



Issues Paper

To Assist with Submissions on the Proposed Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline

January 2000



1. INTRODUCTION

On 15 December 1999, Epic Energy (WA) Transmission Pty Ltd (Epic Energy), submitted a proposed Access Arrangement and Access Arrangement Information for the Dampier to Bunbury Natural Gas Pipeline (DBNGP) for approval under the *National Third Party Access Code for Natural Gas Pipeline Systems* (the Code).

The proposed Access Arrangement and Access Arrangement Information documents are available at no cost from the Office of Gas Access Regulation (*OffGAR*) web site (www.offgar.wa.gov.au). Printed copies of the documentation are also available for \$25.00 per set. Requests for the documents can be made to:

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Office of Gas Access Regulation
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A notice was issued to interested parties and advertisements were published in the *West Australian* and the *Australian* on Wednesday 22 December 1999, advising that the proposed Access Arrangement and Access Arrangement Information had been lodged by Epic Energy.

The notice and advertisements invited public submissions to be lodged with *OffGAR* by 4pm Friday 4 February 2000. At the request of interested parties this lodgement date has been extended to 18 February 2000.

After considering all public submissions, the Western Australian Gas Access Regulator (the Regulator) is required to issue a Draft Decision. The Code requires that if the Regulator proposes to not approve the Access Arrangement, the Draft Decision must state the amendments (or nature of the amendments) which need to be made for it to be approved.

After publication of the Draft Decision, interested parties will be given a further opportunity to make submissions. The closing date for submissions on the Draft Decision will be specified at the time the Draft Decision is released. The Regulator is required to issue a Final Decision on the proposed Access Arrangement after considering these submissions.

The purpose of this issues paper is to:

- list a number of issues that have been identified as relevant to assessing the Access Arrangement and Access Arrangement Information for DBNGP; and
- assist interested parties in making submissions on the issues raised in this paper and other relevant issues that they consider should be examined in the assessment of the proposed Access Arrangement.

2. BACKGROUND

2.1 The Pipeline System

The DBNGP consists of the gas pipeline system as described by Western Australian pipeline licence WA:PL40 and a pending pipeline licence to be granted for the construction and operation of a compressor station in Kwinana. The pipeline system comprises 1845.3 km of high pressure gas pipeline (including laterals) linking gas suppliers in the north west of Western Australia with markets principally in the south west of the State

2.2 Access Arrangements in Context

The Code, given effect by the *Gas Pipelines Access (WA) Act 1998*, provides for the regulation of access to gas transmission and distribution systems in Western Australia. Service providers of gas pipelines and gas distribution systems covered by the Code are required to submit an Access Arrangement for approval by the Regulator within a specified time (normally 90 days of being covered by the Code).

The purpose of an Access Arrangement is to provide details about the terms and conditions including price upon which an independent third party (user) can gain access to the pipelines.

The Code (sections 3.1 to 3.20) specifies the elements that are required to be included in an Access Arrangement. The central requirement is the specification of one or more reference services for access to the pipeline system. Associated with these reference services are applicable terms and conditions for provision of those services together with reference tariffs, which are in the nature of maximum charges that a pipeline service provider may apply.

A number of other principles and procedures governing access to the transmission system are also required to be included in the Access Arrangement, addressing matters such as queuing for services, capacity trading and extensions/expansions to the pipeline system.

In assessing the proposed Access Arrangement, the Regulator must take into account the matters set out in section 2.24 of the Code, that is:

- the legitimate business interests of the service provider;
- firm and binding contractual obligations of the service provider or other persons (or both) already using the covered pipeline;
- the operational and technical requirements necessary for the safe and reliable operation of the covered pipeline;
- the economically efficient operation of the covered pipeline;
- the public interest, including the public interest in having competition in markets (whether or not in Australia);

- the interests of users and prospective users; and
- any other matters that the Regulator considers are relevant.

It is important to note that the services (and terms and conditions including price) that are described in an Access Arrangement do not necessarily preclude a service provider and user from agreeing to the provision of a different service at a different price. In addition, the dispute resolution provisions of section 6 of the Code are available should there be a dispute as to the terms of supply of such other services.

The Regulator may approve an Access Arrangement only if satisfied that the Access Arrangement contains the elements and satisfies the principles set out in sections 3.1 to 3.20 of the Code. An Access Arrangement cannot be rejected on the basis that it does not address a matter that section 3 of the Code does not require it to address. Notwithstanding this, the Regulator has a broad discretion in accepting or rejecting an Access Arrangement.

3 ISSUES FOR CONSIDERATION

3.1 Required Contents of an Access Arrangement

As indicated in section 2 of this Issues Paper, the required contents of an Access Arrangement include the following elements:

- a **services policy**, which must include a description of one or more services that the service provider will offer to users and prospective users (sections 3.1 and 3.2);
- **reference tariffs** and a **reference tariff policy**, including one or more tariffs determined according to the reference tariff principles in section 8 of the Code (sections 3.3 to 3.5);
- the **terms and conditions** on which the service provider will supply each reference service (section 3.6);
- a **capacity management policy**, incorporating a statement that the covered pipeline is either a contract carriage or market carriage pipeline (sections 3.7 and 3.8);
- a **trading policy**, addressing the transfer between persons of rights to obtain a service (on a contract carriage pipeline) (sections 3.9 to 3.11);
- a **queuing policy**, defining the priority that prospective users have to negotiate for specific capacity (sections 3.12 to 3.15);
- an **extensions/expansions policy**, setting out a method for determining whether an extension or expansion to the covered pipeline is or is not to be treated as part of the covered pipeline for the purposes of the Code (section 3.16); and

- a **review date**, by which revisions to the Access Arrangement must be submitted, and a date by which the revisions are intended to commence (sections 3.17 to 3.20).

Sub-sections 3.2 to 3.8 of this Issues Paper discuss the non-tariff issues required to be included in an Access Arrangement. Sub-section 3.9 discusses the reference tariffs including the initial capital base, rate of return and other issues covered by section 8 of the Code.

3.2 Services Policy

Sections 3.1 and 3.2 of the Code require an Access Arrangement to include a services policy which must include a description of one or more services that the service provider will make available to users and prospective users. The policy must contain one or more reference services which are likely to be sought by a significant part of the market, and any service or services that in the Regulator's opinion should be included in the services policy.

To the extent practicable and reasonable, a service provider should make available elements of a service if requested by users and prospective users and apply a separate tariff for each element of such a service.

The Access Arrangement for the DBNGP makes provision for the following classes of service.

(a) Reference Services

The proposed reference service for the DBNGP is called the "firm service".

Issues for Consideration - Reference Services

- Will the firm service be sought by a significant part of the market?
- Is the proposed firm service likely to be easily understood by users and prospective users?
- Does the proposed firm service impose any unreasonable or unnecessary constraints on users?
- Are reference services adequately provided for by the Access Arrangement?

(b) Non-Reference Services

In addition to the firm service, the Access Arrangement makes provision for other services (non-reference services) to be offered to users. Examples of the types of services that Epic Energy is prepared to negotiate as non-reference services are indicated in the Access Arrangement.

Issues for Consideration - Non-Reference Services

- Are non-reference services adequately provided for by the Access Arrangement?

3.3 Terms and Conditions Other Than Price

An Access Arrangement must include the terms and conditions on which the service provider will supply each reference service (section 3.6 of the Code). The terms and conditions form the basis of a contract between a user and the service provider for provision of a reference service. The terms and conditions must, in the Regulator's opinion, be reasonable.

Epic Energy has provided the proposed terms and conditions for supply of the firm service as Annexure B to the Access Arrangement.

Issues for Consideration – Terms and Conditions Other Than Price

- Are the proposed terms and conditions reasonable in the context of the DBNGP?
- Is the allocation of risk between the service provider and users implied by the terms and conditions consistent with economic efficiency?
- Is the allocation of risk implied by the terms and conditions consistent with proposed charges, including reference tariffs?
- Does the Access Arrangement clearly identify the relevant terms and conditions, and thereby enable a prospective user to be sufficiently well informed before making a specific access request?

3.4 Capacity Management Policy

An Access Arrangement must include a capacity management policy that indicates whether the covered pipeline is to be managed as a contract carriage pipeline or a market carriage pipeline.

Epic Energy propose to manage the DBNGP as a contract carriage pipeline.

Issues for Consideration – Capacity Management Policy

- Will management of the DBNGP as a contract carriage pipeline adequately cater for the needs of users and prospective users?

3.5 Trading Policy

Sections 3.9 to 3.11 of the Code set out the requirements of a trading policy. If a pipeline is a contract carriage pipeline (as is proposed for DBNGP), the Access Arrangement must include a trading policy, which explains how users may trade their rights to a service with other users or prospective users.

The Access Arrangement provides for bare transfers in accordance with the requirements of the Code, and for conditional transfers subject to Access Contract Terms and Conditions (submitted to the Regulator as part of the Access Arrangement documentation). Additionally, Epic Energy has proposed to establish a Secondary Market for trading in rights to service according to Secondary Market Rules (also submitted to the Regulator as part of the Access Arrangement documentation which has been made public).

Issues for Consideration - Trading Policy

- Does the proposed trading policy adequately provide for users to trade their rights to obtain services with other users or prospective users?
- Are the obligations placed on the parties wishing to trade in rights to a service appropriate and reasonable?
- Is the proposed trading policy likely to facilitate competition?
- Does the policy reasonably balance the interests of the service provider and other parties?

3.6 Queuing Policy

Sections 3.12 to 3.15 of the Code set out the requirements for a queuing policy. An Access Arrangement must include a queuing policy that explains the priorities of users and prospective users in obtaining access to a covered pipeline.

The queuing policy must provide sufficient detail to enable users and prospective users to understand in advance how priority will be assigned and, to the extent reasonably possible, accommodate the legitimate business interests of the service provider, users and prospective users, and generate economically efficient outcomes.

The proposed queuing policy for the DBNGP makes provision for priorities for access to the pipeline to be determined in two ways:

- assignment of priority to access requests according to the order in which the access requests are received by Epic Energy; and
- granting of capacity expansion options to prospective users by Epic Energy.

Issues for Consideration - Queuing Policy

- Does the proposed queuing policy provide sufficient detail for users and prospective users to understand how priorities to access will be determined?
- Does the proposed queuing policy accommodate the legitimate business interests of the service provider, users and prospective users?
- Is the proposed policy consistent with a reasonable balance of interests between the service provider and users?

3.7 Extensions/Expansions Policy

Section 3.16 of the Code requires an Access Arrangement to include an extensions/expansions policy that sets out the method to determine whether any extensions or expansions of the pipeline will be treated as part of the covered pipeline and, if covered, how they will affect reference tariffs.

The proposed extensions/expansions policy for the DBNGP provides for all expansions of capacity and extensions to the DBNGP to become part of the covered pipeline unless Epic Energy elects otherwise and provides notice to this effect to the Regulator. The extensions/expansions policy also provides for capacity expansions to be undertaken in accordance with capacity expansion options granted to prospective users by Epic Energy.

The proposed extensions/expansions policy indicates that users using incremental capacity on the DBNGP will pay the reference tariff except where Epic Energy imposes a surcharge or capital contribution in respect of new facilities investment.

Issues for Consideration – Extensions/Expansions Policy

- Does the proposed extensions/expansions policy adequately explain the method by which it will be determined whether any extension or expansion of the DBNGP will become part of the covered pipeline?
- Does the proposed extensions/expansions policy adequately specify how extensions and expansions will affect reference tariffs?
- Is the proposed extensions/expansions policy consistent with a reasonable balance of interests between the service provider and users?

3.8 Review of the Access Arrangement

The Code requires an Access Arrangement to include a date by which the service provider must submit revisions to the Access Arrangement (the revisions submission

date), and a date upon which the revisions to the Access Arrangement are intended to commence (the revisions commencement date) (section 3.17).

Epic Energy has proposed a revisions submission date of 1 July 2004 and a revisions commencement date of 1 January 2005. This implies that the proposed Access Arrangement (and reference tariffs) would remain in place for about 4½ years.

The choice of the period between reviews of the access arrangement involves a trade-off between different efficiency objectives (as outlined in section 3.8(e) of the Code). In addition, the choice of this period has implications for the extent of uncertainty that is faced by market participants.

Issues for Consideration – Review of the Access Arrangement

- Does the length of the access arrangement period appropriately balance the need to recognise the potential changes in the nature of the natural gas industry and the uncertainty which arises in such an environment (which favours a short access arrangement period) against the desire to reduce uncertainty created by the regulatory process (which favours a longer access arrangement period)?
- Should any specific major events be defined that trigger an obligation on the service provider to submit revisions prior to the revisions submission date?

3.9 Reference Tariffs

The Code requires that an Access Arrangement include a reference tariff for:

- at least one service that is likely to be sought by a significant part of the market; and
- each service that is likely to be sought by a significant part of the market and for which the Regulator considers a reference tariff should be included.

The principles used to determine reference tariffs are to be stated in the Access Arrangement as a reference tariff policy. Both the reference tariff policy and the reference tariffs should be designed with a view to achieving the objectives set out in section 8.1 of the Code:

- providing the service provider with the opportunity to earn a stream of revenue that recovers the efficient costs of delivering the reference service over the expected life of the assets used in delivering the service;
- replicating the outcomes of a competitive market;
- ensuring the safe and reliable operation of the pipeline;
- not distorting investment decisions in pipeline transportation systems or in upstream and downstream industries;
- efficiency in the level and structure of the reference tariff; and

- providing an incentive to the service provider to reduce costs and to develop the market for reference services and other services.

Estimating a revenue level and developing a tariff methodology that meets these objectives is central to striking an appropriate balance between the interests of the service provider and users and in promoting competition and efficiency in upstream and downstream markets.

If an Access Arrangement proposes a reference tariff that is higher than appropriate it:

- may unreasonably discourage downstream uses or consumers of gas; and
- may lead to lower employment and growth opportunities for the State.

If an Access Arrangement proposes a reference tariff that is too low it:

- may risk the long run sustainability of the pipeline service, with revenue cash flows being insufficient to finance needed capital expenditure and maintenance;
- could deter future investment in the gas pipeline industry;
- could deter future investment in both upstream and downstream industries to the extent that both customers and producers are exposed to inadequate service reliability and capacity; and
- could result in lower employment and development opportunities for the downstream industry.

The Code provides a general procedure for the determination of reference tariffs. The steps in this general procedure are:

- estimation of an initial capital base;
- estimation of capital expenditure;
- estimation of non-capital costs;
- estimation of an appropriate rate of return;
- specification of a depreciation schedule;
- determination of total revenue, a cost/revenue allocation across services, and reference tariffs; and
- specification of incentive mechanisms.

(a) Initial Capital Base

The initial capital base for the pipeline will be a major determinant of the revenue to the service provider and tariffs paid by users for both the current and future access arrangement periods.

The Code requires the value assigned to existing assets (the initial capital base) to be normally within the range of the depreciated actual cost (DAC) and the depreciated optimised replacement cost (DORC) (section 8.10 - 8.11 of the Code). In determining a value within the range, consideration should be given to the factors outlined in section 8.10 of the Code including:

- economic efficiency;
- other well recognised methodologies for asset valuation, and the advantages and disadvantages of different methodologies;
- international best practice in comparable situations and the impact on the international competitiveness of energy consuming industries;
- the basis on which tariffs have been set in the past and the historical returns to the asset;
- the reasonable expectations of persons under the regulatory regime that applied to the pipeline prior to the commencement of the Code;
- the impact on the economically efficient use of gas resources;
- the comparability with the cost structure of new pipelines that may compete with the pipeline in question; and
- the price paid in a recent sale of the asset (and the circumstances of that sale).

Epic Energy has proposed an initial capital base of the DBNGP of \$2570.34 million, equal to the purchase price of the DBNGP plus acquisition costs and adjustments for capital expenditure and depreciation to 31 December 1999.

Issues for Consideration – Initial Capital Base

- Does the proposed value of the initial capital base meet the requirements of the Code?
- Have the factors in section 8.10 of the Code been adequately considered in nominating an initial capital base?

(b) Regulatory Rate of Return

The regulatory rate of return is the return to be provided on the capital base for the purposes of determining the required revenue.

The Code requires the rate of return to reflect an estimate of the cost of capital that is associated with the provision of the regulated services and that is commensurate with prevailing conditions in the market for funds. The Code makes reference to recognised models from finance theory for estimating costs of capital, such as the capital asset pricing model.

Epic Energy has proposed a rate of return set equal to an estimated weighted average cost of capital of 8.6 percent, pre-tax real. The weighted average cost of capital was estimated using the capital asset pricing model.

Issues for Consideration – Regulatory Rate of Return

- Does the proposed rate of return that has been used to derive reference tariffs reflect a reasonable estimate of the market-determined cost of capital for the relevant assets?
- Has the capital asset pricing model been applied in an appropriate and consistent manner?
- Have reasonable values been assigned to input variables of the capital asset pricing model (such as estimates of the risk free rate; asset or equity betas; market risk premium; treatment of taxation and dividend imputation, etc.)?

(c) New Capital Expenditure

The Code (sections 8.15 to 8.19) permits new capital expenditure to be included in the capital base provided that:

- the expenditure represents prudent and efficient investment; and
- the benefits of the investment exceed the costs.

In addition, where reference tariffs are based on a forecast of future capital expenditure there needs to be a reasonable basis for such a forecast.

Epic Energy has forecast capital expenditure of \$26.5 million in 2000, decreasing to \$3.17 million in 2004. A description of, and justification for, planned capital investment is provided in the Access Arrangement Information.

Issues for Consideration – New Capital Expenditure

- Does the planned capital investment for the DBNGP over the period of the Access Arrangement represent prudent and efficient investment?
- Is it reasonable to expect the benefits of the planned capital investment to exceed the costs?
- Is the timing of planned capital investment over the period of the Access Arrangement prudent and reasonable?

(d) Non-Capital Costs

The Code permits the recovery of forecast operations and maintenance costs, provided that these costs reflect prevailing industry best practice and that there is a reasonable basis for the forecasts.

Epic Energy has forecast non-capital costs of \$39.11 million in 2000 increasing to \$46.84 million in 2004.

Issues for Consideration – Non-Capital costs

- Is there a reasonable basis for the forecasts of operating and maintenance costs?
- Do the forecast operations and maintenance costs reflect prevailing industry best practise in the operation of pipelines?

(e) Economic Depreciation of Assets (Return of Capital)

A depreciation schedule is the basis upon which the assets that form part of the capital base are depreciated for the purposes of determining a reference tariff. Section 8.33 of the Code states that the depreciation schedule should be designed:

- so as to result in the reference tariff changing over time in a manner that is consistent with the efficient growth of the market for the services provided by the pipeline (and which may involve a substantial portion of the depreciation taking place in future periods, particularly where the calculation of the reference tariff has assumed significant market growth and the pipeline has been sized accordingly);
- so that each asset or group of assets that form part of the covered pipeline is depreciated over the economic life of that asset or group of assets;
- so that, to the maximum extent that is reasonable, the depreciation schedule for each asset or group of assets that form part of the covered pipeline is adjusted over the life of that asset or group of assets to reflect changes in the expected economic life of that asset or group of assets; and

- so that an asset is depreciated only once (that is, so that the sum of the depreciation that is attributable to any asset or group of assets over the life of those assets is equivalent to the value of that asset or group of assets at the time at which the value of that asset or group of assets was first included in the capital base).

A depreciation schedule typically involves depreciation of particular assets or groups of assets over their technical or economic lives. The resultant depreciation costs form part of the total revenue requirement for the pipeline.

Epic Energy has proposed a different means of determining depreciation costs. It is noted in the Access Arrangement information that revenue from delivery of the reference service at the reference tariff is likely to be insufficient to cover the capital charges (asset return and depreciation) on the initial capital base, and on the capital base in subsequent years, without growth in demand for gas transmission services.

Epic Energy has proposed, in these circumstances, to add any shortfall in the recovery of capital costs to a deferred recovery account, with the intent of recovering these costs in future periods.

Issues for Consideration – Economic Depreciation of Assets (Return of Capital)

- Is the proposed method of calculating depreciation costs consistent with the requirements of the Code?

(f) Incentive Mechanisms

The Code encourages the inclusion in Access Arrangements of mechanisms for providing the service provider with incentives to improve the efficiency of pipeline operation. Incentive mechanisms typically provide for a sharing of the benefits of efficiency gains between the service provider and users both within an access arrangement period (such as through a CPI-X incentive mechanism) and across access arrangement periods.

Epic Energy has proposed a CPI-X incentive mechanism involving an annual adjustment of the reference tariff by 67 percent of the change in the CPI.

Issues for Consideration – Regulatory Efficiency Incentives

- Does the proposed incentive mechanism provide an adequate incentive for the service provider to seek efficiency gains in operation of the pipeline?
- Does the proposed incentive mechanism provide for a reasonable sharing of the benefits from efficiency gains between the service provider and users?

(g) Determination of Reference Tariffs

The Code requires that reference tariffs be set on the basis of the sales of all services provided by the covered pipeline delivering (or being forecast to deliver) a certain amount of revenue (total revenue) over the period for which the reference tariffs remain in effect. Reference tariffs should then be derived by allocation of total revenue to services or different categories of users in a manner that reflects the costs of providing services and a sharing of common costs.

Epic Energy has determined a total revenue using a methodology different than provided for in the Code. A total revenue has been determined on the basis of tariffs for services under the current regulatory regime for the DBNGP. This revenue has then been allocated to a multi-part tariff structure according to a cost allocation described in the Access Arrangement Information.

Issues for Consideration – Methodology for Determining Total Revenue and Reference Tariffs

- Is the methodology for determining total revenue for the DBNGP consistent with that provided for by the Code?
- Is the allocation of costs underlying the reference tariff schedule consistent with the requirements of the Code?

4 ACCESS ARRANGEMENT INFORMATION

The purpose of the Access Arrangement Information is to permit interested parties to understand the derivation of the “elements” in the proposed Access Arrangement and to form an opinion as to the compliance of the Access Arrangement with provisions of the Code. The term “elements” refers to reference tariffs, reference services and other minimum requirements as discussed above.

Attachment A to the Code specifies the information that must be included in the Access Arrangement Information. While there is no requirement for the Access Arrangement Information to be approved, the service provider can be asked to provide more information to the public if the Access Arrangement Information does not meet the purposes or minimum requirements set out in the Code. Any person may request the Regulator to consider whether the Access Arrangement Information is sufficient in relation to any particular matter.

While ensuring that sufficient information is available to users and prospective users, the Regulator must not seek information to be disclosed that is unduly harmful to the legitimate business interests of the service provider, users or prospective users.

Issues for Consideration – Information Disclosure

- Is the information disclosed in the Access Arrangement and the Access Arrangement Information sufficient to enable users and prospective users to understand the derivation of the elements in the proposed Access Arrangement?
- Is the information sufficient to allow users and prospective users to form an opinion as to the compliance of the Access Arrangement with the provisions of the Code?
- Are the information requirements listed in Attachment A (copy appended) to the Code adequately addressed? If not, what additional information should be provided, and in what form?

5 MAKING A SUBMISSION

Submissions are invited from all interested parties on the proposed Access Arrangement which must be received by 4pm Friday 18 February 2000, Western Standard Time. *OffGAR* would also appreciate comments on whether the Access Arrangement Information is sufficient for its purpose as discussed above.

5.1 Confidentiality

In general, all submissions from interested parties will be treated as in the public domain and placed on the *OffGAR* web site. Where an interested party wishes to keep part or all of the contents of a submission confidential, it should indicate these parts clearly. However, where the Regulator considers that the release of this information would not be 'unduly harmful' to the legitimate business interests of any party, the Regulator will return the submission to the party making the submission and provide that party with the option of revising or withdrawing its submission.

5.2 Format for Submissions

Submissions with comments on the proposed Access Arrangement should be in both written and electronic form and addressed to:

Mr Robert Pullella
Office of Gas Access Regulation
Level 6 Governor Stirling Tower
197 St Georges Terrace
PERTH WA 6000
Email: Robert_Pullella@offgar.wa.gov.au

⇒ Attachment

APPENDIX

Attachment A to the Code

Information Disclosure by a Service Provider to Interested Parties

Pursuant to Section 2.7 the following categories of information must be included in the Access Arrangement Information.

The specific items of information listed under each category are examples of the minimum disclosure requirements applicable to that category but, pursuant to Sections 2.8 and 2.9, the Relevant Regulator may:

- allow some of the information disclosed to be categorised or aggregated; and
- not require some of the specific items of information to be disclosed,

if in the Relevant Regulator's opinion it is necessary in order to ensure the disclosure of the information is not unduly harmful to the legitimate business interests of the service provider or a or prospective user.

Category 1: Information Regarding Access & Pricing Principles

Tariff determination methodology

Cost allocation approach

Incentive structures

Category 2: Information Regarding Capital Costs

Asset values for each pricing zone, service or category of asset

Information as to asset valuation methodologies - historical cost or asset valuation

Assumptions on economic life of asset for depreciation

Depreciation

Accumulated depreciation

Committed capital works and capital investment

Description of nature and justification for planned capital investment

Rates of return - on equity and on debt

Capital structure - debt/equity split assumed

Equity returns assumed - variables used in derivation

Debt costs assumed - variables used in derivation

Category 3: Information Regarding Operations & Maintenance

Fixed versus variable costs

Cost allocation between zones, services or categories of asset & between regulated/unregulated

Wages & salaries - by pricing zone, service or category of asset

Cost of services by others including rental equipment

Gas used in operations - unaccounted for gas to be separated from compressor fuel

Materials & supply

Property taxes

Category 4: Information Regarding Overheads & Marketing Costs

Total service provider costs at corporate level

Allocation of costs between regulated/unregulated segments

Allocation of costs between particular zones, services or categories of asset

Category 5: Information Regarding System Capacity & Volume Assumptions

Description of system capabilities

Map of piping system - pipe sizes, distances and maximum delivery capability

Average daily and peak demand at "city gates" defined by volume and pressure

Total annual volume delivered - existing term and expected future volumes

Annual volume across each pricing zone, service or category of asset

System load profile by month in each pricing zone, service or category of asset

Total number of customers in each pricing zone, service or category of asset

Category 6: Information Regarding Key Performance Indicators

Industry KPIs used by the service provider to justify "reasonably incurred" costs

Service provider's KPIs for each pricing zone, service or category of asset