November 13th 2003

Public consultation on tariff principles regarding the use of natural gas distribution networks

Technical consultation note

1. General principles

Tariffs for the use of natural gas public distribution system will be calculated on the basis of all costs associated with these infrastructures, as determined in particular from the general operators' unbundled accounts.

According to the first proposal, it is planned that the tariff level to be implemented by distribution network operators (DSOs) should be calculated on a "*cost plus*" basis, intended to cover operating expenditure linked to the transportation of gas on distribution system on the one hand, and to capital expenditure (depreciation, returns) on the other hand.

Tariffs proposed for the use of the distribution system will be split according to each customer segment. Therefore, the tariff level set for each of these segments will be identified so that the resulting revenues correspond to the costs generated for the DSO for the relevant customer segment

CRE's tariff proposal should be implemented by July 1st 2004 at the latest. The proposal should be based on estimated data for the year 2004, taking into account an annual increase in consumption of 2% between 2002 and 2004, and a readjustment of the climatic model, which would result in a drop in consumption of around 7 TWh for an average year. Forecasts for 2004 operating expenditure will be made up using 2002 data and possibly projections for 2003 if necessary and for a development scenario for 2004 including annual productivity gains.

These tariffs should apply for a period of 12 to 18 months. When operators' unbundled accounts are audited, the level and structure of tariffs may be reviewed in order to take into account lessons from past experience, market requirements, as well as the consumers', suppliers' and distribution network operators' interests.

2. Method used to calculate the capital expenditure included in tariffs for the use of distribution system

2.1. Initial value of assets

The initial economic value of distribution assets would result from the revaluation of historic values[1] on December 31st 2002 (or on September 30th 2002, depending on whether the operators' accounts are based on the calendar year or on the gas year), according to the price index of the commercial GDP and depreciation (straight line depreciation seems more appropriate) calculated according to the assets' economic lifespan (45 or 50 years for pipelines).

Assets such as vehicles, installations, computer hardware, small equipment and so on, will be considered according to their net accounting value. According to the proposal, land should be included

[1] Historic values are drawn from third party financing and the 1976 re-valuation.

at its revalued, non-depreciated historic value, taking into account de-pollution costs if necessary.

Once the initial value of the regulated assets base (RAB) is officially identified by CRE, the RAB will be updated according to the annual revaluation rate, depreciation, new assets that are included in the base and assets that are withdrawn from it.

2.2. Re-valuation of assets

According to the proposal, from 2003 onwards assets should be re-valued on the basis of the consumer price index (excluding tobacco) for all French households, as calculated by INSEE.

At the beginning of each calendar year, assets should be re-valued using the projected inflation rate for the period 01/07/N-1 to 30/06/N. Once the annual inflation rate is published by the INSEE, capital expenditure will be recalculated and the resulting difference in comparison with the initial forecasted inflation will be transferred to the following year's earnings.

2.3. Capital expenditure calculation method

2.3.1. Depreciation

Economic lifespan

According to the proposal, each assets group would result in the following economic lifespans:

Asset group	Economic lifespan in years
Pipelines and links	45 / 50
Pressure reduction stations	40
Compression / metering	20
Other technical installations	10
Constructions	30

Depreciation method

Depreciation should be calculated on the basis of straight-line depreciation.

To simplify this method, the contractual date taken into account for assets inflow in the inventory should be set every year on July 1st and, correspondingly, the date of assets outflow from the inventory should be set every June 30th.

2.3.2. Financial returns calculation method

Assets base to be taken into account for returns

According to the proposal, the "interest" component of capital expenditure should be calculated on the basis of the reviewed assets value on 01/01/N.

Rate of return

The method selected to identify the rate of return is based on the weighted average cost of

capital (WACC), with a normative financial structure. The level of return for operators must on the one hand, enable them to cover interest charges on their debts, and on the other hand, yield them a rate of return on equity similar to what could be obtained from other investments with a comparable risk level.

It is also proposed that distribution assets (either historic assets or new investments) should have a rate of return close to the one used for current transmission assets (7.50% or 7.75% real pre-tax).

3. Tariff structure for the use of gas distribution system

3.1. Reminder

Directive 98/30/CE having entered into force, Gaz de France took the initiative of implementing a tariff for the use of its distribution system. This tariff consists of the following terms :

- FST (Fixed Shipment Term): 18,360 €/year
- SCT (Shipment Capacity Term): NTAD x 43.20 €/year per MWh/day
- SQT (Shipped Quantity Term): NTAD x 0.054 €/MWh

where NTAD is the Transportation Tariff Level used on the Distribution network for a given delivery point. NTAD depends on the distance from the delivery point to the offtake station on the transmission network.

This tariff, which includes a high annual fixed term, can only be used under acceptable economic conditions to supply sites with a very high level of gas consumption. It is not appropriate when the market opens to all professional consumers. Therefore, the proposal does not envision retaining the tariff structure that is presently being used by Gaz de France.

3.2. Consistency with gas sales tariffs

For each distribution network operator, CRE will ensure that the calculation of the costs level to be covered by tariffs for the use of networks will remain consistent with the revenues obtained from integrated gas sales tariffs. Once the amounts derived from the costs of using transmission networks, distribution networks and storage facilities have been removed from gas sales revenues (using an assessment for storage since there is no tariff), there should remain a positive margin for the gas sales activity. If not, the process of opening the natural gas market to competition would be made difficult.

Consistency should be sought with gas sales tariffs in the public distribution sector. Indeed, if the gas seller's margin were negative for a given sales tariff, potential new market entrants would obviously have no incentive to make competitive offers to the relevant customer segment.

3.3. Geographical adjustment

Generally, CRE will look for the greatest possible degree of homogeneity between the tariff structures designed for the various distribution network operators.

3.3.1. Gaz de France

Law n^{o} 2003-8 of January 3rd 2003 results in the adoption of a geographical adjustment principle across all Gaz de France's distribution system. The effective tariff range for the use of distribution system would therefore be identical, on the one hand for all consumers within the same GDF distribution network, and on the other hand for all GDF's distribution system.

Article 7 of the Law of January 3rd provides that: "*natural gas sales tariffs […] are harmonized within the zones served by the different distributors. The differences between tariffs do not exceed the differences relative to the costs of connecting distribution networks to the high pressure natural gas transportation network*". It does not seem feasible to put together geographically adjusted gas sales tariffs, with tariffs for the use of distribution networks which would not be adjusted.

Furthermore, practical reasons mean that possible differences in costs due to geographical origin are ignored:

- it is impossible to calculate individual investment and operating expenditure for each Gaz de France's distribution network, and in any case, GDF does not have the appropriate accounting tools for such a calculation;

- As soon as third party access to distribution networks is actually put into practice from July 1st 2004, it will be necessary to use daily consumption profiles for customers whose consumption is only read every month or every semester. It would be extremely complicated to manage these profiles operationally if tariffs for the use of distribution networks were linked to the geographical situation of each end-customer.

3.3.2. Local distribution companies

As far as local distribution companies are concerned, it is not possible to use a general principle of national adjustment for tariffs for the use of gaz distribution networks. Indeed, it is not necessarily possible to cover all distribution costs by using similar tariffs, mainly because of customer structures, the average age of networks and also the operating expenditure which can differ from one distributor to another. Therefore, theoretically, each local distribution company could have its own tariffs, fixed at a level that allows the gas sales activity to yield a positive margin.

However, to have its own tariffs, any local distribution company must keep unbundled accounts for its distribution network operator activity. If not, it would be impossible to identify the costs to be covered by the tariff. For companies, particularly the small ones, which would be unable to present unbundled accounts or for which keeping unbundled accounts would give rise to disproportionate costs, there are plans to implement a "standard tariff" that for example, could be the tariff designed for Gaz de France.

Finally, according to the proposal, the principle of geographical adjustment would be used within each local distribution company network.

3.4. Tariffs per consumption point

According to the proposal, tariffs for the use of distribution networks would be enforced for each consumption point. A shipper's invoice would therefore be equal to the financial amount related to each consumption point that has been supplied with natural gas. Such a decision would have the following main consequences :

- there would not be any portfolio effect, meaning that there would not be any advantage in the tariff for the use of the distribution network, in relation to the size or the diversification of each shipper's customer portfolio;

- on each consumer's gas invoice, it would be possible to identify the portion corresponding to the use of the distribution network.

3.5. Two- and three-part tariff systems

Each distribution network operator's tariff would be made up of a small number of options, about 4 or 5. For a given consumption point, it would be up to the shipper to choose the most appropriate tariff option, particularly according to the annual consumption. The structure of the first tariff options would be divided into two parts, the first one including an annual subscription and the other one consisting of a proportional price paid according to the quantity that has actually been used.

For major consumers, there would also be a three-part tariff option, including an annual subscription, a proportional price paid according to the quantity used and a price set up according to the maximum daily capacity subscribed.

For instance, the basic structure of a tariff with 4 options could be as follows:

- two-part option T1: annual consumption from 0 to 6,000 kWh;
- two-part option T2: annual consumption from 6,000 to 300,000 kWh;
- two-part option T3: annual consumption from 300,000 to 5,000,000 kWh;
- three-part option T4: annual consumption above 5,000,000 kWh.

Each tariff option will be set at such a level, that the resulting revenues would cover the costs that have been attributed to the relevant customer segment in order to avoid any cross-subsidy between the different customer segments, especially in favour of eligible customers. Efforts will also be made to ensure a degree of overall consistency with the structure of integrated sales tariffs for gas in public distribution.

3.6. Proximity tariff

The application of the principle of geographical adjustment within each distribution networks could encourage some major consumers to connect directly to the transmission networks, especially in the event that the cost of such connection proved to be lower than the tariff for the use of distribution networks.

In order to avoid anti-economic connections that would exist simply because of the geographical adjustment of tariffs for the use of distribution system, the proposals will include a tariff option based on proximity. This option would depend on the distance from a given consumption point to the transmission network, and its level would be set according to the average costs of connection to the transmission network. This proximity tariff would only be enforced if end-customers were legally allowed to connect directly to the transmission network.

The loss in revenues resulting from this proximity tariff implementation may be passed on to all customers connected to the distribution system of the DSO concerned.

3.7. Monthly capacity subscriptions

The three-part tariff option would include an annual subscription for daily capacity. As for transmission system, market actors would be given the possibility of booking daily capacities on a monthly basis, and not only on an annual basis. It is also proposed that the coefficients used for monthly subscription prices should be the same as those proposed by CRE for capacities booked on regional transmission system:

Month	Monthly term proportional to the annual
January – February	8/12
December	4/12
March – November	2/12
April – May – June – September – October	1/12
July – August	0.5/12

3.8. Penalties for exceeding capacity and rules on hourly capacities

The financial amount of penalties and the rules used to calculate them for exceeding daily capacity booking would be defined according to the same principles as for the tariff used for gas transmission system. The same would apply to hourly capacities, whether it concerns the level of hourly capacity allowed by default for a daily subscription, or the tariff applied for an extra hourly capacity subscription, or penalties to be applied in case of hourly capacity excess.

3.9. Interruptible capacities on distribution system

At this point, it appears that DSOs generally do not encounter any major restriction on capacities. Consequently, there is no reason to consider introducing any tariff regarding interruptible capacities.

3.10. Metering services

Each tariff option would have a specific meter reading method: annual or six-monthly reading, monthly reading, monthly reading with daily consumption values, daily remote reading, etc. In exchange for payment, an end-customer or his supplier will be able to receive extra metering services (for example, move from a six-monthly reading to a monthly reading or get an extra reading). It is envisioned that the appropriate price will be included in the CRE's tariff proposal.

Regarding the three-part tariff option, it appears that most end-consumers concerned are not currently equipped with a metering device that allows a remote daily consumption reading, and that in most cases, daily consumption figures are transmitted on a monthly basis.

If current studies prove that such a move would be technically and economically feasible, there are plans to equip all the relevant consumption sites with a subscription tariff option with metering devices that allow remote daily readings. The corresponding expenditure would be borne by the DSOs concerned.

There would be two advantages: first, it would provide all the appropriate information needed to check quickly whether booked capacities are sufficient to cover real consumption; secondly, it would not be necessary to use the profiling technique for these major consumers, which would consequently reduce the uncertainties linked to this mechanism for all the other consumers.

3.11. Development of distribution system

Geographical adjustment:

The principle of geographical adjustment described above is likely to raise problems if new

developments in gas distribution system are made without any profitability criterion.

If the newly-connected customers had a high unit cost, the implementation of geographical adjustment would result current customers having to pay for the additional cost. At least initially, this tariff will be of a "cost plus" type, i.e. with a guaranteed rate of return on assets for the DSO. Given this, there would be a risk that unprofitable system would develop, which would automatically increase the costs of using distribution system for all consumers.

As a result, it seems necessary to define a rational method for selecting new investments in distribution system, which would be based on a profitability criterion for the DSO. Only investments that meet this profitability criterion for the DSO would be included in the tariff adjustment mechanism.

Commercial expenditure:

Since natural gas is in competition with other forms of energy for most of its uses, the decision to connect to the natural gas distribution network is a choice for each customer concerned. Consequently, the development of gas distribution system is the result of spending to promote and market the different uses of natural gas.

If the development of system had to be encouraged, DSOs could partially contribute to gas promotion expenditure, for example in proportion to DSOs' activity revenues related to the turnover generated by gas sales by each relevant operator.

CRE invites those who are interested to contact CRE with their observations and comments on the general principles put forward in the above document. As an indication, some possible questions are listed below

General questions

Question 1 : *Do you agree with the idea that there should be consistency between distribution network usage tariffs and gas sales tariffs?*

Question 2 : *Do you think it is necessary to have some similarities between each DSO's system usage tariff structures? What do you think about the proposal made regarding the implementation of a "standard" system usage tariff for DSOs who would not be able to keep unbundled accounts?*

Financial Questions

Question 3 : *What is your opinion on the method used to value historic assets?*

Question 4 : *From a financial point of view, how do you assess the risk of launching a distribution activity in comparison with the risk linked to the transmission activity?*

Question 5 : *Do you think the decision to consider the rate of return via the weighted average cost of capital (WACC) is relevant? Do you think that fixing a normative ratio for calculating WACC would be a good option?*

Technical Questions

Question 6 : *Do you agree with the principle of a tariff system that would only depend on the characteristics of delivery points?*

Question 7 : *What is your opinion regarding the tariff structure proposed, which includes a small number of two-part tariff options and a three-part tariff option?*

Question 8 : *Are you in favour of a proximity tariff, as described in point 3.6 ?*

Question 9 : *Concerning the three-part tariff option, do you have any comments to make on the proposals for calculating penalties, hourly capacities and interruptible capacities?*

Question 10 : *Beyond the basic services included in the tariff for the use of the distribution network, would you like to see CRE set prices for extra metering services (for example, for an extra selective*

reading, or switching from a six month reading to a monthly reading,and so on..)?

Question 11 : *Do you think it would be a good idea to equip all sites concerned with a subscription tariff with a metering system that would allow remote daily readings?*

Question 12 : *Do you have any comments to make on the possibility for DSOs to cover part of promotion expenditures regarding the different ways to use natural gas?*