FOUNDATION CONTRACTS AND 'GREENFIELDS' GAS PIPELINE DEVELOPMENTS: EXPERIENCE FROM THE UNITED STATES AND OTHER JURISDICTIONS

A Final Report for the ACCC

Prepared by NERA

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Project Team:
Greg Houston
Franz Gerner

n/e/r/a
National Economic Research Associates
Economic Consultants

Level 6, 50 Bridge Street
Sydney NSW 2000
Australia

Tel: (+61) 2 8272 6500
Fax: (+61) 2 8272 6549
Web: http://www.nera.com

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1 INTRODUCTION

The Australian Consumer and Competition Commission (ACCC) is currently investigating the role of 'foundation contracts' for new 'greenfields' gas pipeline developments. As part of the investigation, the ACCC commissioned National Economic Research Associates (NERA) to analyse the role of foundation contracts in new gas pipeline developments in various relevant jurisdictions.

In Australia and most other countries around the world contractual arrangements between Pipeline Service Providers (PSPs) and shippers that drive the development of new gas pipelines are strictly confidential. These contracts are generally only accessible by regulators and governments. However, there are a few jurisdictions where foundation contracts are publicly available, most importantly in the United States.

Given the importance and relevance of the United States gas market, the primary focus of this report is on the regulation of new gas pipeline development in the United States and the role foundation contracts play in this context. However, our analysis also draws on experiences in other relevant jurisdictions where 'foundation contracts' are in the public domain, eg, Mexico and Argentina. In addition, the report presents a high level analysis of how new gas pipeline developments are dealt with in the United Kingdom and Singapore.

2 GAS PIPELINE DEVELOPMENT IN THE UNITED STATES

2.1 Overview of Regulatory Responsibilities

In the United States, regulatory responsibilities for new gas pipeline developments are divided between the onshore and offshore network.

Responsibilities for the regulation of offshore gas pipeline developments reside with several agencies, including the Minerals Management Service (MMS) of the US Department of Interior, which awards permits to build gas pipelines across the Outer Continental Shelf (OCS). The Outer Continental Shelf Lands Act (OCSLA)[1] also requires consultation with the Secretary of Transportation to assure environmental protection and safety of new offshore gas pipeline developments. Section 5(e) of the OCSLA further requires that gas be transported without discrimination, pursuant to standards established by the Federal Energy Regulatory Commission (FERC).[2] Section 5(f)(1) of the OCSLA states that

> "the pipeline must provide open and non-discriminatory access to both owner and non-owner shippers."

The FERC approves the construction of onshore 'interstate' gas pipelines. Every interstate pipeline construction project that is 'material' must be approved by the FERC in a formal 'certificate proceeding', and a PSP must therefore file an application with the FERC for approval to build a new network. The FERC's process for assessing new onshore gas pipeline applications is open and public. Construction of new onshore gas pipelines cannot commence until the FERC issues a 'certificate of public convenience and necessity'. For most large interstate pipelines, the time from filing an application to approval ranges from one year to three years.

2.2 Separation of Commodity and Transportation Contracts

'Foundation contract' is a term used mainly in Australia to describe a long-term contractual agreement between a PSP and shipper(s) for the physical transport of gas on a pipeline network. Typically, foundation contracts are signed before the construction of the pipeline and they specify the terms and conditions, including tariffs and capacity, for shipping gas on the pipeline.

In the United States, the equivalent contractual arrangement between shipper(s) and a PSP for the reservation of transportation capacity on a pipeline is commonly referred to as a *'firm transportation contract'*. Consequently, foundation contracts and firm transportation

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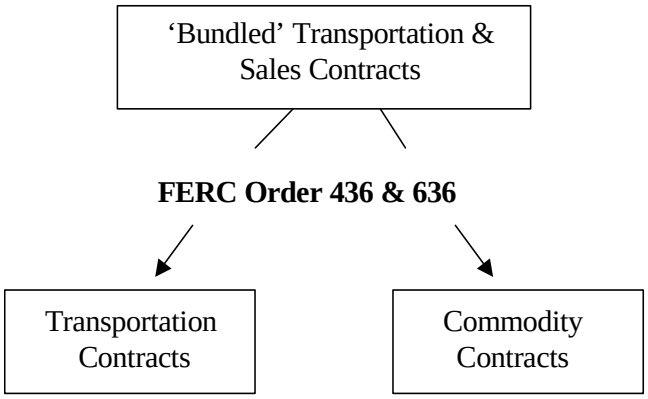
1 Outer Continental Shelf Lands Act, 29 December 2000.

2 Offshore pipelines are required to be open access and provide non-discriminatory services under FERC Order No. 636.

contracts are similar contractual arrangements dealing with the transportation of gas over reserved capacity on a pipeline network.

However, there is a clear separation in the US between firm transportation contracts and commodity contracts. *Commodity contracts* are defined as contracts between parties for the purchase/sale of the 'commodity' gas. Separate contracts are required for the purchase of gas and the transportation of gas, as the US commodity and transport markets are completely 'unbundled' at the interstate level.[3] Figure 1 below gives a graphical overview of the separation of transportation and commodity contracts.

Figure 1
Separation of contractual arrangements



Two FERC Orders were instrumental in the separation of those activities on 'interstate' pipelines, namely FERC Order Nos. 436 and 636.[4] FERC Order No. 436 instituted open-access and non-discriminatory transport of third-party gas over interstate pipelines and Order No. 636 fully separated a PSP's gas sales and gas transportation activities.[5]

A brief summary of how Order Nos. 436 and 636 came into place and the rationale behind them follow.

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[3] There are no 'take-or-pay' clauses, per se, in firm transportation contracts in the US. Per definition, the term 'take-or-pay' applies to the commodity 'gas', and no gas is purchased or sold under a transportation contract. However, the way in which PSPs structure their transportation tariffs in the US embodies take-or-pay principles. In other words, PSPs include provisions in their transportation tariffs that enable them to recover their fixed costs regardless of how much capacity the shipper who contracted for firm capacity actually uses.

[4] State regulated 'intrastate' pipelines are not required to comply with these FERC Orders. Regulatory practices among states vary widely, with some states having adopted an open access arrangement and unbundling of commodity and transportation contracts, and some not.

[5] It should be noted that customers can still purchase both the 'commodity' gas and the 'transportation' service from 'marketers' under one contract. A 'marketer' is a person who offers a 'bundled' service to a customer but contracts separately for commodity gas and the transportation of gas with producers and PSPs.

Prior to Order No. 436 being issued, PSPs provided gas commodity and transportation services under a single 'bundled' tariff that was regulated by the FERC. Customers had to purchase both gas and transportation from the PSP under this single tariff. Additionally, PSPs were not required to ship third-party gas on their systems. Even PSPs that did offer some degree of third-party access generally required third-party shippers to go through a long and burdensome application process.

In the early 1980s, the FERC began to recognise that PSPs sold two separate products, (a) the commodity gas and (b) transportation services, and only the latter was deemed in need of regulation.[6] Consequently, in October 1985, the FERC addressed the issue of third-party access on interstate pipeline systems by issuing Order No. 436, which established a voluntary, open-access, non-discriminatory transportation system.[7]

The 'voluntary' nature of the Order offered PSPs two options:

- **Option 1**

This Option allowed a PSP to accept 'open-access' status for its pipeline network, and provide transportation of 'third-party' gas on a first-come, first-served, non-discriminatory basis under a 'blanket' (ie, pre-approved, standard) certificate. The aim of this open access regime was to force PSPs to compete with other gas suppliers (such as producers, other PSPs, and gas marketers) to sell gas to final customers via their pipeline network.

- **Option 2**

The FERC also gave the PSP the option to decline to become an open-access carrier and continue to exclude all third parties from transporting gas on its system. In doing so, the PSP was precluded from offering any transportation-only service to third party shippers at all, and was also precluded from offering selective discounts on its sales tariffs.

Under this option, the PSP would thus act solely as a merchant, selling and transporting gas at a bundled tariff, as in the past. However, because a PSP could no longer offer selective sales discounts or selective transportation service, it could lose its customers to less expensive alternative fuels or less expensive sources of gas as market conditions changed.

The FERC offered PSPs the choice between taking a blanket certificate under Order No. 436 (Option 1), which enabled pipelines to respond more quickly and flexibly to changing market conditions, or accepting existing regulatory rules (Option 2), which preserved their transport monopoly but placed them at risk of a dramatic erosion of their market over time.

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6 The market for gas, on the other hand, containing thousands of buyers and sellers, was considered by FERC as a main target for deregulation.

7 *FERC Stats. and Regs., Regulations Preambles* 1982-1985 ¶30,665 (1985).

It turned out that most PSPs chose the first option.

The Court of Appeals commented on the 'voluntary' nature of the Order No. 436:

> "First, refusal of the option [of a blanket certificate] may spell bankruptcy [for a PSP]: inability to provide blanket-certificate transportation for fuel-switchable users may *in certain market circumstances* cause critical load loss. Of course acceptance of the option may also be fatal. But when a condemned man is given the choice between the noose and the firing squad, we do not ordinarily say that he has 'voluntarily' chosen to be hanged. (emphasis added)"[8]

The Court further stated:

> "[a]s a general matter we uphold the substance of Order No. 436 and the procedures the Commission employed in adopting it."[9]

Order No. 436 helped to change the primary function of interstate PSPs from providers of a 'bundled' gas supply service (including gas and transportation services) to both gas suppliers and non-discriminatory transporters of 'third party' gas. However, PSPs maintained a competitive advantage over other gas suppliers due to the fact that they were able to transport their own gas with firm capacity and offer only interruptible transportation service to third party shippers, if all of their firm capacity was utilised. The fact that third party gas was often shipped by interruptible transportation services left third party shippers at a disadvantage to pipelines in attracting gas customers.

Although Order No. 436 gave third party shippers access to interstate pipelines, it did not require PSPs to separate their own sales and transportation services. To ensure that gas was transported on the interstate network on even terms without regard to the identity of the suppliers, the FERC issued Order No. 636 in 1992.[10] Order No. 636 required that PSPs separate their gas sales service from their transportation service at an upstream point near the production area and provide all transportation services on an equal basis for all gas suppliers, independent of whether gas was purchased from the PSP itself or from any other gas supplier.

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8 Associated Gas Distributors v. FERC, 824 F.2d 981, June 1987, pp. 82.

9 Ibid., pp. 124.

10 *FERC Stats. and Regs., Regulations Preambles 1991-1996* ¶30,939 at 30,418 (1992).

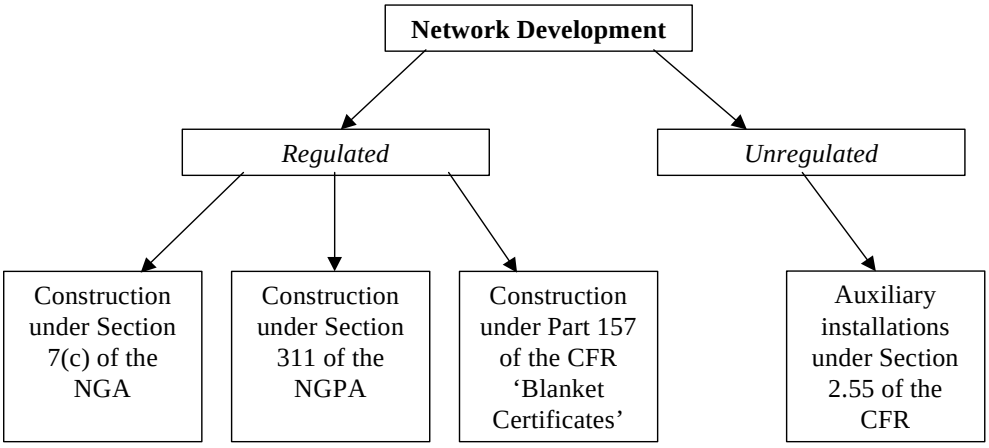
2.3 Regulated versus Unregulated Pipeline Development

In regulating new gas pipeline developments, the FERC follows three potentially applicable regulations, including:

- Section 311 of the Natural Gas Policy Act (NGPA);
- Part 157[11] and Section 2.55[12] of the Code of Federal Regulations (CFR); and
- Section 7(c) of the National Gas Act (NGA).

Each of these regulations specify whether a new pipeline network should be regulated or unregulated. Figure 2 below gives an overview of the legal provisions that determine the status of new pipeline development. Each of these provisions are discussed in more detail below.

Figure 2
Regulations that determine the status of new pipeline development in the United States



2.3.1 Regulated network development

Various categories of 'regulated' new pipeline development are specified in the following legislation:

- Section 7(c) of the NGA;
- Section 311 of the NGPA; and
- Part 157 'Blanket Certificates'.

[11] 18 CFR §157.

[12] 18 CFR §2.55.

2.3.1.1 Construction under section 311 of the NGPA

Section 311(a) permits the FERC to authorise interstate PSPs to construct pipeline in order to be able to transport gas on behalf of any intrastate PSP or local distribution company.

However, PSPs may construct facilities for the purpose of providing NGPA Section 311 transportation without obtaining 'prior' FERC approval.

All Section 311 construction is subject to the FERC and the Environmental Protection Agency's environmental compliance.

A PSP must give the FERC thirty days advance notice of any Section 311 construction.

2.3.1.2 Construction under Part 157 'Blanket Certificates' of the CFR

'Blanket certificates of public convenience and necessity' permit interstate PSPs to construct certain types of facilities without obtaining prior, project-specific approval from the FERC. Construction activities that may be undertaken pursuant to a PSP's Part 157 'blanket certificate' fall into five categories:

1. **Eligible facilities**: Eligible facilities are defined as facilities which are required for the provision of service within existing levels; facilities that the PSP requires to receive gas into its system for further transport or storage; interconnecting facilities between jurisdictional pipelines; and mainline, lateral and compression replacements that do not qualify for regulation exemption because they will incidentally increase capacity or because they fail to satisfy location requirements. Eligible replacements must be undertaken for engineering purposes. Replacements made to increase mainline capacity are not eligible.[13]
2. **Miscellaneous rearrangements:** Miscellaneous rearrangements do not result in any change of service rendered by the pipeline involved, including changes in existing field operations or relocation of existing facilities.
3. **Temporary compression facilities:** Temporary replacement compressors—installed and operated at existing compressor locations—are eligible, as long as they are not used to increase volume or service above that offered by permanent compressors.
4. **Delivery points:** A pipeline may acquire, construct, modify, replace or operate any delivery point if the gas is being delivered to, or on account of, an end-user who is currently being served by a local distribution company, or if the gas is being delivered to a shipper for whom the PSP is already authorised to transport gas.

[13] 18 CFR §157.202(b)(2)(i).

Additionally, delivery points can only be modified or constructed if the PSP's tariff does not prohibit the addition of new delivery points.[14]

5. **Facilities for testing or developing underground storage reservoirs:** If the project will be completed within three years and does not exceed size limitations, pipelines are automatically authorised to acquire, construct and operate pipeline and compression facilities for the testing or development of underground reservoirs for the possible storage of gas. However, storage fields developed from such testing are not be authorised to render service without further FERC approval.

2.3.1.3 Construction under Section 7(c) of NGA

Part 157 of the CFR and under Section 311 of the NGPA specify circumstances under which a PSP can construct pipeline facilities without prior project-specific FERC approval. In contrast, Section 7(c) of the NGA applies to pipeline construction projects that require specific, individual approval by the FERC before construction.[15]

Generally, Section 7(c) applications must be filed for the construction of facilities that:

1. expand the capacity of a mainline;
2. constitute a mainline extension;
3. increase compression on a mainline; or
4. increase a pipeline's maximum allowable operating pressure.[16]

Any interstate pipeline construction project of any magnitude will fall under Section 7(c) of the NGA and will therefore be subject to specific regulatory scrutiny.

In order to contract for gas transportation services on a new Section 7(c) pipeline, shippers have to sign transportation contracts with a PSP. These transportation contracts are generally subject to regulatory oversight by FERC.

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[14] 18 CFR §157.211(a)(1).

[15] Part 157 and Section 311 constructions are both regulated, but less stringently than under Section 7(c) of the NGA. 'Greenfield' gas pipeline development generally requires Section 7(c) approval.

[16] See 18 CFR §§157.6 and 157.14.

2.3.2 Unregulated network development

2.3.2.1 Auxiliary installations under section 2.55 of the CFR

The FERC does not regulate 'auxiliary installations' to existing or proposed pipeline facilities. The Code of Federal Regulations (CFR) defines auxiliary installations as:

> Installations (excluding gas compressors) which are merely auxiliary or appurtenant to an authorized or proposed transmission pipeline system and which are installations only for the purpose of obtaining more efficient or more economical operations of the authorized or proposed transmission facilities, such as: valves; drips; pig launchers/receivers; yard and station piping; cathodic protection equipment; residual refining equipment; water pumping, treatment and cooling equipment; electrical and communication equipment; and buildings.[17]

Replacement of existing pipeline facilities that are, or will soon become deteriorated or obsolete is also excluded from FERC regulation. However, this exclusion only occurs provided that replacement will not result in reduction or abandonment of service through the facilities and that the facilities will have a similar delivery capacity and will be located in a similar location.

2.4 FERC's Certification Policy

A 'certificate of public convenience and necessity' is issued pursuant to Section 7(c) of the Natural Gas Act and generally applies to interstate pipeline construction projects that build or expand capacity on a mainline.[18] Section 7(c) certificates of public convenience and necessity differ from other FERC approval certificates in that they are individual, case-specific certificates for discrete, specified services. Consequently, a PSP may not apply for open-ended 'blanket' authority under Section 7(c).[19]

The application for a Section 7(c) certificate is lengthier than any other FERC application project and the application process is costly and time consuming.[20] The FERC's policies regarding Section 7(c) applications include the following:

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[17] 18 CFR §2.55(a)(1).

[18] State regulatory commissions must also approve new intrastate pipeline developments. In general, state regulators apply the same principles for new gas pipeline development as FERC, assessing whether the future benefits of the pipeline development outweigh the foreseeable costs.

[19] Under a 'blanket' proposal, a PSP may enter into contracts with shippers without obtaining prior approval for each contract from the FERC. However, the contracts must still conform to all FERC regulations governing pipeline construction.

[20] Appendix B contains a sample application form for a certificate of public convenience and necessity.

- applications should not be dependent on other new pipeline applications;
- applications must be company specific;
- applications must be volume specific;
- applications must be complete; and
- the applicant must have conducted an 'open season'[21].

In 1999, the FERC issued a Statement of Policy, PL99-3 Certification of New Interstate Natural Gas Pipeline Facilities[22], explaining how it evaluates Natural Gas Act Section 7(c) certificate applications.

2.4.1 Goals and objectives of certification

In its Statement of Policy the FERC argues that an effective certificate policy should further the goals and objectives of the Commission's natural gas regulatory policies. In particular it should be designed to foster competitive markets, protect captive customers, and avoid unnecessary environmental and community impacts while serving increasing demands for natural gas. It should further provide appropriate incentives for the optimal level of construction and efficient customer choices.

The FERC also argues that a certificate policy should provide an incentive for applicants to structure their projects to avoid, or minimize, the potential adverse impacts that could result from construction of the gas pipeline. By encouraging applicants to devote more effort before filing an application to minimize the adverse effects of a new pipeline development, the policy gives them the ability to expedite the decision process by working out contentious issues in advance. Thus, this policy provides more 'predictability' about the FERC's analytical process.

In considering the impact of new pipeline development on existing pipelines, the FERC's goal is to appropriately consider the enhancement of competitive transportation activities, the possibility of overbuilding, the avoidance of unnecessary disruption of the environment, the unneeded exercise of 'eminent domain'[23]. The FERC stated that it envisages a proper balance between the enhancement of competitive alternatives and the possibility of overbuilding.

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[21] An 'open season' is a process in which a PSP solicits market interest for new pipeline transportation services. This is done as part of the PSP's planning process to help it determine the economic feasibility for the project, and is discussed further in section 2.5.

[22] Certification of New Interstate Natural Gas Pipeline Facilities, Statement of Policy, 88 FERC ¶61,227 (1999).

[23] Under section 7(h) of the NGA, a PSP with a certificate issued by the FERC has the right to exercise eminent domain to acquire the land necessary to construct and operate its proposed new pipeline when it cannot reach a voluntary agreement with the landowner.

In reaching a final determination on whether a new pipeline development will be 'in the public convenience and necessity', the FERC evaluates the specific circumstances of an application on a case-by-case basis, including the economic, operational, competition as well as environmental impacts of a proposed pipeline project.

The FERC will approve an application only if public benefits outweigh any adverse effects of the new 'greenfield' gas pipeline or a gas pipeline expansion.

2.4.2 Public benefits versus adverse effects of pipeline development

There are three major 'interests' that may be adversely affected by new pipeline development, including:

- existing shippers (in case of a pipeline expansion);
- other existing pipelines[24] in the market and their captive shippers; and
- landowners and communities affected by the pipeline's route.

Overall, a new pipeline development that would have adverse effects would be approved only where the public benefits to be achieved from the project can be found to outweigh any adverse effects. For this assessment the FERC essentially applies an 'economic test'.

The FERC's policy objective is to minimise adverse effects on 'third parties' and PSPs are encouraged to provide evidence that they have tried to minimise such effects as part of the application for certification. In addition, to demonstrate that the pipeline project is in the public convenience and necessity, an applicant must show public benefits that would be achieved by the project.

Prior to its 1999 Statement of Policy there were some drawbacks with the FERC approach to assessing the demand for new pipeline development. Previously, the FERC used the percentage of capacity under long-term transportation contracts as the *primary* measure of the demand for a proposed project. The FERC acknowledged that the reliance solely on long-term contracts to demonstrate 'demand' does not test for all the public benefits that can be achieved by a proposed project. The public benefits may include such factors as the environmental advantages of gas over other fuels, lower fuel costs, access to new supply sources or the connection of new supply to the interstate grid, the elimination of pipeline facility constraints, better service from access to competitive transportation options, etc. Consequently, in its Statement of Policy, the FERC stated that the amount of capacity under contract is not a good indicator of all the potential benefits of new pipeline development.

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[24] In its Statement of Policy the FERC acknowledged that the previous pricing policy focused primarily on the interests of the expanding PSP and its existing and new shippers, giving little weight to the interests of competing PSPs or their captive customers. The FERC stated that the previous policy was no longer fitting well with an industry that was increasingly characterised by competition between PSPs.

The FERC is also concerned about 'excess' capacity on new pipeline development. For example, a project that results in significant excess capacity might result in more environmental harm then shipper benefit. It might also cause higher tariffs for captive shippers or it might negatively impact the PSP financially, rendering it incapable of continuing its service obligations on other pipelines that it owns and thus negatively affecting shippers and end-users. Only when the potential benefits of 'overbuilding' outweigh the foreseeable costs will the FERC approve an application. It is the applicant's responsibility to prove that 'overbuilding' is in the public interest.

Before 1999, an application for a Section 7(c) certificate of public convenience and necessity to build a new pipeline required contractual commitments of at least twenty-five percent of the proposed capacity before the FERC would consider it. In Docket PL99-3-000 (out of which the Policy Statement grew), the FERC changed the policy to no longer require any long-term firm transportation contracts at the time of application. However, to the extent that public benefits must outweigh adverse effects of a new pipeline development, contracts still play an important role in the approval process.

It is more likely that an application will be approved by FERC where the PSP has already signed transportation contracts with shippers for all or at least most of the planned capacity of a new pipeline, as compared with an application without any contractual arrangements in place at the time of application.

In addition, the public benefit assessment will also depend upon the extent to which there are long-term firm transportation contracts signed at the time of application. PSPs with several long-term firm contracts could expect to demonstrate a greater amount of 'public benefit' than a proposed new pipeline development with only short-term contracts. To increase the likelihood of getting a new pipeline approved, some PSPs offer longer-term firm transportation contracts.[25]

Overall, the amount of evidence necessary to establish the need for a proposed pipeline project will depend on the potential adverse effects of the proposed project on the relevant interests. As discussed above, the FERC will also review the efforts made by the applicant to mitigate adverse effects.

After the submission of the application, the FERC carries out an independent environmental review of projects before making its decision.[26]

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[25] One example is the new Alliance pipeline (which crosses the Canada-US border) that started operation in October 2000. In its open season for contracted capacity, it offered a term of 15 years. Alliance Pipeline Application for Certificate of Public Convenience and Necessity, FERC Docket No. CP97-168-000, December 24, 1996, pp. 223.

[26] The project must also be approved by the US Environmental Protection Agency (EPA).

2.4.3 **FERC's policy on expansions on existing pipeline network**

Once a certificate application is filed for a gas pipeline expansion, the threshold question applicable to the PSP is whether the expansion can proceed without 'subsidies' from existing shippers on the pipeline.[27]

Before the FERC issued the Statement of Policy which requires that pipeline construction projects be 'incrementally priced'[28] the FERC was in favour of rolled-in tariffs[29] when the cost impact of the new facilities would result in a tariff impact on existing shippers of five percent or less, and some system benefits would occur. At the same time, existing shippers generally had to bear the rate increases without being allowed to adjust their volumes.[30]

FERC acknowledged that its pricing policy's bias for rolled-in tariffs was inconsistent with a policy that encourages competition while seeking to provide incentives for the 'optimal' level of construction and customer choice. This is because rolled-in tariffs often result in projects that are subsidized by existing shippers. Under this policy tariffs do not reflect the actual costs of a pipeline expansion, leading to inefficient investment and contracting decisions. This in turn could exacerbate adverse environmental impacts, distort competition between pipelines for new customers, and financially penalize existing customers of expanding pipelines and of pipelines affected by the expansion. This could further result in overbuilding of capacity and subsidization of an incumbent PSP in its competition with potential new entrants for expanding markets. In addition, the FERC acknowledged that existing shippers bear substantial risks resulting from tariff changes that they may be ill equipped to bear.

With a policy of 'incremental pricing' the market will decide whether a pipeline expansion is financially viable. This requirement helps to address all of the interests that could be adversely affected, including:

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27 'Non-subsidisation' does not mean that the PSP has to bear all the financial risks of the project. The risks can be shared with new shippers in pre-construction contracts, but it cannot be shifted to existing shippers.

28 Under that policy current shippers may not bear the costs of new capacity construction through rolled-in tariffs if they will not benefit directly from the expansion.

29 This means rolling-in the pipeline expansion costs with the existing pipeline's costs.

30 The FERC did also have a formal 'at risk' condition that it could place on PSPs when approving pipeline construction projects that were not fully contracted for. If the FERC deemed a pipeline 'at risk,' the PSP would be solely responsible for recovering any costs that its contracts did not account for. This condition essentially protected shippers from bearing any risks and associated costs for overcapacity on the pipeline. However, even under the 'at risk' condition, the PSP's contracts were regulated (i.e. the pipeline was still subject to the same tariff conditions and provisions than non 'at risk' pipelines were). Since the Statement of Policy was issued, the formal 'at risk' condition became obsolete, as existing shippers cannot be held responsible for a pipeline's construction and expansion costs when they will not benefit from the construction / expansion.

- existing shippers of the expanding pipeline should not have to subsidise an expansion that does not serve them;
- landowners should not be subject to 'eminent domain' for projects that are not financially viable and therefore may not be viable in the marketplace;
- existing PSPs should not have to compete against new entrants into their markets whose projects receive a financial subsidy (via rolled-in tariffs); and
- PSP's captive shippers should not have to shoulder the costs of unused capacity that results from competing pipelines that are not financially viable.

In summary, if a PSP can show that the pipeline expansion is financially viable without subsidies, then it will have established the first indicator of public benefit, indicating a market based need for new capacity. Projects that would require subsidies are generally disallowed by FERC.[31]

2.4.4 **FERC's policy on new pipeline development**

In its Statement of Policy, the FERC places the financial responsibility for new 'greenfield' gas pipeline development on the PSP. Similarly, the risk of construction cost overruns rest with the PSP, unless it is apportioned between the PSP and shippers in their contracts. Additionally, the PSP is left responsible for the costs of under-utilised capacity and cost overruns.

As part of the application process, the PSP will have to submit estimated construction cost data for the pipeline project. The FERC will approve transportation tariffs for the PSP taking this construction data into account, along with other relevant cost data and information. Thus, to the extent that the PSP incurs greater construction costs than budgeted for in its submission to the FERC, the PSP will not be permitted to recover these additional costs from shippers through higher tariffs.

However, the FERC has approved a mechanism that incentivises PSPs to remain within the estimated target costs of a specific pipeline construction project. Under this incentive mechanism, the costs of the expansion are subject to a Project Cost Containment Mechanism (PCCM). The PCCM establishes a target cost of each new pipeline project. If a PSP manages to carry out the pipeline project for less than the target cost it will share its savings with shippers. If the actual construction costs are higher than the target costs the PSP has to bear most of these cost overruns.

[31] In this context it is important to stress that projects designed to improve existing service for existing shippers, by replacing existing capacity, improving reliability or providing flexibility, are for the benefit of existing shippers. Increasing the rates of the existing shippers to pay for these improvements is not regarded as a subsidy.

To illustrate the general principle of this mechanism it is useful to refer to a recently approved incentive mechanism for Northern Border Pipeline Co.[32] where the target construction costs for its new pipeline project was determined as US$200 million (A$390 Million). Under the approved incentive mechanism, if Northern Border Pipeline Co. stayed below the target cost it would be allowed to keep 50 percent of all savings that it is allowed to recover, through higher transportation tariffs. However, if actual costs exceeded the predetermined target, the PSP will be permitted to recover the first US$6 million in cost overruns and 50 percent of the cost overruns between $6 million and 5 percent of the target cost (US$10 million). The PSP will not be permitted to recover any of the cost overruns exceeding 5 percent of the target cost.

2.5 The Open Season Process

Application for a Section 7(c) certificate of public convenience and necessity requires that a PSP applying for such a certificate must have conducted an 'open season' before submitting the application.

The open season essentially consists of 'requests for capacity' from potential new shippers as well as 'requests for relinquishment of capacity' in expiring transportation contracts from existing shippers (if the new capacity is an expansion). In this way, an open season enables a PSP to assess the demand for its proposed new or expanded pipeline network. The open season does not deal with the issue of transportation tariffs for new pipeline development; its principle purpose is to get an indication of shippers demand for new capacity.

If much capacity is relinquished during the open season and little capacity is requested for, an expansion will not likely be deemed necessary. On the other hand, if little capacity is relinquished and much capacity is requested, sufficient demand exists for the new facility. The results of requests for abandonment of capacity from existing shippers can prompt the PSP to modify its proposal for the construction of a new pipeline network.[33]

The FERC requires that PSPs are consistent and non-discriminatory in their open season policies.[34] In this context, the FERC does allow the PSP to require a minimum term for new transportation capacity from shippers on a new pipeline development.[35]

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[32] Northern Border Pipeline Co., 80 FERC ¶61,150 (1997).

[33] For example, Northern Border Pipeline Company amended its application for its Project 2000 Expansion, proposing a downsizing of the project because two shippers obtained released capacity from existing shippers for all or part of their service on the facilities upstream of the Project 2000 expansion. *Northern Border Pipeline Co.*, 90 FERC ¶61,263 (2000).

[34] In *Southern Natural Gas Co.*, the FERC directed Southern Natural Gas to establish a uniform proposal for all of its open seasons. *Southern Natural Gas Co.*, 92 FERC ¶61,265 (2000).

[35] *National Fuel Gas Supply Corp.*, 77 FERC ¶61,005 (1996).

During the open season process, an interested shipper must complete a 'letter of intent'[36], which states that the shipper is contemplating signing a pro forma transportation contract with the PSP within a specified number of days after the close of the open season.

After the conclusion of the open season, the PSP processes shipper(s) requests and responds to interested parties for signing up for new capacity. Shippers must then sign binding 'pro forma' transportation contracts.[37] This pro forma transportation contract contains a PSP's general terms of conditions for shipping gas on its pipeline network.[38] Pro forma transportation contracts also contain specific contractual components such as type of service, location, capacity etc. Pro forma contracts may also include initial 'indicative' tariffs. However, any tariffs proposed in pro forma contracts are subject to changes and approval by the FERC.

Pro forma transportation contracts may not be signed until after the open season has concluded because the open season procedures must ensure that capacity is allocated on a non-discriminatory basis. For instance, in *Wyoming-California Pipeline Co.*,[39] the FERC required that Wyoming-California (WyCal) reconduct its open season after its initial open season was deemed discriminatory on account of WyCal's assignment of capacity to two shippers ahead of other open season participants. In *Pacific Gas Transmission Co.*,[40] the FERC found that Pacific Gas Transmission (PGT) had discriminated against non-utility shippers[41] in conducting a phased approach to the allocation of initial capacity. PGT offered capacity to utility shippers[42] before an open season has been conducted. PGT then made the remaining capacity available to the open season shippers. Further, PGT redesigned its proposal to accommodate its parent company, Pacific Gas & Electric (PG&E), with additional capacity after the open season when all the requests for capacity had not been satisfied and without requiring PG&E to participate in the open season.

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36 A 'letter of intent' is legally not binding.

37 However, at this stage the transportation contract is still at a 'draft' stage where some clauses eg, tariffs are subject to changes and approval by the FERC.

38 Every pipeline system in the US has a set of terms and conditions filed with and approved by the FERC. These general terms and conditions not only apply to the transportation of gas on a PSP's existing network but also on future network development (if the new pipeline is part of the existing pipeline network). In theory, a PSP that owns different pipeline networks in the US can file different terms and conditions for each pipeline network.

39 *Wyoming-California Pipeline Co.*, 50 FERC ¶61,070 (1990).

40 *Pacific Gas Transmission Co.*, 54 FERC ¶61,035 (1991).

41 Non-utility shippers in this context are any shippers (marketers, industrial customers, generators etc) that are not local distribution companies.

42 In relation to the above case, utility shippers are local distribution companies.

After signing pro forma transportation contracts, the PSP generally submits these contracts as part of its application under Section 7 (c) to the FERC[43].

As part of the application process, a PSP also submits a proposed tariff structure and methodology for transportation services on the new pipeline. The FERC reviews the proposed tariff structure and makes a final determination as part of the certification process. Following the FERC's determination, shippers sign 'final' transportation contracts.

2.6 Typical Structure of Transportation Contracts

In the US, every interstate PSP must have a 'pro forma' transportation contract on file with the FERC.[44] A PSP must also make its pro forma transportation contract publicly available on its Internet website. A pro forma contract is a 'rate and service handbook' containing all of the definitions, terms and conditions, service descriptions, rate schedules, and rate sheets that a PSP and a shipper agree upon when entering a transportation service.

Part 154 of the Code of Federal Regulations (CFR)[45] lays out the requirements for the way in which PSPs must structure their pro forma transportation contracts. This regulation requires PSPs to file transportation tariffs, lists the requirements that the filing must fulfil and the required 'form and composition' of the tariff, as well as the procedures to be used to petition for a change in tariffs among other issues.

Volume 1 of the pro forma transportation contract is organised into four main sections comprising:

1. *Rate Sheets,* which set out the current tariffs applicable to the PSP's various services;
2. *Rate Schedules*, which describe the character and availability of each of the PSP's services and key provisions, including the applicability of various tariffs;
3. A *General Terms and Conditions section,* which set out the terms and conditions that are applicable to all (unless noted) of the PSP's services; and
4. A *form of service agreement* that is the actual contractual document signed between a PSP and a shipper that contains details on contracted transportation quantity, tariff rates and schedules, and general terms and conditions.

Volume 1 of the pro forma transportation contract also includes a table of contents, a preliminary statement including a description of the PSP's pipeline system and its services,

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[43] There is no obligation on PSPs to submit any pro forma transportation contracts as part of their submission. However, the likelihood of FERC approving a new pipeline development increases if PSP can prove that they have shippers who signed up for capacity.

[44] In the US the pro forma transportation contract is generally referred to as 'FERC Gas Tariff".

[45] 18 C.F.R. Part 154.

and a map of the pipeline network. Interstate pipelines must also maintain an index of their shippers, which must be publicly available and is sometimes disseminated within the tariff sheet.

Volume 2 of the pro forma transportation contract deals with individual FERC approved transportation contracts. The FERC requires that PSPs file any new service agreement that deviates materially from the pro forma transportation contract contained in Volume 1 of the PSP's specific 'pro forma' contract (filed with the FERC). If a PSP and a shipper sign a contract that deviates in a material way from the terms and conditions in the pro forma transportation contract, these deviations must be individually approved by the FERC. Additionally, any 'negotiated tariff' and 'discounted tariff' transportation contracts must be filed with the FERC. The main purpose for the requirement of PSPs to submit 'discounted' or 'negotiated' contracts and make them publicly available is not only for the FERC to decide whether these are consistent with its regulatory policy, but also to give other shippers the chance to determine whether or not they are 'similarly situated' and thus eligible for similar discounts and negotiated tariffs.

Although pro forma transportation contracts may vary, they often include a highly common set of general provisions, most of which are included within the terms and conditions section.

These provisions are listed and described briefly at Appendix A.

2.7 Capacity in Transportation Contracts

In the US, transportation contracts with 'firm' capacity rights drive new interstate pipeline developments. This is mainly based on the fact that PSPs are unlikely to be able to finance the construction of new capacity without shippers who are committed to pay for it. In addition, 'greenfields' gas pipelines cannot be constructed without the FERC approval and it is more likely that the FERC will approve the construction of a new pipeline if the proposed capacity is partly or fully contracted.

A 'firm' transportation contract provides the shipper with a right to use reserved, pre-specified and defined capacity[46] on a pipeline to ship gas. In general, firm transportation contracts define a specific volume of capacity over a certain specified distance between specific receipt and delivery locations, or a possible set of locations.[47]

A shipper can also obtain 'interruptible' transportation service on a pipeline by signing an 'interruptible transportation contract' with a PSP or by trading in the 'secondary' (capacity release) market.

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[46] Capacity in transportation contracts is generally defined by volume, distance and location.

[47] 'Distance' may vary if the firm transportation contract contains multiple possible receipt and delivery points.

Interruptible transportation contracts are distinct service contracts, similar to firm transportation contracts, except that the transportation service is not 'reserved' or 'firm'. PSPs that offer interruptible services on a pipeline have tariffs published for these services. Like firm transportation tariffs, these tariffs are publicly available.[48] PSPs' terms and conditions and transportation contracts generally address firm and interruptible services when provisions diverge. Interruptible service is not offered at a pipeline's 'initial' open season but only after the pipeline has been built and, generally, after all capacity has been contracted for by firm shippers.

Shippers can also purchase firm and interruptible services in the 'secondary' (or capacity release) market. The term 'secondary' or 'capacity release' market refers to a market for natural gas transportation capacity that has been purchased by a shipper in the 'primary' capacity market and is then resold by shippers in the secondary market. Trading of firm capacity or the resale of a shipper's right to use pipeline capacity is one of the cornerstones of the FERC's interstate gas transportation policy. The FERC's capacity trading rules were promulgated in FERC Order No. 636. Order No. 636 required that:

> "all open-access pipelines provide a capacity releasing mechanism through which shippers can voluntarily reallocate all or a part of their firm capacity rights to any person who wants to obtain that capacity by contracting with the pipeline."[49]

Transportation contracts generally include conditions under which a shipper's 'firm' transportation capacity can be interrupted, including:

1. 'force majeure,' clauses which refer to circumstances and events outside the control of a PSP (eg, earthquake, etc); and
2. 'operating conditions,' which refers to modifications (eg, tests, standard repair and maintenance, etc) the PSP has to make on the system.

2.8 Transportation Tariffs

Although the FERC has not issued a uniform, industry-wide tariff structure and methodology for transportation services on interstate pipelines, the FERC did make two specific requirements in Order No. 636.

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[48] PSPs publish tariffs for firm and interruptible services on their websites.

[49] *FERC Stats. and Regs., Regulations Preambles 1991-1996* ¶30,939 at 30,418 (1992).

First, nothing in a PSP's transportation tariff may inhibit the development of market centres,[50] and secondly, PSPs must provide buyers and sellers timely and equal access to any and all information necessary to arrange for gas sales and the capacity of the pipeline.

2.8.1 Tariff types

The transportation tariff that FERC-regulated PSPs can charge shippers must fall into one of the following categories:[51, 52]

1. cost-of-service based tariffs;
2. incentive based tariffs; and
3. market based tariffs.

In addition, a PSP can also offer 'negotiated' tariffs and 'discounts' on the above tariffs. In principle, a PSP can offer any of the above tariffs pursuant to certain conditions that are discussed in more detail below.[53]

2.8.1.1 Cost-of-service based tariffs

Despite PSPs having the option of offering different tariff methodologies for transportation services as outlined above, PSPs continue to offer mostly cost-of-service based tariffs.

Traditional cost-of-service based tariffs in firm transportation contracts generally follow the 'straight fixed variable' method (SFV) of tariff design. Under this method, tariffs are structured to enable the PSP to recover its prudently incurred costs and an adequate return on its investments.

Under the SFV method, the tariff for a firm transportation service is made up of two components, a fixed rate and a variable rate. The rationale behind the SFV approach is that most of the costs to obtain firm capacity are fixed, ie, they are not a function of the amount of gas transported on the pipeline.

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50 Order No. 636 B defines market centres as areas where: a) pipelines interconnect; and b) there exists or is a reasonable potential for developing a market institution that facilitates the free interchange of gas.

51 Alternative Ratemaking Policy Statement: Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines, 74 FERC ¶61,076 (1996).

52 In principle, tariffs that state-regulated PSPs charge their customers are more loosely structured, but the degree of specificity varies across jurisdictions. Generally, states require that similarly situated shippers be treated similarly and that rates are cost-based.

53 If a PSP wants to change the tariff methodology or the tariff rates used on its pipeline, it can make a NGA Section 4 tariff filing with the FERC.

These fixed costs are apportioned among firm shippers based on the amount of each shipper's reserved capacity on the pipeline.[54]

The cost of moving gas through pipeline networks increases with the volume and distance the gas is transported. Because of this volume and distance related cost aspect, a firm shipper's pipeline tariff also includes a variable component, based on the shipper's actual volume of gas and distance transported on the system.

Consequently, PSPs accomplish cost recovery in two ways:

1. Under SFV, all *fixed costs* related to transportation (the costs that PSPs incur irrespective of the volume and distance of gas that they ship through their systems) are allocated to a *reservation charge*, which firm shippers pay to reserve pipeline capacity. [55]

2. All *variable costs* associated with transporting the gas (the costs that PSPs incur on an incremental basis, as they actually move shippers' gas through their systems) are assigned to a *usage charge*, which all shippers pay, based on the volume of gas that they have shipped and the distance over which they have it shipped. Usage charges are often dependant on a load factor. The higher the load factor, the lower the usage charge that the shipper must pay per unit shipped.

In this manner, the pipeline will be sure to recover its fixed costs, regardless of contracted shippers usage of its system. This feature of a PSP's tariff design must be non-discriminatory and transparent, and ensures that a PSP will recover revenues regardless of a shippers' system utilisation. [56]

However, the SFV approach does not guarantee a PSP will recover the fixed costs from 'overbuilt' capacity. It only allows a PSP to recover all fixed costs (independent of gas throughput) for that part of the network that is fully contracted to shippers.

Consequently, if a PSP has only contracted half of its capacity on a new pipeline development, the PSP bears the full risk (and associated fixed costs) for the uncontracted

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54 The fixed portion of a firm shipper's pipeline rate is thus similar to the rent one pays for office or apartment space. The shipper pay a fixed fee to rent 'space' on a pipeline on a contractual basis, regardless of the degree to which the shipper actually uses the 'space' it has contracted for. The cost of reserving that space is proportional to the amount reserved, and the shipper chooses in advance how much is needed.

55 Order No. 636 discusses the issue of SFV in detail but it does not contain specific cost allocation methodologies. Rather, PSPs have to prove that their tariffs allocate all of the fixed costs associated with gas transportation into the reservation charge and not the usage charge.

56 For instance, on Transcontinental Gas Pipeline's system which applies the SFV methodology, the firm shipper pays Transco: a) a reservation charge, the shipper's total contracted quantity (capacity) multiplied by the applicable reservation rate; and b) a commodity charge, the applicable firm transportation commodity rate multiplied by the actual quantities delivered. If Transco reduces or interrupts a shipper's service, Transco reduces the reservation charge for the month during which Transco curtails service.

part of the network. The SFV approach applied by the FERC does not allow the PSP to recover fixed costs from uncontracted capacity from existing or new shippers. As a consequence, there are limited incentives on PSPs to 'overbuild' new greenfields gas pipelines.

2.8.1.2 Incentive-based tariffs

A PSP may also offer incentive-based tariffs. The FERC intends that:

> Incentive rate proposals, while cost-based, [will] result in better service options at lower rates for consumers while providing regulated companies with the opportunity to earn higher returns. Incentive regulation is not intended for competitive markets.... [I]ncentive regulation differs from traditional regulation in that it fosters long-term efficiency. It accomplishes this by: (1) divorcing rates from the underlying cost-of-service, (2) lengthening the period between rate cases; and (3) sharing the benefits of cost savings between consumers and stockholders on a current basis.[57]

When the FERC issued its initial Statement of Policy on incentive ratemaking in 1992, it required that incentive based tariff proposals be prospective, voluntary, and understandable to all parties.[58] Further, such proposals were to result in quantifiable benefits, and maintain or enhance the PSP's service quality.

However, when the FERC issued its 1996 Alternative Ratemaking Policy Statement, the FERC modified this policy because no PSP had proposed incentive-based tariffs since the issuance of the 1992 Policy Statement. The FERC eliminated the requirement that the proposal demonstrate quantifiable benefits.[59] The FERC also eliminated the requirement that incentive-based tariffs be no higher than they would be under traditional cost-of-service regulation. Instead, the FERC requires that the PSPs share with their shippers the efficiency gains that result from incentive based rates.[60]

Additionally, a pipeline proposing incentive-based rates must commit to continue the rate program for a specified length of time. The FERC has not specified a standard duration to apply to all proposals because it believes that different durations may be appropriate for different pipeline systems and different types of incentive rate programs. The FERC assesses the duration of the program on a case-specific basis, but requires each incentive based rate proposal to include a specified duration. The FERC also allows incentive based

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57 Alternative Ratemaking Policy Statement: Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines, 74 FERC 61,076 (1996).

58 *Incentive Ratemaking for Interstate Natural Gas Pipelines, Oil Pipelines, and Electric Utilities*, 61 FERC ¶61,168 (1992).

59 74 FERC ¶61,076 at 61,237-38.

60 74 FERC ¶61,076 at 61,238.

rate proposals to take a variety of forms, as long as they conform to the above stated requirements.

Despite FERC's policy changes, no incentive based transportation tariffs have been approved by the FERC to date. The main reason is that most PSPs are comfortable with the traditional cost-of-service based tariff approach that allows them the recover their investment costs. In addition, PSPs are aware that in order to get the FERC approval for an incentive-based tariff methodology, they have to submit a comprehensive, well designed methodology that might be costly to develop and still would need substantial persuasion of the FERC.

It is important to stress in this context that although the FERC encourages PSPs to petition to use other tariff design methodologies Order No. 636 states:

> "while a single party cannot preclude the Commission from considering a deviation from SFV, any party (or parties) advocating something other than SFV carries a heavy burden of persuasion."

However, attitudes are slowly changing and incentive mechanism in tariff design is becoming more prevalent across energy industries in the US.[61]

2.8.1.3 Market-based tariffs

A PSP may offer market-based tariffs in certain instances. In its Alternative Ratemaking Policy Statement, Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines,[62] the FERC ruled that a PSP may charge market-based rates if it is able to demonstrate that it does not have market power. The FERC's assessment of whether or not a pipeline possesses market power involves a three step process, including:

- defining the relevant product and geographic markets;
- measuring the company's market share and market concentration; and
- evaluating other relevant factors, including the ease of entry into the market, the presence of buyer power and any proposed market power mitigation measures.

To date the FERC has not approved any market-based rates for gas pipelines. In one recent case, Koch Gateway Pipeline Company (Koch), an interstate natural gas PSP, was denied its

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[61] One incentive mechanism that has recently been adopted by the FERC in the case of the Northern Border Pipeline is the project cost containment mechanism (PCCM) discussed earlier. It is likely that incentives will be applied by the FERC to defined groups of costs (i.e. construction or operation and maintenance, etc.). If the results of these incentive mechanisms are favourable to PSPs, it is likely that incentives in general rate design will be gradually implemented.

[62] 74 FERC ¶61,076 (1996).

request to offer market-based tariffs to shippers. The FERC denied Koch's request, arguing; it did not show that its firm and interruptible services were compatible, that the five state area over which Koch conducted its analysis was the smallest geographic area subject to its exercise of market power, that the marketers of secondary capacity provided good alternatives, or that nearby pipelines had available capacity, comparable prices and comparable service sufficient to be considered substitutes.[63]

The FERC has, however, approved market-based rates in cases involving production area storage services, ie, natural gas storage services that are offered in the geographical area where gas is produced. In these cases, the FERC has argued that the markets were not concentrated, the applicants' market shares were small, there were sufficient storage alternatives available for storage service, and ease of entry into the market was apparent because of the large number of storage providers in the production area.[64] The FERC has also approved market-based rates for oil pipelines.

2.8.2 Negotiated tariffs

Negotiated tariffs are freely negotiated between a PSP and shippers. Negotiated tariffs may exceed maximum applicable tariff rates and may deviate from SFV rate design. The FERC entertains requests for negotiated tariffs on a case-by-case basis. To be acceptable, a negotiated tariff contract must allow the shipper the right to revert to a cost-of-service based tariff (known as the "recourse" rate) if the shipper chooses to do so.[65]

PSPs must negotiate tariffs in a manner that is not unduly discriminatory and any negotiated tariff must be offered to all 'similarly situated' shippers.[66]

2.8.3 Discounted tariffs

Discounting generally refers to the cost-of-service based tariffs. However, in theory, discounts can also apply to incentive-based tariffs and market-based tariffs.

Section 4(b) of the NGA prohibits PSPs from granting any undue preference or advantage with respect to any transportation service, requiring that tariffs to 'similarly situated' shippers must not be unduly discriminatory. In order to ensure that tariffs are not unduly discriminatory, the FERC requires PSPs to make the discounts available to all similarly situated shippers.

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63 *Koch Gateway Pipeline Co.*, 85 FERC ¶61,013 (1998), rehearing denied 89 FERC ¶61,046 (1999).

64 LBU Joint Venture, 88 FERC ¶61,035 (1999).

65 Being able to revert to a regulated tariff is the major difference between negotiated and market-based tariffs.

66 Generally shippers that take service over the same part of the pipeline and have similar alternative options.

PSPs must file specific information to enable shippers to determine if they are similarly situated to 'discounted' shippers[67] and publish discounts given to shippers to enable 'non-discounted' shippers to determine if they are entitled to similar discounts.[68] The sort of information that the FERC requires the PSP to file generally includes the type of service, the receipt and delivery points applicable to the service, and the volume of gas to be transported.[69] PSPs that employ discounted rates must file those rates with the FERC.

In this context, the FERC has ruled that it is not unduly discriminatory for PSPs to offer different tariffs for shippers receiving the same type of service involving different receipt and delivery points.[70]

Generally the motivation behind offering a discounted tariff is to increase contracted capacity or throughput on the system and thus increase revenue. For instance, if a PSP has excess capacity from which it is not earning any revenue but is still incurring fixed costs, it could offer a discount to stimulate system usage. The FERC encourages non-discriminatory discounts because such discounts benefit all of the pipeline's shippers, not just the particular shippers receiving the discount. The reason is that a discount on transportation tariffs encourages higher network utilisation that generally causes a pipeline's fixed costs per unit of capacity to decrease.

According to the FERC:

> "selective discounting allows a pipeline to maximize throughput by lowering prices to retain and attract business by meeting competition. This benefits customers by spreading fixed cost recovery over more units of service."[71]

PSPs can decide the level of the discount they offer, but the discount will not likely be approved if it is going to adversely affect other shippers. In other words, a discounted rate cannot lead to an increase in the regular tariffs that non-discounted shippers pay. In addition, a PSP should not implement a discounted tariff if it is going to cause revenue loss.

In Order No. 637, the FERC stated that:

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67 *Tennessee Gas Pipeline Co.*, 77 FERC ¶61,877 (1996).

68 Order No. 566, *FERC Stats. and Regs., Regulations Preambles 1991-1996* ¶30,997 (1994).

69 Tennessee Gas Pipeline Company, 77 FERC ¶61,877 (1996).

70 CNG Transmission Corp. v. Tennessee Gas Pipeline Co., 71 FERC ¶61,008 (1995); Questar Pipeline Co., 69 FERC ¶61,119 at 61,459 (1994); ANR Pipeline Co., 62 FERC ¶61,079 at 61,563 (1993); Trunkline Gas Co., 62 FERC ¶61,199 at 1,563; El Paso Natural Gas Co., 62 FERC ¶61,311 at 62,990 (1993).

71 *Northwest Pipeline Co.*, 68 FERC ¶61,309 (1994) *quoting Interstate Gas pipeline Rate Design*, 48 FERC ¶61,122 at 61,448 (1989).

> "the disclosure of the identity of the shipper in each transaction, together with the price and capacity path information on each shipper's transaction, is necessary to enable shippers and the Commission to effectively monitor for potential undue discrimination or undue preference."[72]

2.8.4 Tariffs for firm and interruptible transportation services

The major difference between a firm and interruptible transportation contract is that while shippers who signed a firm transportation contract pay both a fixed reservation charge to secure capacity, and a variable usage charge to cover cost of transporting each unit of gas, shippers on an interruptible contract pay only the usage rate, as they are not entitled to firm capacity.

Because the gas transportation market in the US operates under a 'contract carriage' model, when a PSP sells a shipper interruptible service, it sells a service that a firm shipper has already reserved—and thus paid a reservation fee for—but chosen not to use. If the PSP charges the interruptible shipper a usage rate that incorporates both the firm shipper's fixed and volumetric rates, the PSP will recover the reservation charge twice, from the firm shipper and from the interruptible shipper.

In most cases, the PSP is required to credit the firm shipper with a percentage of the over-recovered reservation charge. The credit is most often 90 percent of excess revenues. The PSP is generally allowed to retain the remaining 10 percent of these earnings. However, some PSPs now allocate a percentage of fixed costs to interruptible service.

Transcontinental Gas Pipeline,[73] Mojave Pipeline,[74] Vector Pipeline,[75] and Panhandle Eastern Pipe Line[76] all follow this new system. Maritimes and Northeast Pipeline[77] and Tuscarora Pipeline[78] allocate costs to the interruptible services and credit 90 percent of excess revenues from interruptible service to firm shippers. Southern Natural Gas also allocates costs to interruptible service, but retains a declining percentage of the revenues in excess of the allocated costs, from 25 percent to zero percent, as the magnitude of the excess recovery increases.[79]

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72 Order No. 637, 90 FERC ¶61,109, February 9, 2001.

73 80 FERC ¶61,157 (1997).

74 Foster Reports No. 2314, December 7, 2000, pp. 9-10 and No. 2317, January 4, 2001, pp. 27-28.

75 Foster Report No. 2311, November 16, 2000, pp. 14-25.

76 81 FERC ¶61,297 (1997).

77 84 FERC ¶61,130 (1998).

78 See: www.latec.com/tuscarora/Tariff/Tariff.html.

79 75 FERC ¶61,046 (1996).

2.9 Other Relevant Contractual Issues

2.9.1 Extension of existing firm transportation contracts

Firm transportation contracts often include clauses that allow shippers to extend their contractual arrangements with a PSP beyond the expiration date of the contract. For this purpose 'evergreen' and 'right of first refusal' clauses are included in transportation contracts.

'Evergreen' clauses are provisions that allow shipper(s) to renew their firm transportation contract with the PSP for a term of pre-specified length. These clauses are freely negotiated between the PSP and the shipper and they offer the shipper additional security that its firm capacity right will not become unavailable at the close of its contract. For the right to renew the transportation contract, the PSP often charge shippers a premium. The FERC has held that an 'evergreen' clause in transportation contracts is legally binding, but that if a PSP offers such a clause to one shipper, it must offer a similar clause to all similarly situated shippers.[80]

Shippers may also be offered security over and above the length of their contracts through the *right of first refusal (ROFR),* which was defined in FERC Order No. 636. The ROFR is a mechanism that comes into play at the expiration of a long-term (one year or more) firm transportation contract. This mechanism exists so that if an existing shipper wishes to renew the expiring transportation contract, the shipper must be able to do so if the shipper matches the price (up to the maximum allowable price under the pipeline's regulated tariff) and contract terms that another shipper is willing to pay. For example, if Shipper A's contract with a PSP is expiring, and Shipper B offers to buy the capacity at the maximum price for a term of 10 years, Shipper A can retain the capacity as long as Shipper A is willing to pay the maximum price and offer a term of at least 10 years. [81]

In Order No. 636-A, the FERC limited the term that a shipper would have to match under ROFR to 20 years,[82] meaning that an existing shipper would only have to agree to a contract term of 20 years to retain the capacity, even if a new shipper was willing to sign a contract for more than 20 years. In 1997, the FERC reduced the 20-year limit to a five-year limit. The FERC found that the average term of a long-term transportation contract before Order No. 636 was approximately 15 years. After Order No. 636, the average term was 9.2 years. And, since 1995, nearly one-half of contracts of term greater than one year have been of one to five years long. Due to these findings, the FERC decided that requiring shippers to match the term of a contract for up to twenty years was unreasonable, and that five years was a more

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80 60 FERC ¶61,102 (1992).

81 59 FERC ¶61,030 (1992).

82 60 FERC ¶61,102 (1992).

reasonable time frame.[83] Therefore, currently, in order to renew its contract on a pipeline, an existing shipper only has to commit to a contract of five years, even if a new shipper is willing to commit to a longer period, as long as the existing shipper is willing to pay the maximum price, or at least a price higher than the new shipper is willing to pay.

2.9.2 Amendments to existing transportation contracts

Transportation contracts generally contain 'Memphis clauses,' which are contract provisions that specify that tariffs be subject to regulation, and that allow PSPs to request and implement tariff changes.

Memphis clauses were named for a 1958 *United Gas Pipe Line Co., v. Memphis Light, Gas and Water Div*. case.[84]

In addition, in Order No. 582,[85] the FERC clarified its policy regarding the scope of permissible deviation from a PSP's pro forma transportation contract.[86] The FERC requires that

> "any contract of executed service agreement which deviated in any material aspect from the form of service agreement in the tariff"

must be filed with the FERC. In other words, any contractual arrangement between a PSP and a shipper for a gas transportation service that offers terms and conditions that 'materially' deviate from those in pro transportation contracts must be filed with the FERC.

On rehearing, the FERC did not define 'material aspect' but stated that:

> "Materiality is likely to vary with the circumstances of the case. Therefore, it is better to allow the term to remain less strictly defined in order that the particular facts of a given contract will determine whether the deviation is material and needs to be fixed… [P]rovisions such as those addressing flow rates, pressure obligations, maximum delivery obligations, receipt and delivery points, and term would not normally be expected to be material deviations…. Likewise, rates that fall between the maximum and the minimum rates permitted for the rate schedule would not be considered material.[87]"

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83 78 FERC ¶61,186 (1997).

84 *United Gas Pipe Line Co., v. Memphis Light, Gas and Water Div.*, 358 U.S. 103 (1958).

85 Order No. 582, *FERC Stats. And Regs., Regulations Preambles 1991-1996* ¶31,025 (1995).

86 Every interstate PSP publishes a pro-forma transportation contract.

87 Order No. 582-A, *FERC Stats. And Regs., Regulations Preambles 1991-1996* ¶31,034 (1996).

The FERC has found that the pro forma transportation contract of a PSP is inherently just and reasonable and can be modified—subject to FERC approval—only by mutual agreement between the PSP and the shipper.[88] The FERC has also stated that it will only approve material deviations if the PSP demonstrates that the transportation service could not be provided under a generally applicable regulated 'tariff'. [89]

In principle, the FERC has the authority to require changes in transportation contracts between pipelines and shippers that it finds to be unjust, unreasonable, unduly discriminatory or preferential. For example, in Order No. 636, the FERC exercised its authority and found that 'bundled sales contracts' are unduly discriminatory and anti-competitive and must be separated into separate sales and transportation contracts.[90]

Regarding contract disputes, whether or not the FERC will assert jurisdiction over contractual issues between a PSP and shipper(s) that could be litigated in state courts depends on three factors:

1. whether or not the FERC has special expertise that makes the case particularly appropriate for its jurisdiction;
2. whether the dispute demands a uniformity of interpretation; and
3. whether the case is important, regarding the FERC's regulatory requirements.[91]

Generally the FERC will not exert jurisdiction over a contractual issue where one party seeks remuneration from another party for a contract breach.[92]

2.9.3 Supply curtailment and operational flow orders

Terms and conditions in transportation contracts generally contain a section on 'supply curtailment', which defines the way in which a shipper will be treated under 'pro rata curtailment', which occurs in the event that the PSP has to curtail shippers for system security reasons. The section also discusses the conditions under which the shipper can file for 'priority use curtailment,' which grants the shipper a greater degree of protection from curtailment than its priority on the system would otherwise allow. This section also defines the way in which the shipper can request relief from curtailment in a particular emergency.

In Order No. 636, the FERC also recognised that unbundling 'transportation' of gas from 'gas sales' could reduce a pipeline's operational control over its system. Therefore, the FERC

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88 *Tennessee Gas Pipeline Co.*, 65 FERC ¶61,356 (1993), *order on reh'g*, 67 FERC ¶61,196 (1994).

89 *Columbia Gas Transmission Corp.*, 95 FERC ¶61,218 (2001).

90 Order No. 636, *FERC Stats. And Regs., Regulations Preambles 1991-1996* ¶30,939 (1992).

91 *Arkansas Louisiana Gas Co. v. Hall*, 7 FERC ¶61,175 (1979).

92 *Texas American Energy Corp. v. Tennessee Gas Pipeline Co.*, 39 FERC ¶61,062 (1987).

permitted PSPs to include Operational Flow Orders (OFOs) in the terms and conditions for transportation service. OFOs enable PSPs to impose special operational conditions on their contracted shippers whenever necessary to meet their service obligations to no-notice shippers, shippers who have the highest priority on the system because of the nature of their contracts with the PSP.

Although PSPs are permitted to institute OFOs, they have to institute procedures to warn shippers of the issuance of an OFO and provide examples of when an OFO might be issued. PSPs can institute OFOs only when necessary to maintain system integrity, and PSPs are not permitted to use OFOs to require shippers to ship gas above its contract entitlements.[93] Additionally, although a PSP can hold a shipper liable for all damages that result from its failure to follow an OFO out of negligence or misconduct, it cannot hold a shipper liable for damages that result from its own negligence or misconduct. The FERC requires PSPs to attempt to give twenty-four hours notice of an OFO and to waive penalties or fees levied as a consequence of a PSP's failure to give that notice.[94]

2.9.4 'Blue sky opportunities and benefit sharing mechanisms'

'Blue sky' is a term used in the Australian context that refers to the possibility of a PSP realising financial rewards arising from a greater than anticipated increase in future gas throughput on a pipeline than expected at the outset (bearing in mind that regulated tariffs in Australia are typically volume-related rather than capacity-related).

Benefit sharing mechanisms might be negotiated between shippers and PSPs to address the unexpected financial gains by a PSP through unexpected network utilisation. It is unclear whether benefit sharing mechanisms have been widely adopted in Australian foundation contracts.

There are no formal "benefits sharing" clauses in US transportation contracts. The way in which transportation tariffs are calculated in the US, with a fixed tariff component covering a pipeline's fixed transportation costs and a variable component covering its incremental costs, does not require such a mechanism.

In case of network expansion, new shippers are generally 'incrementally' priced. As a consequence a 'benefit sharing mechanism' does not apply for network expansion. The FERC believes that an incremental pricing policy sends efficient price signals to the market and eventually determines whether new pipeline development is economically justifiable.

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93 See: *Williams Natural Gas Co.,* 62 FERC ¶61,261 and *Columbia Gas Transmission Corp.,* 64 FERC ¶61,060 (1993).

94 *Arkla Energy Resources,* 65 FERC ¶61,343 (1993).

For new greenfields gas pipeline development the risk for any uncontracted capacity also remains with the PSP and shippers do not have to 'subsidise' this uncontracted capacity through higher tariffs.[95] As discussed earlier, tariffs for new and existing pipeline are mostly based on an SFV approach that allows the PSP to recover fixed costs, regardless of contracted or new shippers usage of capacity.

However, transportation contracts generally contain clauses that allow for regulatory changes, including tariff changes resulting from 'rate case proceedings' before the FERC. If a PSP manages to contract out capacity that was uncontracted after its tariff was approved by the FERC, the fixed cost component of its tariff will likely decrease at the next rate review. This phenomenon will likely occur because of the increasing returns to scale that gas pipeline investments generally generate; with each additional unit of capacity that the PSP has built, it has incurred less incremental fixed cost. Thus, when it sells previously uncontracted capacity its fixed cost per unit of contracted capacity overall decreases, and therefore, the fixed cost portion of its tariff decreases. This will generally cause overall transportation tariffs to decrease for all shippers after the next review period.

2.9.5 'Most Favoured Nation' (MFN) clause

In Australia, the term 'Most Favoured Nation' (MFN) clause has been used to refer to an optional provision that might be negotiated in relation to 'foundation contracts'. Such clauses require that if a PSP offers to ship gas on its pipeline for less than the amount agreed upon in a foundation contract (with foundation customers), then the 'MFN clause' requires the PSP to offer that lower tariff to all foundation customers. It is not clear whether or not MFN type clauses have been widely adopted in Australia.

Transportation contracts in the US do not contain 'MFN' or similar 'price matching' clauses. MFN clauses in foundation contracts would prevent a PSP from price discriminating among shippers. By contrast, the FERC seeks to encourage price discrimination since it increases economic efficiency through increased network utilisation and lower fixed cost per unit as discussed above.

Consequently, in the US, a PSP that offers a discounted or negotiated tariff to one shipper would not automatically be required to offer it to all shippers, but rather only to *all* 'similarly situated' shippers.[96] Generally, 'similarly situated' shippers take service over the same part of the pipeline and have 'similar alternative' options.

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[95] Under policy statement 99-3, the PSP itself must be accountable for the costs of uncontracted capacity.

[96] Alternative Ratemaking Policy Statement: Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines, 74 FERC 61,076 (1996)

2.9.6 The level of security

The level of security of transportation contracts refers to a situation where a PSP is unable to collect contracted revenue eg, due to the insolvency of a shipper who contracted for firm capacity on a new pipeline development. There are no clauses in US transportation contracts that deal with such a situation directly and such risk generally remains with the PSP.

In order to decrease the likelihood of such events, PSPs generally incorporate creditworthiness provisions in firm transportation contracts. PSPs are not obligated to offer capacity to shippers unless the shippers comply with certain credit standards that are set by the PSP.

By way of example, the 'Request for Service' section of Transcontinental Gas Pipeline Corp's tariff sheet states that prospective shippers must comply with the company's creditworthiness standards.[97] When a shipper requests a transportation service from Transco, its service request form must contain sufficient information to determine the shipper's creditworthiness in accordance with the creditworthiness criteria set out in the terms and conditions section of Transco's tariff.[98, 99] Transco may require the shipper to provide any of the following information to determine creditworthiness:

- current financial statements, annual reports, 10-K reports or other filings with regulatory agencies, a list of all corporate affiliates, parent companies and subsidiaries and any reports from credit agencies which are available;
- a bank reference and trade references;
- written attestation it is not bankrupt;
- written attestation that it is not subject to the uncertainty of pending liquidation or regulatory proceedings in state or federal courts which could cause a substantial deterioration in its financial condition; and
- written attestation that no significant collection of lawsuits or judgments are outstanding which would seriously affect the shipper's ability to remain solvent.

Other requirements include:

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97 Most large North American gas pipeline company tariffs are very similar.

98 *Transcontinental Gas Pipeline Corporation*, FERC Gas Tariff, Fourth Revised Sheet No. 166, Effective: November 1, 1995.

99 Tariff is the document containing the rates and all the terms and conditions.

- if the shipper has an ongoing business relationship with the pipeline, the shipper's current account with the pipeline must be in good standing;
- the shipper must give the pipeline updated credit information, at least annually and also upon request, so that the pipeline can perform an updated credit appraisal; and
- the pipeline is not required to perform and is able to suspend service for any shipper who is insolvent, fails to demonstrate credit worthiness, or fails to provide timely requested information. Under such conditions, the shipper can only receive service if it chooses to pay for service in advance in some way.[100]

2.10 Comparison to Transportation Contracts in Mexico and Argentina

In Mexico and in Argentina, natural gas pipeline contracting practices have been modelled on US pipeline contracting practices. 'Terms and conditions' as well as 'tariff formulae' in contracts are similar to those in the US. Tariffs include both fixed and variable components, which recover pipelines' fixed and variable costs, respectively.

One major difference between Mexico and Argentina's tariff construct and the US's tariff construct is that tariffs in Mexico and Argentina include a higher fuel charge component than US tariffs do. This is because gas pipeline systems in these countries are either less efficient or generally longer than are US pipeline systems. Thus, more fuel is needed to run the systems. In Mexico, the fuel charge component of the tariff averages one to one and a half percent of the tariff. In Argentina the fuel charge averages four percent of the tariff. In the US, the fuel charge comprises a negligible percentage of the tariff.

In Argentina and Mexico, the regulator caps gas pipeline tariffs. In Argentina, the regulator (ENARGAS) imposes a 'price cap', while in Mexico, the regulator (CRE) imposes a 'revenue cap'. PSPs may not offer market-based tariffs in either country.

The process by which capacity is constructed in both of these countries—as well as the role that capacity contracting plays in construction—is similar, but not identical to the US's system. When a PSP contemplates a construction project, it solicits 'letters of intent' from shippers that are interested in contracting for capacity. It then petitions the regulator for approval of the construction project, based on these letters of intent, demand studies, other procedural permits from various agencies and any other evidence that it chooses to use to make its case. If the regulator deems the project in the public interest, it will issue the PSP with a construction permit for the project. Such construction permits are highly explicit, specifying the size and the location of the permitted construction as well as the maximum tariffs (Argentina) or average revenue (Mexico) to be applied. After the PSP receives regulatory approval, it will hold an open season. Open season policies are similar to those

[100] *Transcontinental Gas Pipe Line Corporation*, FERC Gas Tariff, Third Revised Volume No. 1, Eighth Revised Sheet No. 344, Second Revised Sheet No. 345, Third Revised Sheet No. 346, Effective: October 1, 2001.

in the US. After the open season concludes, the PSP and shippers sign binding contracts for capacity and the capacity is constructed.

Regulators in Mexico and Argentina do not necessarily require that a PSP has all capacity contracted for before it undertakes construction. However, the PSP will bear the financial burden if it fails to recover its costs through uncontracted capacity.

No formal incentive mechanism has been approved in Argentina and Mexico that would encourage PSPs to stay below projected construction costs. In general, PSPs will not be able to recover any construction cost overruns.

In both Argentina and Mexico, all transportation contracts are regulated and there is a 'standard' contract that the parties have to use. In Mexico, copies of contracts do not have to be filed with the regulator unless there are disputes between parties. In Argentina, however, the regulator requests copies of all signed transportation contracts and related documents.

Regulators in Mexico and Argentina have shown in the past that they will issue 'multiple permits' for pipeline construction on the same pipeline route, allowing PSPs to compete with each other. In Mexico, in the case of the Palmillas-Toluca route, the Mexican regulator issued construction permits to two separate consortia led by Tejas Gas (a Kinder Morgan subsidiary) and Transnevado Gas (a TransCanada subsidiary). Transnevado subsequently backed out of its construction plan, and Tejas constructed a gas pipeline over this route.

Argentina's regulator has also approved more than one pipeline project covering a specific route in the past and left it to the market forces to decide which of the PSP goes ahead with the construction. For example, in the late 1990s, the regulator approved two pipeline projects running over similar routes from northern Argentina to northern Chile to serve electrical generation demand in Northern Chile. A third, similar, project was also approved by the Secretariat of Energy and entailed building a power plant in Argentina and a transmission line to Chile. All three of the potential projects managed to contract for a portion of the approved capacity. The two gas pipelines were built running parallel to each other and serving the same market area. The Norandino pipeline, which supplies two power plants, came on stream in 1999 and has a capacity of 280 Mmcf/d. It is owned by Belgium's Tractabel and U.S.-based Southern Company. The GasAtacama pipeline, with a 300-Mmcf/d capacity, came on stream in July 1999 and is owned by U.S.-based CMS and Spain's Endesa. GasAtacama's main customer is the Nopel power plant of the same owners. However, both pipelines remain underutilised.

Transportation contracts in both countries include 'Most Favoured Nation' type clauses. Consequently, if a PSP offers a discount to a shipper for a transportation service on its pipeline that discount applies to all contracted shippers.

In Mexico, this issue comes down to regulatory uncertainty and the interpretation of rules, and concerns about how they will be interpreted. The CRE's (Mexico's energy regulator's)

regulations include a clause that states that PSPs may not charge 'unduly discriminatory rates among customers groups.[101] Because this clause is rather ambiguous, and because shippers who use pipeline networks are generally considered similar—unlike in the US, where shippers can be distinguished by distance, location of receipt and delivery points and load profile,- PSPs in Mexico generally do not offer discounts to certain shippers because they do not want to be forced to offer the discount to all of their shippers.

In Argentina, the following regulations apply:

> "No transporter or distributor may apply differences in tariffs, charges, services, or any other concept, except when those differences result from different location, provision of different services, or any other similar distinction that could be approved by ENARGAS [the regulator]"[102]
>
> "In no case may [transporters and distributors] (i) charge tariffs that are lower than the incremental cost of the service provided; or (ii) charge preferential rates for the same service provided to different customers that are located the same area"[103];
>
> "If the transporter decides to offer discounts, it should offer the same discount to all shippers that are in similar condition, informing such discounts to the regulator".[104]

In theory, in Argentina, as the laws cited above demonstrate, different discounts could be applied to shippers that are not 'similar.' However, the way the gas pipeline system is structured in Argentina, nearly all shippers can be defined as 'similar' shippers. This is because all gas producers in Argentina are located in one particular area, and all shippers take off their gas at the Buenos Aires city gate. Thus, in reality, a PSP that offers a discount to one shipper would have to offer it to nearly all other shippers because the system is not diverse enough. Therefore, PSPs do not offer discounts in Argentina.[105]

As in the case of the US, blue sky is not an important issue in the Argentinean and Mexican context as shippers are not required to pay for uncontracted capacity. A similar system as in the US applies where increased revenues by a pipeline through increased contacting out of previous unused capacity might affect tariffs at the subsequent review period. But there is no explicit benefit sharing mechanism in place.

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101 Comision Reguladora De Energia, Directive on the Determination of Prices and Rates for Natural Gas Regulated Activities, paragraph 9.2

102 Article 43 of Law 24076/92

103 Article 41 of Decree 1738/92

104 Article 21 of the Terms and Conditions Section of the Common Gas Pipeline Tariff on file with the regulator.

105 However, if the system develops and becomes more diverse PSPs could theoretically selectively offer discounts to shippers that are not 'similar'.

On the level of security in transportation contracts, in Argentina, the shipper who contracts for capacity must give the pipeline a deposit, equivalent to a month's worth of service. In Mexico, the shipper must post a bond, equivalent to a month of service.

2.11 Findings and Observations

2.11.1 Regulation of new gas pipeline development

In the US, interstate gas pipeline developments are subject to regulatory oversight by the FERC and to date, all major interstate gas pipeline 'extension and expansion' projects have been regulated by the Commission. Today, the US has an extensive pipeline network with increasing competition among pipelines which indicates that economic regulation carried out by FERC did not hinder the development of the national interstate gas pipeline system.

In regulating gas pipeline developments, the FERC applies a regulatory policy of 'certification'. This policy prohibits the construction or extension of any major new interstate gas pipeline without a 'certificate of public convenience and necessity' issued by the FERC.

In assessing whether a new pipeline project should be 'certificated', the FERC follows a clear set of goals and objectives. These include that new gas pipeline developments should be designed to foster competitive markets, protect captive customers, and avoid unnecessary environmental and community impacts while serving increasing demands for natural gas. In addition, the FERC adopted an individual, project-specific approach to assessing new pipeline development.

Following these sets of guidelines the FERC only 'certificates' new pipeline projects if 'public benefits' outweigh 'adverse effects' on society. Among the factors the FERC assesses are economic, operational and competitive cost and benefits, as well as environmental impacts.

Overall FERC's certificate policy aims to provide an incentive for applicants to structure their projects and application to avoid, or minimise, the potential adverse impacts that could result from construction of new pipeline. At the same time, FERC's policy regarding new pipeline development aims to increase transparency and higher predictability of the application.

A framework for regulating new gas pipeline development has been developed fairly recently in Argentina and Mexico and generally follows US practice. Although regulatory policies that apply for new gas pipeline development are similar in theory, there are differences in the application of these policies as Mexico and Argentina are generally regarded as being more bureaucratic and less predictable compared to regulation and regulatory processes in the US.

2.11.2 The role of transportation contracts

Long-term firm transportation contracts have played an important role in the US gas market and underpinned the development of new gas pipelines by sharing long term 'investment risks' between PSPs and shippers.

In the US, terms and conditions, including tariffs, of transportation contracts are open, transparent and publicly available. Transportation contracts are regulated and subject to changes by the FERC. Transportation contracts play an important part in the overall application process for 'certification'.

The submission of signed pro forma transportation contracts as part of the overall application process increases the likelihood that the FERC will approve a new pipeline project, however, it does not ensure 'certification'. Although FERC acknowledges that transportation contracts indicate that the pipeline project is financially viable and that there is market demand, such contracts do not guarantee that public benefits outweigh adverse effects of a new pipeline development. FERC's position is that this can only be determined after assessing all the potential costs and benefits of a proposed project.

In Mexico and Argentina, a PSP has to follow a detailed set of procedures to obtain a 'permit' to build a pipeline. The PSP generally presents demand studies to the regulator demonstrating the financial viability of its proposed pipeline project, as well as environmental impact studies. The PSP also has to comply with numerous other procedural requirements with various Ministries and institutions. This bureaucratic "red tape" often complicates the application process for new gas pipeline development in these countries.

In general, the PSP does not submit signed transportation contracts as part of the application process in Mexico and Argentina. It may present 'letters of intent' by shippers but even that is not a prerequisite for a successful application. However, submitted letters of intent may enhance the likelihood of approval by the Mexican and Argentinean regulators.

It is general practice in Mexico and Argentina that the PSP obtains letters of intent from interested shippers after it has secured a permit by the regulator. Letters of intent form an important aspect of securing financing for the project from financial institutions. Once the project financing is secured, transportation contracts are formally signed and construction begins.

2.11.3 Tariffs in transportation contracts

The FERC continues to apply a 'cost based approach' with a straight fixed variable rate design (SFV) as the principal methodology for regulating interstate transportation tariffs. Under the SFV tariff design, a fixed capacity component covers investment costs and a variable component covers the marginal costs of transporting gas on a pipeline system.

At the same time the FERC allows and encourages PSPs to propose alternative tariff methodologies, eg, incentive based tariffs or market based tariffs for new gas pipeline developments subject to certain conditions (ie, a PSP can only apply a market based tariff for new gas pipeline developments if it can prove that it does not have market power).

For new gas pipeline development, transportation tariffs are formally set as the pipeline project is approved by the FERC, as part of the formal approval process. However, the transportation contract between the PSP and the shipper will be signed pursuant to these FERC approved tariffs.

In assessing an expansion to an existing interstate gas pipeline and its effects on tariffs, the threshold question FERC applies is whether the expansion can proceed without 'subsidies' (and hence higher tariffs) from existing shippers. If the PSP can show that the project is financially viable without subsidies, then it will have established the first indicator of public benefit, indicating a market based need for new capacity. Non-subsidisation of pipeline expansion usually means that the project would be 'incrementally' priced.

In addition, as part of the application process, the PSP will have to submit estimated construction cost data. The FERC will approve tariffs for the pipeline taking this construction data into account (along with all the other cost data and other information). Thus, to the extent that the PSP incurs greater construction costs than it budgeted for, the PSP will not be permitted to recover additional costs through higher tariffs. However, the FERC has approved a mechanism that incentivises a PSP to remain within the estimated target costs of pipeline construction and allows PSPs to recover some of the cost overruns.

The above policies are also adopted in theory in Mexico and Argentina. However, the actual implementation of these policies is less transparent than in the US. In addition, one major difference is that in these countries tariffs include a higher fuel charge component due to the fact that in Mexico, pipeline operation tends to be less efficient than in the US and in Argentina, pipeline networks tend to be much longer than most pipelines in the US. There are no 'market-based' tariffs in the gas markets in Argentina and Mexico. No formal construction cost incentive mechanism has been approved in Argentina and Mexico and generally, PSPs are not be able to recover any construction cost overruns through higher tariffs.

2.11.4 Blue sky and benefit sharing mechanisms

'Blue sky' refers to the possibility of a PSP realising financial rewards arising from a greater than anticipated increase in future gas throughput on a pipeline than expected at the outset. Blue sky only arises where regulated transportation tariffs are volume-related rather than capacity-related. To address unexpected financial rewards through higher network utilisation under a volume-related tariff structure, shippers and PSPs might include a benefit sharing mechanism in foundation contracts.

There are no formal benefits sharing mechanism either in US transportation contracts or in Mexican and Argentinean contracts.

For new greenfields gas pipeline development in these jurisdictions, there is also no formal "benefits sharing" mechanism, since, in theory, it is against regulators' policies for shippers to subsidise construction that it does not use. Thus, a PSP would have no reason to give a shipper a formal benefit schedule or any sort of formal benefit provisions, since the shipper would not have made any contribution that would prompt the need for such provisions.

However, all shippers generally do benefit somewhat from a PSP's ability to increase its contract base over time. Such benefit would come at the next formal rate case before the regulators when they review a PSP's costs and revenues and hence transportation tariffs. Transportation contracts in all of these countries generally contain clauses that allow for regulatory changes, including tariff changes resulting from tariff case proceedings.

2.11.5 'Most Favoured Nation'

MFN clauses in foundation contracts have the potential to prevent a PSPs from offering different tariffs for transportation services to shippers on a pipeline who are not 'similarly situated'.

Price discrimination on a pipeline network generally increases economic efficiency through its encouragement of increased network utilisation. Consequently, to the extent that MFN clauses are practical and prevent a PSP from charging different tariffs for shippers, this could potentially decrease the overall efficiency of the pipeline.

Firm transportation contracts in the US do not include MFN clauses and price discrimination is encouraged by the FERC. However, PSPs in the US are not allowed to charge different tariffs for 'similarly situated' shippers where this is interpreted as applying to shippers that take service over the same part of the pipeline and have similar alternatives available to them.

MFN clauses do exist in Mexico and Argentina and, in theory, a PSP who offers a discount to one shipper for transportation services has to offer that discount to all other shippers on a pipeline. In Mexico, due to some ambiguous regulations on price discrimination and uncertainties about its interpretation as well as the fact that shippers are generally regarded as 'similar', PSPs do not offer discounts to shippers. In theory, regulations and applicable laws in Argentina allow PSPs to apply different tariffs to different shippers. However, the way the gas pipeline system is structured in Argentina, nearly all shippers are considered to be 'similar'. This is because all gas producers are located in one particular area, and all shippers take off their gas at the Buenos Aires city gate. Thus, in reality, a PSP that offers a discount to one shipper would have to offer it to nearly all other shippers because the

system is not diverse enough. As in the case of Mexico, PSPs in Argentina tend not to offer discounts on tariffs due to uncertainties about the exact definition of a‘similar’ shipper.[106]

2.11.6 Level of security

In order to increase the security of transportation contracts and reduce their risk exposure, PSPs in the US generally incorporate detailed creditworthiness provisions in firm transportation contracts. These provisions generally describe a PSP’s creditworthiness requirements for shippers wishing to contract for service on its pipeline. Provisions might also include requirements on the shipper to provide updated credit information on request of the PSP. Failure to demonstrate creditworthiness or to provide timely requested information might cause shippers only to receive transportation services if they pay for such services in advance.

In Mexico and Argentina, PSPs generally require either a deposit or a bond equivalent to the value of one month’s gas transportation service.

[106] However, if the system develops and becomes more diverse, PSPs could theoretically offer selective discounts to shippers that are not ‘similar’.

3 GAS PIPELINE DEVELOPMENTS IN OTHER JURISDICTIONS

3.1 United Kingdom

The natural gas pipeline network in the United Kingdom can be distinguished between the upstream and downstream network. Downstream (ie, onshore), the high-pressure National Transmission System (NTS) forms an integrated network that delivers natural gas to consumers through a monopoly grid. Transco[107] is the owner and operator of the NTS but there are also a few Independent Public Gas Transporters who own local gas networks that are attached to Transco's network.

Upstream (ie, offshore), UK Continental Shelf (UKCS) pipelines carry a variety of different qualities of gas to processing plants where natural gas is processed to NTS specifications before it is injected into the NTS. There are over 250 different offshore oil and gas pipelines with different ownership structures.

3.1.1 New pipeline development in the downstream gas market

The Office of Gas and Electricity Markets (Ofgem) is responsible for regulating the downstream gas market in the UK. The Gas Act 1986[108] provides for the regulation of the onshore gas regime and for separate licensing of Public Gas Transporters (PGTs) and gas shippers. For the development of new gas pipelines, both the Gas Act and the PGT licence form the legal basis for regulation.

The Gas Act sets down the principal requirements under which PGTs should operate. The Act specifies under section 9(1) that PGTs have a duty:

- to develop and maintain an efficient and economical pipeline system for the conveyance of gas;
- to comply, as far as it is economical to do so, with any reasonable request for it to connect to that system; and
- convey gas by means of that system to any premises.

The PGT licence imposes further obligations upon all PGTs, including the requirement to establish a methodology showing methods and principles on which its transportation charges are to be determined.

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[107] In October 2000 a demerger from BG plc resulted in Transco becoming a part of the Lattice Group plc.

[108] The Gas Act 1986, as amended, including the Gas Act 1995.

Transco is the largest PGT in Great Britain. Transco's licence contains specific obligations in relation to the development of the onshore gas network and sets the rules for network expansion and investment, including:

1. Standard Condition 12(1) requires Transco to prepare a Ten Year Statement that includes information about pipeline use and likely developments of the pipeline system.
2. Standard Condition 13(2) sets out certain gas security standards to which Transco shall plan and develop its pipeline system. The standard is such that the pipeline system can meet the peak aggregate daily demand that is only likely to be exceeded once in twenty years (1 in 20 peak) taking into account data on weather derived from at least the previous 50 years.

A PGT licence further requires the introduction of a 'network code'[109]. Transco's network code was put in place in March 1996 and continues to be the legal hub around which the transportation of gas in the NTS has operated in the UK. It defines the rights and responsibilities of all users of the gas transportation system and provides all shippers with equal access to transportation services.

In addition, the network code further specifies Transco's responsibilities in connection to system planning[110]. It states that every year, Transco has to publish 'Base Plan Assumptions' and subsequently a 'Ten Year Statement'. 'Base Plan Assumptions' is a document setting out Transco's initial assumptions about future supply and demand developments.

The 'Ten Year Statement'[111] lists the major projects that Transco intends to carry out, including new pipeline construction, increasing pipeline pressure, new compressor stations and compressor modifications.

The Gas Act also requires the licensing of gas shippers, who arrange for gas to be put into and taken out of the NTS. The gas shippers' licence places certain obligations on gas shippers. In particular, in relation to long term investment signals, the licence requires gas shippers to provide information to the relevant PGT to enable the transporter to make plans for the safe operation and extension of the network.

Shippers are obliged to provide information in respect to future supply and demand for gas[112] that will allow Transco to plan network expansion. In providing estimates and information each shipper is also required to provide information in relation to new sources of

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109 A network code is the contract between the PGT and shippers for the use of, and connection to, the PGT's pipeline system.

110 Please refer to Section O on System Planning of Transco's network code.

111 A copy of the Ten Year Statement is available on Transco's website at www.transco.uk.com

112 The 'demand for gas' is defined as the quantity of gas offtaken or to be offtaken from the gas system or a part of the system or at a particular point of the system on a day or in a particular period.

demand eg, new residential, commercial or industrial developments, and to indicate the extent to which the shipper has secured or expects to secure contractual commitments for the sale in connection with such developments.

On the basis of the information provided by shippers, Transco will prepare the Base Plan Assumptions and the Ten Year Statement. However, Transco is not liable to shippers in relation to any estimate, forecast or other information contained in or omitted from the 'Base Plan Assumptions' or 'Ten Year Statement'. Consequently, the 'Base Plan Assumptions' and the 'Ten Year Statement' will not bind Transco to undertake any new pipeline development.

Overall, Transco's existing incentives to invest in new pipeline are driven by its price control. The price control sets the maximum allowable revenues for Transco to finance any new investment. Transco's allowed revenues, which are linked to forecasts of the operating and capital costs associated with providing these services, are recovered via transportation charges and are subject to an RPI – X price control.

3.1.2 New pipeline development in the upstream gas market

There are differences in the regulatory framework for the upstream and downstream gas network in the UK. Whilst Ofgem regulates the downstream gas markets through the Gas Act and the operation of the PGT and gas shippers' licences, the Department of Trade and Industry (DTI) regulates the upstream gas market through the Petroleum Act.[113]

The Department regulates upstream exploration and development including the building of, and access to, new gas pipelines with the objective of maximising economic output. In order to achieve this objective, the Department issues licences for particular areas through licensing rounds, where companies compete for the right to explore gas fields. In this context, the Department is also responsible for authorising the development of new offshore gas pipelines and scrutinises in the licensing process how the gas exploited in the fields will be landed via new or existing pipelines and processing infrastructure.

The Petroleum Act[114] states that any authorisation may include the duration of the authorisation, the route of the pipeline, the design and capacity of the pipeline, and the operation of the pipeline. The government's declared objective is to avoid wasteful proliferation of infrastructure.

Pipelines are typically built to service a particular field or group of fields, with the possibility of carrying other fields' output as capacity becomes available. Negotiated third

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[113] Petroleum Act 1998; 'Petroleum' as defined under the Act includes any mineral oil or relative hydrocarbon and natural gas existing in its natural condition in strata. Please refer to, Chapter 17, Section 1 of the Act.

[114] Please refer to Chapter 17, Part III, Section 15 of the Petroleum Act 1998.

party access for upstream gas pipelines[115] applies, which allows parties freely to negotiate terms and conditions of access to the pipeline. In the case of disputes between third parties seeking access and infrastructure owners, third parties can appeal to the Department as the dispute settlement authority.

3.1.3 The interface between the onshore and offshore gas markets

There is an upstream and downstream interface in the gas industry in the UK. As discussed above, every year Transco carries out a consultation process with its network users, to determine its Base Plan Assumptions, which forms the basis of its future supply and demand forecasts and eventually new pipeline investment. Transco also publishes a Ten Year Statement on an annual basis. In assisting Transco to prepare these two documents, shippers are required, under their licence and as a signatory to the network code, to provide Transco with information.

Offshore producers are also asked, either directly or via the operators of the field, to supply information on their offshore developments through the Base Plan Assumptions questionnaire. Producers generally provide this information, although there is no formal contractual arrangement between producers and Transco to provide such information or to govern the accuracy of the information provided.[116]

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[115] Negotiated third party access is consistent with the 1998 EC Gas Directive. The European Commission proposed amendments to the Directive in May 2001. The proposal included that access to all downstream pipelines should be 'regulated' and not 'negotiated'. However, the Commission has not proposed amendments to the existing provisions of the Directive in relation to upstream gas pipelines.

[116] In its investigation from May 2000 on the 'Long term signals and incentives for investment in transmission capacity on Transco's NTS', Ofgem concluded that uncertainty about landing points for new offshore gas developments, together with changing forecasts of entry flows into the NTS, had a profound impact on Transco's investment activity.

3.2 Singapore

3.2.1 Overview of current gas network

Singapore has two 'independent' gas networks with separate ownership structures and responsibilities in relation to network development and transportation of gas. The onshore gas network, owned and operated by PowerGas[117], supplies 'manufactured' gas to mainly domestic consumers. PowerGas is the sole producer of 'manufactured' gas in Singapore. PowerGas is responsible for network development and expansion of the 'manufactured' gas system and there are no specific contractual arrangements between customers and PowerGas that would drive new network development.

Singapore does not have any domestic onshore or offshore natural gas resources and all natural gas is currently imported from either Malaysia or Indonesia. Gas Sales Agreements with Pertamina and Petronas and End User Agreements with large industrial customers were the 'driver' for the development of onshore and offshore natural gas pipeline network in Singapore. SembGas[118] the main importer of natural gas to Singapore, owns and operates an independent onshore and offshore natural gas network that mainly supplies large industrial customers in the Jurong and Tuas areas. SembGas developed the onshore and offshore natural gas network after signing long-term gas purchase and sales agreements with producers in Indonesia and customers in Singapore.

3.2.2 Gas Sales Agreements and End User Agreements

The development of gas sales agreements in Singapore required extensive new offshore gas pipeline infrastructure to ship gas to Singapore, and the involvement of various sovereign governments, several layers of gas buyers and production sharing contractors. This gave rise to complicated contractual arrangements between Singaporean natural gas importers and natural gas producers and exporters. At the same time, gas importers signed long term supply contracts with large industrial customers that have underpinned onshore and offshore gas pipeline development in Singapore over the last few years.

The main contractual arrangements that drove the development of new onshore and offshore natural gas pipeline development in Singapore are summarised below.

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117 PowerGas is the monopoly producer, transmitter and supplier of 'town' gas to domestic and commercial customers in Singapore. PowerGas is a wholly owned subsidiary of Singapore Power, which in turn is fully owned by Temasek Holdings. The Government of Singapore has a 100 percent ownership of Temasek Holdings.

118 The Government of Singapore has a majority shareholding in SembGas through SembCorp Utilities (50 percent) and Temasek Holdings (30 percent). A minority shareholder is Tractebel S.A (20 percent), the Belgian power utility.

3.2.2.1 Malaysian Gas from Petronas

Singapore has a gas import contract with Malaysia that was signed in 1990 under a government-to-government deal between Petronas, the Malaysian state oil and gas company, and Singapore Power.

Under the agreement, PowerSenoko, a wholly owned subsidiary of Singapore Power, imports 155 million cubic feet per day of Malaysian gas through a short dedicated pipeline that connects the Malaysian gas network with the electricity generator located at the Singaporean-Malaysian border. Natural gas from Petronas is piped to PowerSenoko solely for electricity generation and the gas purchase contract comes up for renewal in about 10 years time.

3.2.2.2 West Natuna Gas from Pertamina

In January 1999, SembGas signed a 22 year 'Gas Sales Agreement' with Indonesian state energy company Pertamina for the purchase of Indonesian natural gas from the West Natuna Sea[119].

Under the agreement, SembGas purchases 325 Mmcf/d of natural gas for 22 years. Deliveries of gas through that pipeline began in January 2001 and the pricing for the gas is based primarily on the price of fuel oil in Singapore. The costs for the construction of the pipeline will be recovered from gas sales revenues.

SembGas supplies large customers in Singapore under long term bilateral contracts (End User Agreements) and of the 325 Mmcf/d of imported gas approximately 95 percent goes into the power generation sector and the remaining 5 percent into petrochemicals, feedstocks, industrial fuel and domestic users. Those End User Agreements specify terms and conditions including tariffs for the purchase and transportation of natural gas and were the 'driver' for new gas pipeline development.

3.2.2.3 South Sumatra Gas from Pertamina

In February 2001, Power Supply, a wholly owned subsidiary of PowerGas, entered into a 'Gas Sales Agreement' with Pertamina for the delivery of natural gas from South Sumatra to Singapore over a 20 year period[120]. The gas will be delivered through approximately 500 km of new pipelines to be constructed from South Sumatra to Singapore. First deliveries of gas

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[119] Production sharing contractors to Pertamina are Premier Oil of the UK, Gulf Resources of Canada and Conoco of the USA (who contributed to the design and construction of the offshore pipeline network in Indonesia and Singapore).

[120] The South Sumatran gas will be produced by two companies working under production sharing contracts to Pertamina, namely Gulf Resources of Canada and Santa Fe Energy of the US.

are expected to commence in 2003 and the contract calls for supplies of 150 Mmcf/d are to begin in 2003, rising to 350 Mmcf/d by 2009.

Terms and conditions for the gas sale as well as the construction of the pipeline are still under negotiation. Power Supply has already secured End User Agreements with power generation companies, including Senoko Power and Power Seraya and other major industrial customers.

3.2.3 Reform and Restructuring

In 2000, the Government of Singapore decided to start a restructuring programme for the gas industry and to implement a new market structure and regulatory framework that increases competition and encourages new market entrants.[121] The key features of the new gas market arrangements include:

- separation of natural gas transportation from import, trading and retailing; and
- conversion of the current 'town' gas network to natural gas and the creation of an integrated network.

Under the new market arrangements, PowerGas, after divesting its retail, production and trading businesses, will become the monopoly owner and operator of the whole natural gas pipeline network in Singapore.[122] SembGas, after transferring its pipeline assets to PowerGas, will become a gas importer, trader and retailer of natural gas in Singapore without owning or operating any onshore pipeline network.

Under the proposed arrangements, PowerGas will be responsible for network planning and development. The new Gas Act[123], which was enacted last year, states that:

> "it shall be the duty of the gas transporter to develop and maintain a safe, efficient, reliable and economical gas pipeline or gas pipeline network for the conveyance of gas …"[124]

Apart from this general obligation for the gas transporter under the Gas Act, the industry is currently developing a 'network code' that will specify in detail roles and responsibilities in

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121 The Government further decided to establish a new statutory body, the Energy Market Authority (EMA) under the Ministry of Trade and Industry to take over from the Public Utilities Board the function of Regulator of electricity, piped gas and district cooling industries. The EMA was set up on 1 April 2001 and powers are provided under the Energy Market Authority Act 2001, Electricity Act 2001, Gas Act 2001 and District Cooling Act 2001.

122 On 2 January 2002, PowerGas announced the divestment of its production and retailing businesses, City Gas, to Temasek Holdings.

123 The Gas Act 2001, 23 February 2001.

124 Please refer to Part V, Clause 21 of The Gas Act 2001.

connection to the development on new gas pipelines in Singapore. Under the general framework it is envisaged that capacity rights on the existing transmission pipeline network will be sold to shippers who will be eligible to trade their capacity rights.

For future pipeline development, shippers will have to sign long term contracts for firm capacity rights before PowerGas will build new transmission pipelines. The obligation for the development of the distribution network will remain with PowerGas. Transportation tariffs will be regulated by EMA.[125] Further details will have to be agreed upon by the various parties over the next few months before the opening of the new gas market scheduled for the second half of this year.

[125] A more detailed description of the new gas market arrangements is available at http://www.ema.gov.sg.

4 SUMMARY AND CONCLUSION

4.1 Summary

This report has described and analysed the interaction between new or 'greenfields' gas pipeline developments, 'foundation' (transportation) contracts and the associated regulatory regime in a range of jurisdictions outside Australia.

The focus of the analysis has been the US gas market. This reflects its long history of private capital investment in new gas pipelines, contractual arrangements between shippers and PSPs that are publicly available, and regulatory arrangements that specifically address greenfield pipeline investment.

By contrast, gas markets in Singapore, Argentina and Mexico either have a relatively short track record of private capital investment in greenfield' gas pipelines or, where there has been significant private investment, contractual arrangements are not in the public domain. The UK is different again since transportation contracts do not exist under the 'common' carriage system adopted there and Transco, the owner and operator of the national transmission system, is solely responsible for the development of the UK gas network.

It follows that whilst some insights are available from these other jurisdictions, the most relevant practical experience for addressing greenfields pipeline investment issues arising in Australia lies in the US. Nevertheless, the institutional arrangements that support new gas pipeline development in the United States are quite different from those in Australia and caution needs to be exercised in drawing conclusions about what may be appropriate in the Australian context.

4.1.1 United States

Long-term transportation contracts that involve financial commitments to reserved capacity by shippers have played a fundamental role in the development of the US gas network and continue to drive new gas pipeline development. At the same time, the regulatory regime has evolved in tandem with market conditions, so as to provide continued support for efficient gas pipeline development in an increasingly competitive US gas market.

The arrangements for new gas pipeline development in the US have the following main characteristics:

- long-term transportation contracts between PSPs and shippers that underpin the size, timing and financial risks of new pipeline investments;
- an 'open season' process that brings together proponents of new pipelines with prospective shippers, prior to application for certification by the FERC;

- a transparent application and certification process under which the FERC assesses new pipeline proposals by reference to whether `overall benefits outweigh costs'; and
- the integration of the above processes with an evolving framework for FERC-decisions on whether and how pipeline tariffs should be regulated.

4.1.2 Certificate of public convenience and necessity

A critical feature of the US gas market is the need for proponents of any new inter-state transmission pipeline to secure from FERC a 'certificate of public convenience and necessity'. The certification process is a pre-condition for a PSP to start construction of a new pipeline. It essentially involves the application of an 'economic test' to determine whether the benefits of a proposed new pipeline outweigh the costs.

One of the major objectives of the FERC in administering this certification process is managing the risks of new pipeline development to ensure efficient investment in new pipeline capacity. This is of particular importance in a gas market where there is a high degree of geographic integration and where there is increasing competition amongst prospective PSPs to provide services.

Inefficient investment through over building in the US gas market not only has the potential for adverse effects on a new PSP and its shippers, but also wider implications for existing pipelines and their captive shippers and customers. In assessing the feasibility of any new pipeline proposal, therefore, the FERC looks at both the effects on the PSP and its new shippers, as well as the anticipated effect on existing pipelines, their captive customers and on the gas market as a whole.

4.1.3 Open season

A key process that exists as a pre-requisite to certification is the conduct by a prospective PSP of an 'open season'. This is a process by which a PSP solicits market interest for new pipeline transportation services. It is conducted as part of the PSP's planning process to help it determine the economic feasibility for a new pipeline proposal. The open season process is a good example of how PSPs and the FERC interact to ensure there is adequate demand for capacity of a new pipeline and to minimise 'risk exposure' to both PSPs and shippers.

4.1.4 Flexibility of regulatory arrangements

Notwithstanding these requirements of the open season and certification process, the US regulatory regime has developed considerable flexibility in response to changing market conditions. The FERC now acknowledges that each new gas pipeline proposal has project-specific characteristics and peculiarities. Accordingly, it adopts a flexible approach and assesses each pipeline project on a case-by-case basis. At the same time, however, the FERC

has also given particular attention to making the certification process more transparent and open – so as to ensure greater 'predictability' of the outcome of an application.

The flexibility that has developed allows PSPs to tailor a pipeline project application so that it best suits the particular circumstances of a proposed new pipeline. For example, PSPs are free to propose alternative tariff structures, including 'market-based' tariffs, for a new gas pipeline. The FERC then assesses each application taking into account the particular effects of the proposed tariff structure on the gas market and other parties.

In this context, the FERC has set out the circumstances under which it will approve a market based tariff which, essentially, are that a PSP must show that it does not or would not have any 'market power'. To date, however, the FERC has not approved any market-based tariffs for gas pipelines, although applications have been considered.

In the application of regulated tariffs, the process of contracting with foundation customers is designed to accommodate FERC's conventional rate determination procedures, with the regulated price for reserving capacity being finalised subsequent to the open season process.

4.2 Contrasts in Australia

By contrast in Australia, there are currently no administrative processes and procedures that are directed to addressing the efficiency of a new gas pipeline development. Such decisions are effectively left to prospective PSPs, who make investment decisions by reference to their own assessment of market conditions, in conjunction with the regulatory arrangements that are to be applied to tariffs.

4.2.1 Most Favoured Nation clauses

MFN clauses in foundation contracts are optional provisions that might be negotiated between shippers and a PSP that potentially prevent PSPs from offering different transportation tariffs among shippers. However, it is widely accepted that 'price discrimination' among shippers increases economic efficiency through increased network utilisation. This will particularly be the case for pipelines that are significantly under-utilised. Consistent with this, the Australian Natural Gas Pipelines Access Code (the Gas Code) explicitly provides for 'prudent discounts' to be offered by shippers.

To the extent that PSPs opt to limit their flexibility to offer discounted tariffs by incorporating MFN clauses in foundation contracts, then capacity utilisation is likely to be reduced, the market will develop more slowly, and the overall efficiency of new pipeline investment is likely to be sub-optimal.

By contrast, foundation contracts in the US do not generally contain MFN clauses. FERC allows for price discrimination and encourages PSPs to offer discounted tariffs in transportation contracts, although it does not accept different tariffs for 'similarly situated'

shippers. Generally shippers that take service over the same part of the pipeline and face the same end-market circumstances are defined as 'similarly situated'.

4.2.2 Blue Sky and benefit sharing mechanisms

Concern about the need to address 'blue sky' by incorporating benefit sharing mechanisms in Australian foundation contracts also appears to have developed in the context of specific differences between custom and practice in the US and Australia.

The need for regulatory or other mechanisms for sharing the risks or benefits of uncertain market development is a problem that does not arise in the US gas market where new pipeline developments are generally highly contracted to shippers and new capacity is 'incrementally' priced. Under the US system, PSPs are prevented from recovering any construction costs from existing shippers. For 'greenfields' pipeline developments in the US, rates are established that allow PSPs to recover the vast proportion of their investment costs from shippers, independent of gas throughput. In effect, the 'benefit sharing' task is fulfilled by the capacity-related structure of tariffs, in conjunction with the open season process.

This is a significant difference from the situation in Australia, where, for regulated pipelines, PSPs predominantly set volume-related tariffs. The risk of a PSP of being unable to recover their investment if pipeline throughput falls or capacity remains under-utilised is likely to be function of the level of foundation contracts and the utilisation of other regulatory provisions than can mitigate the effects of under-recovery in the early years of a greenfields gas pipeline development.

4.3 Conclusion

Regulatory approval processes in the US, including the open season process, the FERC's certification policy and PSPs' tariff structures generally result in high utilisation of new pipelines and low associated risks of new gas pipeline development for PSPs, existing and new shippers and captive customers.

Although the regulatory and institutional arrangements (and market geography) applying in Australia are different, the Gas Code appears to be flexible enough to allow PSPs, shippers and the relevant regulator to tackle most of the perceived problems associated with new gas pipeline development in Australia. In particular, the Gas Code does not prevent PSPs from offering discounts on tariffs to encourage higher network utilisation and contracting for increased capacity; in fact, it explicitly provides for this. Such arrangements would not only offer benefits to PSPs and to potential new shippers but also would benefit existing shippers through the lower average tariffs consequent upon higher capacity utilisation.

Furthermore, there is nothing in the Gas Code that requires PSPs to set tariff structures that have a relatively high volume-related or throughput component, either for existing

transportation services or for new pipeline development. Transportation tariffs with a fixed capacity component that primarily cover a proportionate share of investment costs, and a variable component that covers the incremental costs of transporting gas on a pipeline, would serve to reduce the risks to PSPs from new gas pipeline development.

APPENDIX A. GENERAL PROVISIONS OF US PRO FORMA TRANSPORTATION CONTRACTS

This Appendix lists and describes the common set of general provisions included in the terms and conditions section of the FERC approved pro forma gas transportation contracts.

- **Requests for Service:** This section describes the PSP's requirements for requests for new or additional service, either by new or existing shippers. Typically, requests must identify the type of service requested, the points of receipt and delivery, the proposed date for commencement of service, the term of service, whether or not the PSP's marketing affiliate is involved in the transaction, and credit information.

- **Creditworthiness Standards:** This section generally includes detailed provisions regarding the PSP's initial creditworthiness requirements for shippers wishing to contract for service on its system, as well as the PSP's continuing credit criteria; creditworthiness provisions may continue to apply throughout the term of service. Generally, a PSP may require a prospective shipper to provide any of the following information to determine creditworthiness: current financial statements, annual reports, 10-K reports or other regulatory filings, a list of all corporate affiliates, parent companies and subsidiaries and any reports from credit agencies which are available; a bank reference and trade references; written attestation that the company is not bankrupt; written attestation that it is not subject to the uncertainty of pending liquidation or regulatory proceedings in state or federal courts which could cause a substantial deterioration in its financial condition; and written attestation that no significant collection lawsuits or judgments are outstanding which would seriously reflect the shipper's ability to remain solvent.

  Other requirements may include: if the shipper has an ongoing business relationship with the PSP the shipper's current account with the PSP must be in good standing; the shipper must give the PSP updated credit information, at least annually and also upon request, so that the PSP can perform an updated credit appraisal; and the PSP is not required to perform and is able to suspend service for any shipper who is insolvent, fails to demonstrate credit worthiness, or fails to provide timely requested information—under such conditions, the shipper can only receive service if it chooses to pay for service in advance in some predetermined way.

- **Definitions:** This section defines a number of general terms, such as units of time or measurement, as they are to be used in the tariff and contract. This sections serves to avoid future confusion and disagreement surrounding the use of terms with multiple meanings.

- **Gas Quality**: This section describes the PSP's quality standards for natural gas shipped through its system in relation to processing, heating value, and the presence of extraneous substances. This section also outlines the conditions under which a PSP can refuse to ship gas or the shipper can refuse to accept gas due to quality issues, as

well as the penalties that the PSP and shippers will incur for failing to conform to the quality specifications.

- **Measurements**: This section defines the measurement units to be used in the agreement.
- **Measurement Equipment**: This section sets forth the procedures that will be used to measure the quantity of gas that flows through the pipeline system, clarifying the respective responsibilities of the PSP and the shipper in this regard.
- **Billing**: This section explains the billing and billing adjustment procedures.
- **Payments**: This section clarifies the payment process including payment deadlines and delayed payment and bill dispute procedures.
- **Customer Information**: This section identifies the information that the PSP and the shipper must grant each other upon request.
- **Possession of Gas**: This section identifies the possessor of the gas at various points in the transaction. The PSP is considered the possessor of the gas sold to the shipper until the gas has been delivered to the shipper at the delivery point. At this point, the shipper is considered the possessor.
- **Warranty of Title to Gas**: This section states that the PSP must, at the point of sale to the shipper, have good title to all natural gas it sells to the shipper. At this point, the PSP's title to the gas must be free of any other possible demands.
- **Force Majeure Provision and Contract Entitlements:** This section sets forth the conditions under which the shipper's transportation can be interrupted for: 1) "force majeure," circumstances outside the PSP's control which impair its service; and 2) "operating conditions," the PSP's need to make modifications, tests, or repairs to the system.
- **Pressures:** This section sets forth the pressure at which the PSP will deliver gas to the shipper at the delivery point.
- **Supply Curtailment:** This section defines the way in which the shipper will be treated under "Pro Rata Curtailment," which will occur in the event that the PSP is unable to deliver the total quantity of gas scheduled on its system and must curtails its shippers. The section also discusses the conditions under which the shipper can file for "Priority Use Curtailment," which grants the shipper a greater degree of protection from curtailment than its priority on the system will allow it. This section also defines the way in which the shipper can request relief from curtailment in a particular emergency.
- **Duly Constituted Authorities:** This section states that the PSP's tariff schedules, the terms and conditions of its tariff, and the obligations of the PSP and the shipper

under the service agreement are subject to valid laws, orders, rules and regulations of duly constituted authorities having jurisdiction.

- **Refund of Cash-Out Revenues in Excess of Costs**: This section sets forth the procedures under which the PSP will refund or carry forward any difference between the revenues received by the PSP and the costs incurred by the PSP under the cash-out provisions of the PSP's tariff.

- **Service Agreement** This section sets forth the conditions under which the form of service agreement contained in the tariff—which the PSP and the shipper use to enter into the contract—can be modified: 1) through an amendment to an existing agreement; or 2) through the execution of a new agreement.

- **Determination of Deliveries, Allowable Daily Dispatching Variations and Overrun Charges and Penalties:** This section states that the shipper must provide the PSP with a predetermined allocation methodology for measured quantities (based on scheduled quantities) at delivery points. Overrun charges and penalties are set forth in the section.

- **Maximum Daily Delivery Point Entitlements and Maximum Daily Delivery Entitlement by Facility Group:** This section defines the maximum quantity that the shipper may nominate for delivery to each delivery point each day.

APPENDIX B. SAMPLE APPLICATION FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY ISSUED BY THE FERC

We include a 'sample abbreviated' application for a 'certificate of public convenience and necessity' authorising specific a transportation service on interstate gas pipelines in the US gas market.

UNITED STATES OF AMERICA

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

[INTERSTATE PIPELINE] DOCKET NO. CP_____

APPLICATION FOR A CERTIFICATE OF

PUBLIC CONVENIENCE AND NECESSITY

([Project Name])

[Interstate pipeline] (Applicant), pursuant to Section 7(c) of the Natural Gas Act, as amended, and the regulations of the Federal Energy Regulatory Commission (Commission), hereby submits this abbreviated application for a certificate of public convenience and necessity authorizing Applicant to transport [quantity of] natural gas [daily/monthly/annually] on behalf of [Shipper] under the terms and conditions described below. In support of this application, Applicant respectfully states the following.

I

GENERAL

Applicant's exact legal name is [full name of interstate pipeline]. Applicant is a corporation duly organized and existing under the laws of the State of [ ], with its principle place of business located at [mailing address, city or town, state and zip code].

The names, titles and mailing addresses of the persons who should be served with communications concerning this application are:

[Name, title, mailing address and telephone number of two company representatives responsible for the application]

II

DESCRIPTION OF EXISTING OPERATIONS

[§157.6(b)(1) and (b)(3)]

Applicant owns and operates pipeline transmission facilities in the State[s] of [ ]. Applicant's transmission system consists of [short description of jurisdictional facilities]. Through such facilities, Applicant engages in the [production, purchase, sale and/or transportation] of natural gas. Under Rate Schedules [ ] and [ ] it provides sale for resale service to [Customer's name] and [Customer's name], respectively. Applicant also provides various exchange and transportation services on behalf of [Customers' names] under Rate Schedules [ ] and [ ].

III

EXECUTIVE SUMMARY

[§157.6(b)(2),(4)]

Applicant hereby requests a certificate of public convenience and necessity authorizing it to transport [Quantity] of natural gas per [day, month or year], on [an interruptible/a firm] basis for [Shipper's] account. Such service is necessary to effectuate the sale of gas by [Shipper] to [End-user] pursuant to a [ ] – year Gas Purchase and Sale Contract entered into between those parties on [Date]. [End-user] has agreed to purchase up to [or facility] in [City, State]. Pursuant to the aforementioned contract, [End-user] has agreed to purchase up to [Mcf/MMBtu] of undedicated natural gas from [Shipper] per [Day, month or year]. Applicant is advised that the natural gas transported under the authority requested herein will be utilized by [End-user] in its [ ] operations and that the cost of this gas, as delivered, will be less than the retail price currently paid by [End-user] to [Local distribution company].

The gas to be purchased by [End-user] from [Shipper] will be delivered to Applicant at an existing point of interconnection located in Section [ ], Township [ ], Range [ ], [County, State]. Under the terms of a Gas Transportation Agreement executed by and between [Shipper] and Applicant (see Exhibit I), Applicant proposes to redeliver thermally equivalent volumes of natural gas to [Name of end-user or intermediate transporter] at an existing point of interconnection located in Section [ ], Township [ ], Range [ ], [County, State]. The Gas Transportation Agreement also provides for the use of additional receipt and delivery points without the need for any corresponding contract amendment or certificate filing.

Applicant proposes to redeliver thermally equivalent volumes less fuel used and lost or unaccounted-for gas volumes for [Shipper's] account to [End-user or intermediate transporter] at the [ ] delivery point, for a term of [ ] years following the date of initial deliveries. [Describe role of any other intermediate transporter, i.e., how the gas will be delivered to the end-user]. Applicant is advised that [Intermediate transporter] filed an application on [Date] in Docket No [ ] for a certificate to transport this gas from Applicant to [End-user or local distribution company].

Applicant does not propose to construct any new facilities as a result of the transportation service proposed herein.

Applicant proposes to render the instant service pursuant to the terms and conditions set forth in its FERC Gas Tariff, [Original/First Revised, etc.] Volume No [ ], Rate Schedule [ ]. Thus, Applicant proposes to charge [Shipper] its system-wide transportation rate of [ ] cents

per [Mcf/MMBtu] for gas transported hereunder. This is Applicant's system-wide transportation rate, approved by the Commission in Docket No. [ ].

IV

TABLE OF EXHIBITS

[§157.14]

Applicant states that this is an abbreviated application for a certificate of public convenience and necessity filed under §157.7(a) of Commission's Regulations and that, pursuant to such regulations, Applicant has omitted those exhibits and data that are inapplicable or unnecessary to disclose fully the nature and extent of the proposal herein. The following table of contents lists the exhibits and documents filed with this application, the exhibits incorporated by reference and the exhibits omitted, and the reason(s) therefore.

Exhibit A	Articles of Incorporation and Bylaws
	Exhibit A to the application filed in Docket [ ] is incorporated herein by reference.
Exhibit B	State Authorization
	Exhibit B to the application filed in Docket No. [ ] is incorporated herein by reference.
Exhibit C	Company Officials
Exhibit D	Subsidiaries and Affiliation
Exhibit E	Other Pending Applications and Filings
	Applicant has no other applications or filings pending under the Natural Gas Act that directly or significantly affect this application. Prior to initiation of the service requested herein, [intermediate transporter] will submit the appropriate filing with the Commission for authorization to transport the subject volumes from [ ] to [End-user or local distribution company]
Exhibit F	Location of Facilities
Exhibit F–I	Factors Considered in Use of Joint Rights-of-Way
	No new facilities are proposed
Exhibit F-II	Factors Considered in Locating Facilities in Scenic, Historic, Recreational, or Wildlife Areas
	No new facilities are proposed.
Exhibit F-III	Statement of Adoption of Guidelines Concerning Right-Of-Way and Construction Activities
	No new facilities are proposed
Exhibit G	Flow Diagram
and G-I	No new facilities are proposed
Exhibit G-II	Engineering Design Data
	No new facilities are proposed.
Exhibit H	Total Gas Supply Data
	Not applicable. The volumes of gas proposed to be delivered will not impact Applicant's general system gas supply.
Exhibit I	Market Data
	The Gas Transportation Agreement between [Shipper] and Applicant, dated [ ] is attached hereto.
Exhibit J	Conversion to Natural Gas

Exhibit K	Cost of Facilities
Exhibit L	Financing
Exhibit M	Construction, Operation and Management
Exhibit N	Revenues, Expenses and Income
	The transportation service is interruptible and therefore meaningful estimates of revenues, expenses and income cannot be determined.] or [Attached] See 18 CFR 157.14(a)(16).
Exhibit O	Depreciation and Depletion
Exhibit P	Tariff
	See Exhibit 1

VI

FORM OF NOTICE

[§157.6(b)(7)]

A form of notice suitable for publication in the Federal Register is attached.

VII

REQUEST FOR SHORTENED PROCEDURES

[§157.6(c)]

Applicant further requests that this application be heard and disposed of under the shortened procedures set forth in 18 CFR §385.802 and that the intermediate decision procedures be omitted. If the instant application is disposed of under the shortened procedures, Applicant waives oral hearing and opportunity for filing exceptions to the decision of the Commission.

VIII

WHEREFORE, Applicant respectfully requests that the Commission issue a certificate of public convenience and necessity authorizing Applicant to transport natural gas for [Shipper], all as more fully described above.

Applicant also requests authority to add and delete delivery and receipt points, as necessary.

Respectfully submitted,

[INTERSTATE PIPELINE]

By _____

[Title]

[Date]

VERIFICATION

[STATE]

ss:

[COUNTY]

[Name of responsible company official who signs the application], being duly sworn, deposes and says that he is [Title] for [Pipeline]; that he is authorized to execute and file the foregoing document; that he has read said document and is familiar with the contents thereof; and that all statements and matters set forth therein are true and correct to the best of his knowledge, information and belief.

_____

[Name]

Subscribed and sworn to before me at [city and state], this [ ] day of [month], 20[ ]

_____

Notary Public

My Commission Expires: [Date]

UNITED STATES OF AMERICA

BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

[INTERSTATE PIPELINE] DOCKET NO. CP_____

FORM OF NOTICE

(issued _____)

Take notice that on [date], [Interstate Pipeline] (Applicant), of [mailing address, city or town, state and zip code] filed in Docket No. CP _____ an application pursuant to Section 7(c) of the Natural Gas Act and the Commission's regulations there under for a certificate of public convenience and necessity authorizing Applicant to transport natural gas on behalf of [Shipper], all as more fully set forth in the application which is on file with the Commission and open for public inspection.

Pursuant to a transportation contract dated [ ], Applicant has agreed to transport up to [Mcf/MMBtu] of natural gas per [Day/month/year] on behalf of [Shipper]. Applicant proposes to receive up to [Mcf/MMBtu] of gas per day for [Shipper's] account at an existing point of interconnection located in Section [ ], Township [ ], Range [ ], [County, State]. Applicant proposes to redeliver thermally equivalent volumes of natural gas to [Name of end-user or intermediate transporter] at an existing point of interconnection located in Section [ ], Township [ ], Range [ ], [County, State]. The Gas Transportation Agreement also provides for the use of additional receipt and delivery points without the need for any corresponding contract amendment or certificate filing. Applicant proposes to render this service pursuant to the terms and conditions set forth in its FERC Gas Tariff, [ ] Volume No. [ ], Rate Schedule [ ].

Any person desiring to be heard or to make any protest with reference to said application should on or before [date], file with the Federal Energy Regulatory Commission, Washington, D.C., 20426, a motion to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure j(18 CFR §385.214 or §385.211) and the regulations under the Natural Gas Act (18 CFR 157.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party to a proceeding or to participate as a party in any hearing therein must file a motion to intervene in accordance with the Commission's rules.

Take further notice that, pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Energy Regulatory Commission by Sections 7 and 15 of the Natural Gas Act and the Commission's Rules of Practice and Procedure, a hearing will be held without further notice before the Commission or its designee on this application if no motion to intervene is filed within the time required herein, if the Commission on its own review of the matter finds that a grant of the certificate is required by the public convenience and necessity. If a motion for leave to intervene is timely filed, or if the Commission on its motion believes that a formal hearing is required, further notice of such hearing will be duly given.

Under the procedure herein provided for, unless otherwise advised, it will be necessary for Applicant to appear or to be represented at the hearing.