained from expressing a view or asked that no substantial changes should be made until the outcome of the third package is known.

Those who supported the Single TSO felt that it was an improvement on the deficiencies of the SSP option.

For the reasons outlined in section 4 the RAs believe that the Single TSO is the most appropriate option for CAG. As stated earlier the RAs are now in a position to initiate further work streams on the basis of these conclusions and that the CAG process will involve further consultative steps.

6.3.3 Contestability of system operation services

Two respondents did not support the proposal that the operation of the all-island system could be contracted on a contestable basis. One respondent felt that it was the best way to achieve efficiencies and to retain control over the CAG SO.

The RAs will give further consideration to whether contestability is appropriate as part of the CAGSO establishment work.

6.3.4 Treatment of new pipelines

One respondent did not agree with the proposal that all new pipelines owners would be, by licence, forced to either contract with the SSP or give over operational rights to its pipeline to a single TSO. They argued that new pipeline owners should be able to choose the entity to operate their assets.

The vision of the common arrangements for gas regarding operations is to operate gas transmission systems on a single all-island basis. In order to achieve this vision it may be necessary for some new pipelines (as yet unbuilt) to be operated by the CAGSO. The RAs will give further consideration to the treatment of new pipeline as part of its discussions with the relevant departments on the structure of the CAGSO.

6.4 Network codes

All those respondents who addressed the proposal to implement a unified code of operations facilitating independent distribution codes responded favourably to the creation of a single code for the island.

The RAs welcome the consensus in favour of a unified code of operations facilitating independent distribution codes. For the reasons outlined in chapter 5 we have concluded that this option best meets the CAG objectives.

7 Next steps

This paper sets out the final conclusions of the RAs with respect to the high level design issues for the CAG operational regime which were the subject of consultation with industry in May and October 2008. Further work needs to be carried out in a number of areas in order to refine the high level design:

- Designation of a single CAGSO
- Definition of the precise structure of the CAGSO
- Definition of the role and responsibilities of the CAGSO and the asset owners

Before drawing conclusions on these issues, the principles on which decisions will be taken by the appropriate authorities will need to be agreed. The RAs are currently in discussions with the respective government Departments to discuss the preferred and appropriate structure for the CAGSO.

Once the structure of the CAGSO is agreed, discussions with respect to the division of the roles and responsibilities of the asset owners and the CAGSO can be initiated together with work to commence the establishment of new licensing regimes and contracts. Detailed work on this and the design of a single code will be undertaken in line with the Departments' work programme on legislation to implement CAG.

APPENDIX 1: Assessment of Additional Functions Against the CAG Criteria

Proposed function to be coordinated	Assessment
The administration of the financial security policy	A single financial security policy will be more customer friendly and transparent to network users than separate rules and administering this on an all-island basis will be more cost effective and customer friendly than each jurisdiction administering the policy separately Administering the policy on a single basis also avoids the possibility that it could be applied differently in each jurisdiction
Monitoring and compliance with gas quality specifications	Monitoring and compliance with gas quality specifications on an all-island basis will be more cost effective than each jurisdiction doing so separately. Similarly if one entity rather than multiple entities are responsible for this function the safety and reliability of the network should be improved

APPENDIX 2: Assessment of CAGSO Models Against CAG Criteria

2A Assessment of SSP model against the CAG Criteria

Criteria	Assessment
Efficient	Under the SSP model, it will be much more difficult to ensure that the system is operated in an efficient manner regardless of ownership of pipelines because the activities of the SSP will be policed by the TSOs Each asset owner is likely to focus on what is best for their own network Difficulties in the operation of the SSP option may also arise if there are disagreements/disputes between the different contractual parties (TSOs and the SSP)
Cost Effective	The lack of regulatory oversight inherent in the SSP model creates a real risk that this option will not be cost effective In addition, the SSP model is not cost effective on an on-going basis for the reasons outlined above
Customer Friendly	The SSP model can facilitate a single IT interface for shippers – so is customer friendly in this regard. However, the coordination agreement will need to set out who will own the single IT interface and how investments in IT will be agreed and financed
Transparent	This option does not change the current responsibilities of the TSOs. However, for this model to be transparent the contractual arrangements which underpin it will need to be clearly drafted to ensure that the role and responsibilities of the TSOs and the SSP are clear
Consistent with EU Legislation	SSP model is consistent with current EU legislation and is not precluded by the draft

	Third Package
Compatible with Developments towards a Single EU Market	The SSP model will contribute to the interoperability of the EU energy market. However at this stage, it is not yet certain as to what the EU single market will look like or the extent to which either cooperation or integration between member states may be required and to what timeframe

2B Assessment of the Single TSO model against the CAG Criteria

Criteria	Assessment
Efficient	This option is the most efficient option as the single TSO can be constituted in such a way that it is independent of the asset owners and incentivised to move gas in an efficient manner regardless of the ownership of pipelines
Cost effective	The CAGSO will be licensed and regulated by the RAs allowing the RAs to control its costs The single TSO is also more cost effective than the SSP model as it avoids the on-going costs associated with coordinating the relationship between multiple TSOs and securing agreement between multiple TSOs
Customer friendly	The Single TSO can facilitate a single IT interface for shippers so is customer friendly in this regard
Transparent	As with the SSP model, the transparency of the single TSO model will depend on the contractual arrangements which underpin it. The contract between the asset owners and the single TSO will need to be clearly drafted to ensure that the roles and responsibilities of each party are clear
Consistent with EU legislation	The single CAGSO model is consistent with current EU legislation and is not precluded by the draft Third Package
Compatible with developments towards an EU single market	The single CAGSO model will enhance the interoperability of the EU energy market. However at this stage, it is not yet certain as to what the EU single market will look like or the extent to which either cooperation or integration between member states may be required and to what timeframe

APPENDIX 3: Assessment of Single CAG Code against the CAG criteria

Criteria	Assessment
Efficient and Cost effective	In the long run a single code dispenses with the need to coordinate multiple codes and is therefore more efficient and cost effective than other options
Customer friendly	A single code is the most customer friendly option as network users need only sign one code at transmission level rather than the four codes which exist at present. We believe this is a major benefit for network users and should also make the island more attractive to new suppliers
Transparent	We have also concluded that there are transparency benefits in having one set of rules as opposed to four (particularly in Northern Ireland where the rules have been streamlined but are not identical) and a single entity for network users to interface with – the CAGSO. When developing the new code we will work with industry to ensure that the rules it contains are clear and that the roles and responsibility of each party to the code are properly defined
Consistent with EU legislation	A unified code which facilitates opt-outs for distribution codes in Northern Ireland is consistent with current EU legislation and is not precluded by the draft third package
Compatible with developments towards an EU single market	A unified code will improve the interoperability of energy markets at EU level and is also consistent with developments towards an EU single market as the EU's draft third package envisages the development of cross-border gas and electricity network codes. These will be drafted by European Network of Transmission System Operators (ENTSOs). European Regulators Group for Electricity and Gas (ERGEG) is preparing framework guidelines which would form the basis for

	the ENTSOs to draft the network codes.[4] While the ultimate scope of this work is still unclear the direction is towards greater harmonisation

[4] See ERGEG 'Implementing the third energy package – An initial consultation paper by the European Energy Regulators,' October 2008.