

GUIDELINES FOR GOOD PRACTICE - GAS TPA

- COMPLIANCE OVERVIEW

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Executive Summary

The 5th meeting of the Madrid Forum on 7-8 February 2002 adopted a set of Recommendations on Guidelines for Good Practice in relation to TPA Services, Tarification, Balancing etc. These recommendations aimed at (i) clarifying the roles and responsibilities of the main parties in gas transportation; (ii) ensuring the application of the principle of non-discrimination, (iii) facilitating cross-border trade and customer choice through competition in the internal market, and (iv) avoiding distortions to trade.

Although not being legally binding, the Guidelines were adopted with a view to contribute already in the short term to achieving a fully operational internal market for gas and in implementing key principles of the Gas Directive and conclusions adopted by the Madrid Forum. The Guidelines establish a set of minimum standards necessary in order to ensure non-discriminatory and effective access to the network.

The 5th meeting of the Madrid Forum stressed the importance of actively monitoring the extent to which gas TSOs meet the standards outlined in the guidelines. The Forum also stressed the need to benchmark actively the adopted guidelines and invited the Commission, in close collaboration with all relevant stakeholders, to keep the guidelines under review with the objective of their regular updating.

It is the Commission's clear impression following this first compliance monitoring and benchmarking that the adoption of the Guidelines for Good TPA Practice has played an important role in increasing the awareness of European gas TSOs about their responsibilities and about expectations of regulators and of market players with regard to their rights to non-discriminatory access to networks. The aim of the guidelines is to provide practical guidance to TSOs in relation to the interpretation of the primary principle of the Gas Directive of non-discrimination which inter alia means that all system users - including supply affiliates of vertically integrated companies - shall have access to the same services and information about system use on a non-discriminatory basis. It is moreover important that these services and this information is designed in a way that facilitates the development of a competitive and liquid internal market for gas.

At TSO level, there seems to be a real will to comply with the Guidelines for Good Practice and GTE and its members have contributed constructively and considerably in preparing this first compliance check. TSOs must be encouraged to continue improving standards and progress in this respect should be acknowledged.

It is also clear that progress has been made since the adoption of the Guidelines in facilitating access and progress continues to be made. Several TSOs have improved - and appear determined to continue improving - their access conditions in recent months while some will do so before the end of this year or early next year.

The monitoring and benchmarking process appears in itself to have been instrumental in relation to improving access regimes as it requires and incentivises TSOs to improve their performance towards best industry practice, which is constantly evolving. The Guidelines should reflect this development and can therefore not be a static document.

However, progress made is not equally satisfactory among all TSOs and continued voluntary progress can not be taken for granted. It appears, for example, that clear

regulatory frameworks guarantee a higher level of transparency and non-discrimination in network access.

While progress has been made, this first compliance overview has also demonstrated:

- **a significant lack of compliance with the Guidelines for Good Practice;**
- **a significant degree of uncertainty about compliance with the Guidelines for Good Practice;**
- **significant differences in compliance with the Guidelines for Good Practice and in access conditions in general between individual system operators.**

While it would have been wrong to expect that all TSOs already complied 100% with the Guidelines (in which case they would no longer serve a purpose), it appears that considerable additional effort will be required by several TSOs – notably, but not only, in Germany and France - in order to comply with the Guidelines. Furthermore, even where full compliance with the Guidelines would be in place, a real difference would remain with current best industry practice.

It has appeared that the exact commitments undertaken by GTE in relation to the Guidelines are not fully understood by all TSOs. It is essential that all TSOs are fully informed about the voluntary commitments undertaken and understands the implications thereof and that the top management of TSOs are committed to implement the Guidelines.

It is therefore vital that continued progress is being made and that the process of monitoring is continued - and formalised and deepened - both as a means to measure progress over time but also as a means to ensure that TSOs fully recognise the implications of the Guidelines.

Some of the reason for the apparent lack of - or uncertainty about - compliance with the Guidelines for Good Practice and the significant differences in level of compliance by individual TSOs appears to be that the Guidelines as such are not sufficiently clearly defined e.g. in quantitative terms or detailed enough. This in itself creates doubt in a number of cases about the degree of compliance. A narrower definition of the Guidelines for Good Practice should therefore be considered by the Madrid Forum.

Due to a certain margin of interpretation and ambiguity of the Guidelines as well as the access regimes applied by TSOs, the draft overview table provided below should only be considered as indicative. The table should, however, enable TSOs to identify areas where practice can be improved.

While TSOs may appear to comply with the Guidelines and indeed often claim to comply fully, national regulators and system users often have different views and consider it premature to conclude whether a TSO fully complies with the Guidelines or not. The fact that trading affiliates of integrated companies maintain dominant market shares and the absence in most Member States of a liquid competitive gas market often results in new shippers facing significant obstacles and high entry costs even in situations of apparent “equal treatment” (e.g. as a result of distance-based tariffs discriminating against new entrants (sometimes referred to as the “portfolio effect”) or disadvantages in terms of balancing). Apparent equal treatment is not always the same as non-discrimination (see Section 6). The table below may therefore be considered from the perspective of relative

“more or less” compliance with the Guidelines and “more or less” non-discrimination. What may appear as compliance with the Guidelines for Good Practice does not necessarily imply non-discriminatory treatment of new entrants or small shippers.

Table 1: Indicative overview of general compliance with key Guideline aspects:

Compliance Overview <i>- Preliminary Summary</i>	<u>Guidelines for Good Practice</u>	Appear not to comply with Guidelines	Compliance unclear or developing towards compliance	Appear to comply with Guidelines	Compliance beyond Guidelines
Role and responsibilities of TSO	<i>"Maintain physical system balance - residual balancing role"</i>		RG (doubtful), VNG, WG, GdF, SOTEG, Nova, Fluxys (with Code), GTS (consultation on-going)	Transco, SRG, BEB, TG, OMV, BGE, DONG, GSO, Edison, EG	
Minimum capacity booking period?	<i>"Short-term services"</i>	GdF, GSO, SOTEG, BGE, Fluxys	Edison, DONG, EG, WG, BEB, GTS (from 1.1.03), SRG, RG, OMV, VNG, Nova	Transco, TG	
Response time – capacity booking?	<i>"Harmonised to best industry practice"</i>		GTS, Fluxys (on-line system under way), Nova, Edison, RG, TG, BEB, GdF, GSO, DONG, EG, SRG, SOTEG, OMV, BGE, VNG, WG	Transco	
Publication of ATCs?	<i>"For the services provided, publish physical and available capacities initially at least at all cross-border points"</i>	RG, VNG, WG, BEB, TG, GSO, SOTEG, Nova	Fluxys (as form 1.11.2002), OMV (By law from 1.10.2002 – but before end of year), BGE (planned for 2003)	Transco, EG, GdF, GTS, SRG, DONG, Edison	
Tariff methodology	<i>"Publish reasonably and sufficiently detailed information on tariff derivation and structure"</i>	RG, WG, VNG, BEB, TG, GdF, SOTEG, Nova	Fluxys (expected to comply as of 1.11.2002), GSO (expected as from 1.1.2003), OMV, Edison, DONG	Transco, GTS, SRG (but only in Italian), BGE, EG	
Reutilisation of un-used capacity	<i>"Endeavour to discourage capacity hoarding and facilitate reutilisation of un-used capacity"</i>	GdF, GSO, RG, VNG, WG, BEB	Fluxys (2003), SOTEG, SRG (UIOLI from 2003), Nova (not applicable)	Transco, GTS, DONG, OMV, BGE, Edison, EG, TG (for its trading arm)	
Interruptible capacity offered?	<i>"Offer interruptible service when firm capacity is not available and no liquid secondary market exists"</i>	EG	OMV, SOTEG, GdF, DONG, Nova, GTS (expected to comply by 1.1.2003), BGE (not a standard service)	Edison, SRG, Fluxys, BEB, VNG, RG, WG, TG, Transco	
Balancing	<i>"Non-discriminatory ...reflecting genuine system needs ...avoid cross-subsidisation... broadly cost-neutral"</i>	RG, WG, BEB, TG, VNG, GdF, GSO, Nova (but not applicable)	EG, SOTEG, SRG, Edison, Fluxys (expected to comply by 1.11.2002 – fully regulated), DONG, GTS, OMV	Transco, BGE	
Pooling of imbalances	<i>"Facilitate pooling and ex ante trading of imbalance services"</i>	VNG, GSO, SOTEG, EG, Nova (but not applicable)	RG, BEB, GdF, TG, GTS	DONG, Fluxys, WG	Transco, OMV, BGE, Edison, SRG
Information on balancing status	<i>"Sufficient and well-timed"</i>	RG, WG, BEB, TG, Nova	BGE, VNG (expected by 1.10.2002)	DONG, EG, GdF, SOTEG, SRG, OMV, GSO, Edison, Fluxys	Transco, GTS
Publication of access conditions	<i>"Publish in national language(s) and English on the Internet the main conditions of all services, including tariffs and imbalance charges and maps"</i>	GdF, SRG, TG, BEB, OMV, Edison, SOTEG, EG, Nova	Fluxys (as form 1.11.2002)	Transco, GTS, DONG, RG, WG, VNG, GSO, BGE	

BGE=Bord Gais, EG=Enagas, GdF=Gaz de France; GSO=Gaz du Sud Ouest; GTS=Gastransport Services; RG=Ruhrgas; SRG=Snam Rete Gas; TG=Thyssengas; WG=Wingas;

Comments to Table 1:

Table 1 provides an indicative overview and a preliminary summary of how the 18 TSOs covered by this benchmarking exercise perform in relation to the Guidelines. Of the nearly 200 entries made in the table, it appears that there is less clear-cut compliance and lack of compliance with the Guidelines than there is partly or not fully clear compliance with the Guidelines. The centre column has most entries as it covers both compliance which may be unclear and compliance which is not yet full but which appears to be developing towards compliance.

A TSO having been identified as “*appear not to comply with Guidelines*” does not necessarily indicate that the TSO does not fulfil some of the voluntary obligations in relation to a particular aspect of the Guidelines. This may be explained in relation to a few key issues in relation to which a considerable number of TSOs have been classified as “*appear not to comply with Guidelines*”:

Publication of ATCs:

A number of the TSOs appearing not to comply with the Guidelines, do publish some indication of availability of capacities e.g. “traffic lights”. However, such publication is considered insufficient and at the 5th meeting of the Madrid Forum, GTE has in principle agreed to publish ATCs.

Tariff methodology:

According to the Guidelines for Good Practice, TSOs should publish “*reasonably and sufficiently detailed information on tariff derivation and structure*”. This would imply, inter alia, sufficiently detailed information on how specific tariffs have been arrived at. In Germany, for example, transmission tariffs are distant and diameter related and the underlying methodology seems to be a combination of national and international benchmarking (“vergleichmarktkonzept”) and an assumption of pipeline-to-pipeline competition. It remains unclear, however, how tariff derivation is established on this basis and the methodology itself does not appear to be sufficiently clear.

Balancing:

According to the Guidelines TSOs should design “*fair, non-discriminatory and transparent balancing rules...that are based on objective criteria, reflecting genuine system needs and reasonably necessary on the basis of system and flexibility resources available to the TSO. Balancing rules, which should be reviewed by the relevant authorities, should avoid cross-subsidisation between system users*”. TSOs should also ensure that balancing charges are non-discriminatory and “*broadly cost-neutral*”. The latter criteria was agreed at the 5th Madrid Forum to mean that TSOs should not profit from penalties resulting from imbalance charges and that any imbalance charges over and above actual costs related to system balancing should be re-distributed back to the shipping community at the end of the year or month. A number of TSOs have not systems in place to ensure such a re-distribution.

Table 2: TSO practices on key issues:

	Min. capacity booking period in primary market	Response time capacity booking	Publication of ATCs at least at entry points	System resources available ?	“UIOLI” in some form?	Balancing period	Tolerance levels (free)	Penalties for being short (x market price)	Pooling of imbalances
Transco	1 Day	Short-term: On-line or from day-to-day	Yes	Liquid market and contracts	Yes	Daily	All imbalances cashed-out	Market based (typically +5-20%)	With-in day as well as ex-post
Fluxys	1 Month (except winter)	2003: within 24h	From 1.11.2002	Code: storage and LNG	In 2003	Hourly	10%	+30% + payment for flexibility	Ex ante when same entry point
GTS	1 month (1 Day from 2003)	Max. 7 days 2 days for interruptible	Yes	From market in 2003	Yes	Daily with hourly tolerances	13% at 0°C + 2%	+90% (2002) +80% (2003)	Ex ante when shippers “become one shipper”
DONG	1 Month	Max. 5 days	Yes	Line-pack and storage	Yes	Daily with hourly tolerances	15% accumul. for daily. 40% for hourly	+20% (down from +50% 1.10.02)	Through ex ante agreements between shippers
Ruhrgas	1 Month	Max. 12 days (normal 2-3 days)	No	None – unclear	No	Hourly (and Daily)	15%	+170% or in kind	Ex ante when same route and agreement
Thyssengas	1 Day	Max. 10 days but can be done within day	No	Agreement with TG Trading.	Yes – for TG Trading	Hourly (and Daily)	15%	+100% or in kind	Ex ante when same route and agreement
VNG	1 Month	Max. 12 days	No	“Buys” gas from VNG Trading	No	Hourly (and Daily)	15%	+160% (up to 15%)	None
WINGAS	1 Month	Max. 12 days but often within 2 days.	No	Provided by WINGAS Trading	No	Hourly (and Daily)	15%	+200%	Ex ante
BEB	1 Month	Formally max. 12 days – but shorter.	No	Line-pack and storage	Not really	Hourly (and Daily)	15%	+50% (with “regular” flexibility service).	Ex ante when shippers combine portfolios in 1 contract
GdF	1 Year	10 days considered reasonable	Yes	Line-pack	No	Daily	20% up to 1000 MWh/d	+50%	Ex ante transfer of gas possible (18,000 €/y)
GSO	1 Year	Standard is 15 days	No	Line-pack and contractual flexibility	No	Daily	15% up to 1500 MWh/d	80% of NBP spot price	None
Enagas	No min.	12 days for existing shippers – 24 days for new shippers	Yes	Gas from shippers under Code	Yes	Daily	5% plus storage incl. In TPA tariff	Min.= Refulated price. Max.= storage tariff.	None
SOTEG	1 Year	10 days	No	Unclear	No	Daily	3% (winter)	+10% within 3%	Not foreseen
SRG	1 Month	7-10 days	Yes	Linepack + storage	In 2003	Daily	8%	0.1 €/GJ	?
OMV	1 Month	2-max. 4 weeks	Before end-2002	Draws on market	As from 1.10.2002	Hourly	2x2%	Market based	Ex post
BGE	1 Year	Down to 1 week	From 2003	Services tendered	Yes	Daily	3-8%	Within tolerance = cost of gas.	Ex post
Nova	1 year – but flexible.	Probably 2 weeks	No	Unclear	No	Hourly	10%	0.02 SEK/m ³	Not applicable
Edison	1 Year (with monthly transfers)	1-7 days	Yes	Storage	Yes	Daily	Up to 6000 GJ	Closed through storage	Ex post

What is currently best industry practice?

On the basis of the overall picture emerging from the compliance overview, two significantly different general sets of practices may be identified as current “best industry practice” and “minimum industry standards”. Along a number of key aspects of access regimes applied, most of which are included in some way in the Guidelines for Good Practice, these different practices may be summarised as follows:

Table 3: Current best industry practice and minimum standards:

	<i>Existing Guidelines</i>	“Best industry practice”	“Minimum industry standards”
Minimum capacity booking period?	<i>“Short-term services”</i>	1 day	1 year
Response time – capacity booking?	<i>“Harmonised to best industry practice”</i>	On-line (for short-term)	Up to 4 weeks
Publication of available capacities?	<i>“Publish physical available capacities initially at least at all cross-border points”</i>	Regularly at all main entry and exit points including at regional level	Indicative traffic lights as from 1 January 2003 at cross-border entry points
Publication of historical utilisation rates?	<i>“Non-discrimination with regard to access to information on system use” (Conclusions – Madrid V).</i>	Yes	No
“Use-it-or-lose-it” principles applied?	<i>“Endeavour to discourage capacity hoarding and facilitate reutilisation of un-used capacity”</i>	Yes (applied by several TSOs)	No
Interruptible capacity offered?	<i>“Offer interruptible service when firm capacity is not available and no liquid secondary market exists”</i>	Yes	No
Backhaul provisions?	<i>“Cost-reflective charges which do not cross-subsidise ” (Conclusions – Madrid V).</i>	Incorporated in Entry-Exit models or discounts for backhaul	No provisions
Cost-neutral balancing?	<i>“Broadly cost-neutral”. (Agreed and understood to involve redistribution of above-cost revenues from “fines”).</i>	Market based balancing costs and income from penalties given back to the market.	Excessive - non-market based – penalties and no redistribution of balancing profits.
Balancing system¹	<i>“Non-discriminatory ...reflecting genuine system needs”.</i>	Daily with 20% tolerance.	Hourly with 4% tolerance.
Imbalance charges (gas cash-out price for being short)	<i>“Non-discriminatory ... broadly cost-neutral”.</i>	Market based marginal gas price (in the order of 10% of system average gas price).	+200% of average import price.
Pooling of imbalances?	<i>“Facilitate pooling and ex ante trading of imbalance services”</i>	Ex post pooling possible	No pooling service provided
System resources available to TSO?	<i>“The minimum role of the TSOs would involve...maintain physical balance (<u>residual</u> balancing role)”.</i>	Clear framework with adequate resources available for balancing either from market or under agreements within integrated companies.	TSO stripped of gas and other resources – and blurred relationship within integrated companies.

¹ Balancing period, free tolerance levels, flexibility arrangements, charges for imbalances beyond free tolerance levels and the availability of a liquid flexibility market etc. should be considered as an integrated whole when assessing the overall merits of a given balancing regime.

There seems to be no specific national gas market circumstances or any other objective reasons that justify why TSOs should implement the Guidelines for Good Practice and non-discriminatory access regimes so differently as demonstrated by this compliance overview. After all, the Guidelines for Good Practice merely seek to spell out in more detail what the practical implications of the high-level principle of non-discrimination shall mean in relation to granting access to gas systems.

What raises particular grounds for concern is the fact that the gap between what may be characterised as current “best practice” and “minimum standards” seems to be widening hence not contributing to the creation of a level playing field at Community level. While TSOs in certain Member States do not fulfil the Guidelines for Good Practice hence in many cases hampers competition and market entry, TSOs in other Member States appear to be rapidly improving access conditions either on a voluntary basis or under guidance or instruction from independent national regulatory authorities or, most often, in a combination thereof (most recently, for example, in the Netherlands, Austria and Denmark and expectedly in the near future also in Belgium).

There seems to be no objective reason why current “best practice” – which clearly implements non-discriminatory access more effectively – should not become common practice as rapidly as possible by all gas TSOs. This process must not be held back by those TSOs that are making least efforts. The intention of this exercise of monitoring compliance with the Guidelines for Good Practice was from the outset to benchmark different practices with a view to allow different experiences to be exchanged and practices to continuously be improved towards best industry practice, if necessary through review and amendments to the Guidelines for Good Practice.

Recommendations:

In order to avoid ambiguity in the interpretation of the Guidelines for Good Practice and in order to ensure a level playing field and to raise standards at least towards levels which are already industry practice, it is considered appropriate that the Guidelines for Good Practice are clarified and reinforced rapidly and that regular compliance monitoring is formalised and enhanced in close co-operation between TSOs, national regulatory authorities, Member States and the Commission. Clearer definitions of certain terms and obligations of the Guidelines should be considered in order to avoid ambiguity. It should also be considered whether the scope of the Guidelines should be broadened to provide better guidance on issues such as non-discriminatory tariffication and congestion management rules. Clear time tables should be established for full compliance with the main provisions of the Guidelines.

1. Background and basic objectives of the compliance overview

The 5th meeting of the Madrid Forum on 7-8 February 2002 adopted a set of Recommendations on Guidelines for Good Practice in relation to TPA Services, Tarification, Balancing etc. These recommendations aimed at (i) clarifying the roles and responsibilities of the main parties in gas transportation; (ii) ensuring the application of the principle of non-discrimination; (iii) facilitating cross-border trade and customer choice through competition in the internal market; and (iv) avoiding distortions to trade.

While the recommendations on guidelines for good practice have not been legally binding they were intended to contribute in the short and medium term to achieving a fully operational internal market for gas.

The 5th meeting of the Madrid Forum stressed the importance of actively monitoring the extent to which gas TSOs meet the standards outlined in the guidelines. The Forum also stressed the need to benchmark actively the adopted guidelines and invited the Commission, in close collaboration with all relevant stakeholders, to keep the guidelines under review with the objective of their regular updating.

All this appears not only legitimate but essential for the credibility of the adopted Guidelines for Good Practice and, more importantly, essential with a view to continuously improve the conditions for non-discriminatory and easy access to the European gas networks. As it will appear from this report (i) access conditions offered by the different TSOs vary considerably and (ii) third party access remains very limited in a number of key markets. While the former may not be the only reason for the latter, this exercise of compliance check has revealed that practices adopted to ensure non-discrimination vary beyond what may reasonably be expected and explained by different national circumstances. There is clearly scope for improving access conditions and ease access in gas markets which perform poorly with regard to the Guidelines for Good Practice. There seems to be no reason why best industry practice applied should not be adopted quickly by all TSOs hence facilitate a level playing field and more equal and non-discriminatory access conditions across the EU.

The objective of this report is to provide the necessary overview of the compliance by individual TSOs with the Guidelines for Good Practice and on this basis to propose improvements to the Guidelines based on best industry practice where this appears justified and reasonably possible.

This report has been prepared on the basis of replies to a Questionnaire prepared in consultation with GTE and system users. The compliance overview is based on a detailed assessment of the access conditions of 18 EU gas system operators. The three replies from gas companies of the acceding countries have not been included in this detailed assessment as their replies have not been sufficiently detailed as they have been based on a simpler Questionnaire prepared for internal use within GTE. The list of replies to the Questionnaire is attached in annex.

2. The Conclusions of the 5th meeting of the Madrid Forum and the Recommendations on Guidelines for Good Practice

At its 5th meeting, the Madrid Forum reiterated the following four principles with regard to tarification:

- *Non-discriminatory access to the network and to ancillary services;*
- *The provision of relevant, timely and accurate information by TSOs (and where appropriate market participants);*
- *Cost-reflective charges which do not cross-subsidise; and*
- *The efficient use of the network.*

In addition, the Forum stressed the importance that tariffs are designed in a way that:

- *Facilitates efficient trade and the development of mechanisms, such as hubs, which facilitate market liquidity and gas-to-gas competition within the internal market;*
- *The level of tariffs is cost reflective and derive from a robust modelling of general network flows and network configuration;*
- *The structure of tariffs reflects the underlying cost drivers. In order to send the correct signals to network users about the specific costs they impose on the network, tariffs should contain signals consistent with the robust modelling referred to above that reflect these specific costs.*

The Forum also adopted the following principles which shall apply to all tariffs or charges for the use of gas transmission networks, which shall:

- a) be cost reflective and based upon a robust modelling of flows and the network (one Member State, however, noted its view that tariffs should be cost-reflective only in the absence of effective pipeline-to-pipeline);*
- b) facilitate efficient gas trade, facilitate market liquidity and gas-to-gas competition;*
- c) ensure high levels of transparency;*
- d) provide effective and timely signals encouraging efficient long-term investment in transport infrastructure;*
- e) take into account the specificities and market characteristics of different networks;*
- f) provide a fair return on investment for the TSOs;*
- g) appropriate oversight;*
- h) any differences in tariff conditions applied to different customers for similar services should reflect underlying costs.*

3. The importance of facilitating the development of competitive and liquid gas markets

The European gas market is currently under transition and gradually - albeit slowly - becoming more, competitive, flexible and liquid. The creation of gas trading hubs is an important element in this respect. Gas trading hubs have emerged at the National Balancing Point (NBP) in the UK and Zeebrugge and are emerging at Bünde/Oude, Aachen/Eynaten, Zelzate and Emden while more trading platforms are beginning to emerge or expected to emerge elsewhere.

The continued development of existing as well as new gas trading hubs is essential for the development of a liquid European gas market and for a fully functional internal market for gas. Gas trading hubs including their creation, however, can not be seen in isolation from the surrounding TPA regimes with regard to transportation and storage services provided. In fact, rigid transportation regimes surrounding a spot market would

eliminate the flexibility which could be created by the spot market. Spot markets and transportation regimes must therefore necessarily be compatible and it is essential that they match each other in terms of minimum duration of services available and with regard to time frames applied. If not, the further development of liquidity is bound to be hampered.

Matching access conditions and time frames are also essential in order to allow gas customers and system users to combine services provided by different service providers and through different systems thereby structuring gas supply to meet their individual needs.

The same applies in relation to balancing. Whilst network users have the responsibility to balance their gas inputs and outputs, in principle there should never be a requirement on users to balance over a shorter time than gas and capacity is available to them from a real market to achieve this balance. If the incumbent only allows, for example, annual storage bookings, or monthly transportation capacity allocations then it appears unreasonable to require a network user to balance on a much shorter basis e.g. on an hourly basis, when appropriate flexibility instruments are not available.

Spot gas markets and hubs trade gas on a short term basis as well as on a longer term basis at least a few years ahead. At the NBP, for example, gas can be traded from within-day and day-ahead. At Zeebrugge, trading can take place both within-day and day-ahead, however in practice trading almost always takes place day-ahead only.

Bünde and Oude are expected to have day-ahead trading once the hubs are up-and-running by the end of 2002. At Aachen/Eynaten and Zelzate, companies mostly trade for monthly or yearly periods. Day-ahead trading is possible, but only practical if it is also possible to buy spare capacity to bring daily gas into the system. Very little day-ahead trading takes place, because of the lack of access to transportation capacity.

Thus, companies and consumers can now trade gas daily or within-day at the hubs, but need the ability to (i) adjust their transportation nominations within day and (ii) access daily transportation capacity and services. Such short-term services are emerging at and around Continental gas hubs, but if it remains limited to this benefits will also be limited.

It is therefore particularly important that the Guidelines for Good Practice ensure that:

- **short-term services are available on-demand i.e. at least on a daily basis;**
- **transparency mechanisms with regard to available capacities reflect the need for rapid transactions matching spot market trade;**
- **capacity booking and nomination rules for transportation services reflect the need for rapid transactions matching spot market trade;**

4. Key elements of the Guidelines for Good Practice

With respect to the development of competition, non-discriminatory access and liquid gas markets, the following key obligations of TSOs under the Guidelines for Good Practice are therefore particularly important and clear:

TSOs should:

- Offer **unbundled TPA services** for access to its facilities;
- Offer the **same range of services on the same conditions** according to the principle of non-discrimination to any eligible third party within the EU as to marketing affiliates;
- For the services provided, **publish available capacities** initially at least at the cross-border points in a **user-friendly** manner;
- Offer both long-term and **short-term firm services on demand** (flexible duration and starting date of service) and **interruptible service** when firm capacity is not available and no liquid secondary market exists;
- **Design capacity services to facilitate trading and reutilisation of capacity;**
- **Standardise nomination procedures** and **simplify transactions** (such as nominations, capacity booking etc.);
- As far as differences between tariff structures would hamper cross-border trade, TSOs should **pursue convergence of charging principles and tariff structures;**
- Design fair, **non-discriminatory and transparent balancing rules** that are based on objective criteria, **reflecting genuine system needs** and reasonably necessary **on the basis of system and flexibility resources available to the TSO;**
- Ensure that **balancing charges are non-discriminatory, broadly cost-neutral** to the TSOs and published whilst providing appropriate incentives on shippers to balance input and off-take of gas and not to endanger the system;
- **Facilitate pooling and ex ante trading of imbalance services** between different system users;
- Market participants shall be provided with sufficient, **well-timed and reliable information about their balancing status** and imbalance charges;
- Allow TPA **capacity rights to be freely tradable** in a secondary market;
- Endeavour to **discourage capacity hoarding and facilitate reutilisation of un-used capacity.**

5. Questionnaire on compliance with the Guidelines for Good Practice – key questions:

In the light of the above, the following questions of the Questionnaire are considered particularly important to analyse:

- The system of publication of available capacities (including historical data);
- What is the standard/minimum duration of services offered and on which conditions?
- Are interruptible services offered?
- Which tariff structures and methodologies are applied?
- Do specific rules apply to backhaul transportation?
- Which system resources are at the disposal of the TSO and the incumbent supplier?
- Which balancing system is applied? Tolerance levels and imbalance charges?
- How is cost-neutral balancing ensured?
- Is pooling possible (ex-post)?
- Are TPA capacity rights freely tradable?
- Are “use-it-or-lose-it” principles applied?

6. Some general observations on access conditions offered by TSOs:

Based on the replies to the questionnaire on compliance with the Guidelines for Good Practice, the general situation today with regard to access conditions may be characterised as follows:

General:

1. Vertically integrated companies in a number of Member States subject to accounting unbundling (which at least in one case is not even yet implemented) and some degree of functional unbundling albeit often rather loose;
2. Dominant market positions – incumbent market shares of typically 95-100% of traditional market with few exceptions;
3. Often blurred/unclear relationship between TSO and Shipper functions within vertically integrated companies e.g. with regard to who controls line-pack and who actually physically balances the system and on the basis of exactly which system resources available in either ownership or contractual terms;

Transparency of information:

4. Informational disadvantages of new entrants:
 - actual balancing costs not transparent
 - available capacities often not transparent – and if so, normally only at cross-border points and indicative (e.g. in the form of traffic lights)
5. The informational disadvantage of new entrants is in stark contrast to the fact that information on available capacities in the system has generally developed rapidly with new telemetry technology. In the dispatching centres of the TSOs this information is generally available on-line and provides very important information to gas companies for a range of reasons and purposes including system operations, safety and the need to be able to respond quickly and flexibly to customer needs;
6. It follows from the principle of non-discrimination that there should be equal access by system users to information regarding system utilization. There is no need that such information should no longer be available on-line or lost as a result of competition and market opening. On the contrary, this information remains valuable and should be made available to all market operators on an equal basis. A competitive gas market thrives on information. Withholding information by integrated companies would be discriminatory. Losing the information to all system users would be an unnecessary waste of useful information;
7. Most information provided by TSOs on TPA regimes is published on Internet-based web-sites. However, not all TSOs have equally user-friendly and informative web-sites and often information is difficult to find. **It would appear reasonable that GTE and its members made an effort to streamline and standardise TSO web-sites at least to ensure a minimum of common structure of the information available. In addition, a number of TSOs have still not published their access conditions in English.**

Tariffs:

8. Distance related tariffs which appear discriminatory (a player with many in-let points vs. one with only a single and a small supply portfolio) and cost-reflective;
9. International benchmarking often used as tariff setting basis without any clear methodology (the simple claim that “we-are-within-the-European-tariff-range” is not sufficient proof of reasonable and non-discriminatory tariffs). Even within one Member State, where national and international benchmarking appears to be the basis for tariff setting including in relation to balancing costs, surprising differences appear even between access conditions and balancing penalties of TSOs which should be expected to be primary competitors;
10. There often seems to be a disproportionate relationship between the degree of congestion and tariff levels for shorter term capacity services. Even in some TSO systems without apparent congestion, the price of a monthly contract during the winter season is often the same as the tariff for a full year contract and the sum of 12 monthly contracts can add up to as much as six times the tariff for a one-year contract. It would appear reasonable if, as applied for example by DONG, the total fee for any transportation contract with a shorter duration than a reference period (e.g. a year or a month) could not exceed the fee for a transportation contract with such reference duration e.g. that contracting capacity for a duration of 11 months could never be more costly than contracting for a full year which appears to be the case based on published tariffs of a number of TSOs;

Balancing and pooling:

11. While in some Member States, new balancing, settlement and clearing systems are being set up (most recent example being Austria), in other Member States integrated companies appear to have left the TSO arm with no real control over any gas or other system resources necessary for balancing. This clearly makes new entry more difficult in the absence of market-based balancing mechanisms. Providing an independent TSO with at least access to a minimum range of flexibility instruments and system resources might facilitate market entry and a relaxation of balancing regimes in certain Member States where these are perceived particularly onerous;
12. No TSOs being part of an integrated gas undertaking appears to require balancing of the individual customers of its affiliate supply company or to charge these for being out of balance yet require new entrants to do so and in some instances even require on-line metering/measurement;
13. The fact that the incumbents thereby are able to “bundle” 95-100% of the market and hence balance all imbalances of this market share in effect appears to be equal to “real-time” or “ex-post” pooling (retrospective clearing) of balances, which is normally not allowed for third parties with the exception of Transco, Bord Gais, Edison and OMV as from 1 October 2002;
14. In addition to this clear advantage in balancing terms, the incumbent gas supplier in practice often has most system flexibility including line-pack (the quantity of which is most often not transparent) at its disposal;
15. To claim - as most TSOs have done in their replies to the questionnaire - that a non-discriminatory balancing regime is one that treats all system users equal does not therefore provide the full picture. To treat a dominant integrated gas supplier having

close to a 100% market share and up to millions of customers equal to a small new entrant seeking access to a single or few customers would not appear to be non-discriminatory in, for example, balancing terms. Non-discrimination is not per se the same as equal treatment, when the different players are in very different positions. In relation to balancing, the application of penalties equally to all system users have been claimed by several TSOs to be important in order to avoid the “free rider problem” i.e. that no new entrant takes advantage of being out of balance at the cost of other users (cross-subsidisation). It appears, however, from the above that any “free rider” issue in balancing terms more often relates to the position of the vertically integrated gas supplier rather than new market entrants with a small market share;

16. As a first important step, improved transparency is therefore essential with regard to system resources available to the TSO and the exact contractual relationship between the TSO and marketing affiliates of integrated companies;
17. Balancing services offered by TSOs are complex and vary considerably. The same applies to the charging systems for imbalances. Harmonisation of balancing regimes and simplification and approximation of balancing charges (e.g. with regard to system marginal prices) would facilitate trading.
18. In addition, changes to the balancing rules are clearly required to ensure a level playing field. In Germany, for example, pooling (bilanzkreisfähigkeit) is agreed under the second Gas Verbändevereinbarung to be an objective for an improved concept to be adopted over the coming year. There appears to be no reason, however, that this must take a full year to implement;
19. Separate disclosure on invoices of balancing charges is pursued by a few TSOs (including BGE) and should be recommended;
20. In response to the question of cost-reflectivity of balancing charges, one TSO replied:

“These penalties are representing a total amount which is ridiculously small compared to the total revenue of the TSO: the cost of building a mechanism for paying back to the shippers such a small amount of money would be much higher than the amount itself. We therefore consider that the "broad cost neutrality" as set forth in the Guidelines is achieved”.

21. While balancing costs may be marginal for a large TSO they could be significant for a medium-sized gas user. Thus, in the context of the internal market, ensuring cost-neutrality is important in order to avoid imbalance charges deter market entry.
22. A few TSOs differentiate their balancing tolerance levels depending on season and ambient temperature (e.g. GTS and SOTEG) in order not to apply as strict tolerance levels, for example, during the summer period or when the weather is milder as when temperature is extremely low and close to levels at which system capacity limits and balancing costs are designed. To the extent that the balancing tolerance is calculated as a percentage of the hourly capacity, the relative tolerance will generally be higher in the summer than in the winter. On the other hand, in those TSO systems where there seems to be no congestion at all it would appear that linepack would ensure gas availability and that it would be difficult to justify rigid balancing

systems and penalties. However, if linepack in a system with no congestion is being disposed as "free balancing tolerance" it will lead to a less efficient system with less capacity available for sale and could even have a negative impact on short term security of supply. It appears reasonable in any case, however, that TSOs should offer temperature dependent balancing flexibility reflecting physical capabilities of the high-pressure transmission grid e.g. as a general rule apply daily balancing with hourly tolerances as a function of the daily effective temperature.

At least one TSO applies a *de minimis* threshold for charging imbalance penalties. This could facilitate the entrance of small new market players.

Capacity issues:

23. While minimum duration of capacity contracts is often long (a minimum of one year in the case of Gaz de France and GSO), a number of TSOs offer monthly contracts but at a very significant premium price where the sum of the cost of 12 individual monthly contracts is equal to up to 600% (albeit with a very wide range) of the cost of an annual contract for the same capacity in the most extreme case and where the price of capacity in a single winter month is equal to the cost of a full year contract. **It clearly appears that establishing appropriate costing principles for capacity in function of access duration merits further work;**
24. In liquid gas markets with multiple transactions, the handling of capacity booking and allocation will necessarily have to be electronically on-line based. Rapid response times are also necessary in order to allow short-term capacity transactions to be made and in order to bridge spot trading markets through gas transportation with end customers. Gas transmission companies give high priority to and spend significant resources on implementing such procedures. The process of adapting software and IT systems to full market opening takes some time. However, best industry practice in this respect is increasingly based on on-line capacity booking with short response times (minutes for day-ahead capacity booking). While TSOs appear to be making an effort to shorten response times and are often able to reply within few days or even less, many TSOs still reserve several days and even weeks as their maximum allowed response time. There is therefore a need to move towards best industry practice in this respect as already foreseen by the Guidelines and to adopt on-line booking and rapid response procedures.
25. While the Guidelines for Good Practice are not specific in quantitative terms about how short "short-term" services shall be, practice varies considerably between a minimum 1 year duration down to 1 day. A large number of TSOs offer minimum services with a duration of one month. Some of these TSOs, however, would be willing to offer shorter services on a case-by-case basis.

An increasing number of TSOs, however, offer or will soon be offering daily capacity services. Some TSOs have claimed that market players are not requesting capacity services of a duration of less than one month and that it would therefore be unreasonable to expect TSOs to offer, for example, daily contracts. However, TSOs have an important role to play in creating the conditions for the development of a short-term and liquid gas market, which is essential for new entrants to be able to compete on a level-playing field. When shorter-term services become available and can be used effectively, market players will demand them. The development of

short-term (daily) capacity services must accompany the development of gas spot markets without which the latter will not take-off.

26. Most TSOs refer to “Operational Balancing Agreements” as either being in place or under negotiation as the means to deal with differences between adjacent systems and balancing regimes. While this may be true, it remains unclear whether the extent of OBAs address all issues necessary for providing non-discriminatory “bridges” between different systems and whether they do so for all system users and on a cost-reflective basis. The OBAs are typically commercial contracts between integrated gas companies and not open to scrutiny or influence by system users. It is open to debate whether OBAs can replace the need for harmonisation of balancing regimes. It is therefore suggested that GTE establishes a more detailed factual overview of the extent, content and impact of existing and emerging OBAs to establish whether these contractual arrangements are satisfactory and sufficient for all imbalances regardless of quantity (some have claimed that OBAs may only be good for small imbalances) or whether additional measures are necessary in relation to a range of technical issues in relation to nomination, balancing and tolerance services, title transfer, allocation, settlement, quality conversion and other interoperability issues.

A GTE-agreed standard template for OBAs would be useful;

27. In any case, there appears to be a strong need for harmonising nomination procedures e.g. through a standard nomination sheet to ensure streamlined nomination Day-Ahead; Week-Ahead; Month-Ahead and Year-Ahead (and in the context of capacity planning even multi-annual). This would provide a strong tool for forecasting available capacities on a firm and/or interruptible basis and also for forecasting need for new investments. Such uniform nominations procedures should for obvious reasons be based on agreed standard units, re-nomination procedures and publication requirements.
28. A number of practices by TSOs appear to facilitate access to capacity of new entrants. These practices include:
- Mandatory release/transfer of capacity in case a customer changes supplier (similar to what is referred to as the “backpack” principle in Austria where the customer carries its capacity right);
 - Some TSOs operate or intend to establish Bulletin/Notice Boards providing a platform for system users to perform secondary trading;
 - Interruptible capacity services are offered by a few TSOs on a daily basis if the actual capacity usage is known for that day based on nominations (rather than full contractual rights).

7. Main deficiencies in compliance with the Guidelines for Good Practice

On a number of points, there is a clear lack of compliance with the Guidelines for Good practice. These deficiencies will appear more detailed in the TSO-by-TSO overview in section 8 of this chapter. However, some of the deficiencies may be summarised as follows:

- Not all TSOs publish available capacities;

- Not all TSOs offer short-term contracts with a duration of less than one month;
- Far from all TSOs publish sufficiently detailed information on tariff derivation;
- A number of TSOs (notably German TSOs) have unclear sharing of responsibilities with regard to system balancing and lack transparency in system resources available to ensure this function;
- Many TSOs do not meet best industry practice with regard to response time in relation to capacity booking;
- Not all TSOs offer interruptible services in accordance with the Guidelines;
- Not all TSOs facilitate in any active way the pooling and trading of imbalances;
- A number of TSOs do not provide well-times information about balancing status;
- In addition, albeit less important, not all TSOs publish their access conditions in English (e.g. Gaz de France (although expected by end-October 2002), Snam Rete Gas, Enagas, Thyssengas, BEB, OMV, Edison, SOTEG and Nova Naturgas only appear to publish conditions in their own national language).

8. Overview TSO's compliance with the Guidelines for Good Practice

8.1 Capacity services:

TSO	Minimum duration of services offered and response time	Interruptible services offered?	Capacity allocation mechanism	TPA capacity rights freely tradable?	Anti-hoarding and reutilisation of un-used capacity
 Transco	Daily. Capacity is being auctioned through on-line bids. For short-term capacity booking, response time is on-line within minutes. For week-ahead booking, response is normally given no later than the following day, while long-term capacity booking with possible infrastructure impact, response time is longer as it may involve considerations about how much capacity to build and make available.	Yes (Day-ahead)	Auctions	Input capacities freely tradable in an active secondary market.	Aggregate unused capacity at entry points resold as interruptible capacity on a daily basis while the original title holder retains title. Transco can also act as "Market Maker" buying back and reselling capacity.
 FLUXYS EXCELLENCE IN GAS TRANSPORT	Yearly and Seasonal (at least 1 month). Short-term services not available between 21 December and end-February. Conditions not yet published but will be so on 1 November 2002. Early 2003, Fluxys will offer an Internet-based reservation	Yearly interruptible contracts available in so far as firm capacity is not available. In 2003, interruptible Day-Ahead capacity services will be provided by selling contracted but "non-nominated" capacity for the next day.	First committed, first served. No changes planned. An automatic internet-based capacity reservation system is currently being developed.	Transfer of point-to-point capacity possible subject to agreement of TSO which can not be unreasonably withheld.	Secondary trading market under consideration and expected to provide for trading of unused capacity Day-ahead on an interruptible basis. In 2003, interruptible Day-Ahead capacity services will be provided by selling contracted but

TSO	Minimum duration of services offered and response time	Interruptible services offered?	Capacity allocation mechanism	TPA capacity rights freely tradable?	Anti-hoarding and reutilisation of un-used capacity
	system providing quick answers on capacity available for booking (initially within 24 hours).				“non-nominated” capacity for the next day.
	<p>Monthly – with premium (10%-70% of annual tariff depending on month). Sum of 12 monthly contracts – when separately booked - is 340% of annual transmission tariff (in one booking of separate months, the tariff is always less or equal to tariff for one year). Daily contracts under preparation through pilot project in 2002 to become standard service from 1.1.2003. Booking period is 3 months up to Day-2. Before Day-7, maximum response time is 7 days. After Day-7 only daily contracts for interruptible transportation is offered with a max. response time of 2 days.</p>	<p>In 2003, available if firm capacity is sold out.</p>	<p>“First-come-first-served”. However, the period between the moment of contracting and the start of transportation depends on the length of the contract to avoid the risk of speculation by contracting for a single day long time in advance hence frustrating usage.</p>	<p>Transmission capacity and quality conversion freely traded against a handling fee of 160 Euro per transaction.</p>	<p>Yes. “Non usus” clause implemented into transport contracts under which the TSO in case of continued non-use of capacity combined with refusal of TPA can retrieve capacity in case “all or virtually all” capacity on the section in question is unused. In 2003, unused capacity will be offered as interruptible capacity.</p>
	<p>Standard annual transportation and storage contracts and monthly with</p>	<p>No. There is currently no scarcity of capacity. In general, the</p>	<p>“First come - first served”. Procedures reviewed by regulator and</p>	<p>Yes – however, procedures regarding financial approval of</p>	<p>DONG Energi Service apply a “use-it-or-lose-it” clause. The TSO has a right</p>

TSO	Minimum duration of services offered and response time	Interruptible services offered?	Capacity allocation mechanism	TPA capacity rights freely tradable?	Anti-hoarding and reutilisation of un-used capacity
	<p>premium (15%-80% of annual tariff depending on month). While the cost of a shorter contract than one year can not exceed the cost of a one year contract (e.g. an 11 month contract could not exceed 99% of the annual capacity price – calculated as 88% plus 1% per month), the sum of 12 monthly contracts held by individual system users would be 550% of the tariff for a single annual transmission contract. According to DONG E-S, the need for and pricing of contracts shorter than one month is questionable in a non-liquid market like the Danish. DONG E-S is planning an on-line booking system. DONG E-S shall respond on capacity booking within max. five banking days and endeavours to respond as quickly as possible. Most</p>	<p>DONG E-S system is designed to meet demand even in very cold periods without interruption. Moreover, DONG E-S is obliged to offer network expansion if a request for capacity is rejected on capacity grounds. DONG E-S has decided not to offer interruptible services as it is considered it could create biased incentives to book interruptible capacity without a real risk of interruption. Should congestion occur, DONG E-S will consider offering interruptible transportation.</p>	<p>ministry.</p>	<p>actual abilities of a shipper to trade have recently been redefined to guarantee financial credibility or guarantees of transport customers.</p>	<p>to demand an explanation if a shipper is not using reserved capacity. If no plausible explanation can be given and if ATC is constrained, capacity rights can be cancelled allowing re-utilisation. It is unlikely, however, that rights to spare capacity due to normal seasonal variations will be withdrawn.</p>

TSO	Minimum duration of services offered and response time	Interruptible services offered?	Capacity allocation mechanism	TPA capacity rights freely tradable?	Anti-hoarding and reutilisation of un-used capacity
	requests are answered within the same day. DONG is planning for on-line booking in relation to full market opening as from 2004.				
	Standard annual transportation and storage contracts starting either 1 October or 1 April and monthly with premium (15%-30% of annual tariff depending on month). Sum of 12 monthly contracts is 240% of annual transmission tariff. The fee for calendar year (January-December) is 160% of standard contract form. While RG has committed itself to inform a TPA customer within 12 working days of whether a transportation request can be carried out, the normal response time to capacity booking is 2-3 days.	Transportation capacity is sold on an interruptible basis in case of limited capacity.	“First-come-first-served”. The period between the moment of contracting and the start of transportation depends on the length of the contract to prevent misuse through blocking capacity. Capacity for one month cannot be booked earlier than four weeks prior to start of deliveries.	TPA capacity rights are freely tradable. In case of assignment of a primary capacity right to another shipper “ <i>an involvement</i> ” of the TSO is necessary.	No. Ruhrgas will not sell a shipper’s unused capacity to another shipper without the capacity owner’s consent (sanctity of contracts). If, however, capacity is not used by one shipper and another shipper would be interested in such capacity Ruhrgas will seek the consent of the capacity owner to facilitate reutilisation of capacity. According to Ruhrgas, the tariff structure is a disincentive for capacity hoarding. It is also claimed that the general principle of abuse control in cartel law could be applied in favour of a re-utilisation of unused capacity.
	Daily. During winter months, the transport tariff for a daily	Yes, when insufficient capacity is available to	First committed – first served.	Yes.	TG has undertaken to practice a “use-it-or-lose-it”

TSO	Minimum duration of services offered and response time	Interruptible services offered?	Capacity allocation mechanism	TPA capacity rights freely tradable?	Anti-hoarding and reutilisation of un-used capacity
	<p>contract is 5% of a yearly contract while it is 3% during the summer months i.e. 4% on average. To illustrate the premium for short-term contracts, the sum of 365 daily contracts held by individual system users would be 1460% of the tariff for a single annual transmission contract. The fee for calendar year (January-December) is 150% of standard contract. TG offers a rebate for longer-term contracts equal to 2% for each years duration beyond 1 year. TG's best practice in responding to capacity reservation requests is within-day, which, however, is not possible in all cases. Daily capacity can be booked 15 days in advance. TG reserves itself 10 working days, however, to verify availability.</p>	<p>cover full capacity request.</p>			<p>principle as far as the TG Trading arm is concerned i.e. to reduce its capacity bookings if TG's trading division does not have any legitimate interest in such capacity and that access would otherwise have been denied due to bookings by TG's trading division.</p>

TSO	Minimum duration of services offered and response time	Interruptible services offered?	Capacity allocation mechanism	TPA capacity rights freely tradable?	Anti-hoarding and reutilisation of un-used capacity
	<p>Duration of transportation contracts is normally 1 year or a multiple thereof starting on the first of any month. However, transportation for periods of less than a year and down to a month are possible and will be charged in function of seasonal load variations. Sum of 12 monthly contracts is 510% of annual transmission tariff. Time for processing transportation orders until an offer can be made is max. 12 days.</p>	<p>Interruptible capacity must be established by individual contracts (no terms published).</p>	<p>“First committed – first served” under comparable economic conditions.</p>	<p>In principle, any customer who acquires capacity on the VNG network can trade it freely. VNG imposes no obstacles to secondary trading.</p>	<p>No.</p>
	<p>Standard annual transportation contracts starting on either 1 October or 1 April. Individual terms for short term transportation as follows (% of annual tariff): Summer: 50 Winter: 85 Q1: 60 Q2: 30 Q3: 30 Q4: 50 Jan., Feb.: 25 March: 15 Apr.-Sept.: 10 Oct.-Nov.: 15 Dec.: 25</p>	<p>Only in case of limited capacities.</p>	<p>First-committed-first-served. Up to now no need for congestion management in the WINGAS system.</p>	<p>Capacity rights can be freely traded but the initial shipper remains the contractual partner towards WINGAS. Contract assignment to a new shipper requires WINGAS’ agreement.</p>	<p>WINGAS transport division is not in a position to resell any contracted capacity without prior consent of the shipper. In case of unused capacity, WINGAS transport division will, however, seek commercial agreement on optimal re-utilisation. If any shipper wants to agree on a use-it-or-lose-it principle,</p>

TSO	Minimum duration of services offered and response time	Interruptible services offered?	Capacity allocation mechanism	TPA capacity rights freely tradable?	Anti-hoarding and reutilisation of un-used capacity
	<p>"Best case" calculation is always applicable. The sum of 12 monthly contracts held by individual system users would be 180% of the tariff for a single annual transmission contract. However, a shorter than one year contract will never cost more than a full year contract. The fee for calendar year (January-December) though is 150% of standard contract as it does not follow the gas contract year and would have an <i>"impact on the available capacities of two winters"</i> which has to be reflected in the price. Max. response time according to the VV Gas is 12 working days depending on the complexity of the individual transportation project. WINGAS often replies and agrees on contracts within 2 days. WINGAS is developing an Internet based</p>				<p>WINGAS will negotiate this on an individual basis. WINGAS considers that a capacity "use-it-or-lose-it" system would not promote gas trade as shippers are no longer free to use their capacity according to their own decisions.</p>

TSO	Minimum duration of services offered and response time	Interruptible services offered?	Capacity allocation mechanism	TPA capacity rights freely tradable?	Anti-hoarding and reutilisation of un-used capacity
	communication platform, which is expected be mid-2003 to be used for on-line booking with on-line responses to capacity reservation requests within 1-2 hours. The key priorities of WINGAS Transportation is to implement procedures which will allow short-time responses.				
	Reference transportation contracts start either 1 October or 1 April and monthly with premium (10%-100% of annual tariff depending on month). Sum of 12 monthly contracts is 600% of annual transmission tariff. Response times to capacity requests have been agreed at 12 days in the German VV Gas. However, BEB's response times are substantially shorter.	Only in case of limited capacities. Interruptible contracts are offered at a 25% discount.	“First Committed – First Served”	No restrictions for trading and re-utilisation of capacity as long as the initial shipper remains contractually responsible towards BEB. Contract assignments to third parties are subject to consent of BEB, which can not be unreasonably withheld. In case of a change of supplier priority is given to make scarce capacity available to the new supplier first.	<i>“In case of a change of supplier, priority is given to make scarce capacity available to the new supplier first”.</i>
	1 year. GdF considers 10 days a reasonable objective for responding to capacity request.	Not on the main transmission network unless no firm capacity is available. Interruptible services are, however, offered	First-come-first-served.	Shippers are allowed to transport for third parties provided it does not affect the contractual relationship	No. GdF not in favour of “use-it-or-use-it” as it would reduce the shippers right to use firm capacity which it has booked

TSO	Minimum duration of services offered and response time	Interruptible services offered?	Capacity allocation mechanism	TPA capacity rights freely tradable?	Anti-hoarding and reutilisation of un-used capacity
		at a 50% discount on the regional network e.g. to customers which were interruptible customers of the integrated company.		between GdF and the initial shipper. Contracts can be assigned as a whole with the prior consent of GdF.	and payed for.
	1 year. GSO is considering to offer an off-peak capacity booking by the end of 2002. Standard response time of GSO is 15 days.	No – not currently. However, an interruptible service will be offered and published by 1.11.2002.	First-come-first-served.	GSO allows trading of capacity as long as the initial shipper remains contractually responsible towards GSO.	No.
	No minimum duration. Offers “very short” term transportation for underground storage use. According to legislation, 25% of the capacity can be contracted for on a short-term basis (defined as less than 2 years) whereas 75% of the capacity is for long-term contracts (> 2 years). An existing shipper has a right to answer on capacity request within 12 days whereas a new customer shall be replied within 24 days.	No. Only firm capacity	First-come-first-served	No trading of capacity. No secondary market	Regulated by Art. 6 of Royal Decree 949/2001 by which Enagas can – one year after capacity has been booked – require the capacity to be reduce if not used and other shippers wish to have access.
	1 year. SOTEG engages itself to respond to an	No. Sufficient firm capacity available.	Unclear – but currently no congestion problems.	Presently not relevant. No secondary market exists.	So far, no problems of capacity hoarding.

TSO	Minimum duration of services offered and response time	Interruptible services offered?	Capacity allocation mechanism	TPA capacity rights freely tradable?	Anti-hoarding and reutilisation of un-used capacity
	access request within 10 working days.				
	<p>1 month. Capacity is assigned to shippers once a year (September with effect from 1 October). However, SRG is working towards applying 1 Day booking period on the secondary market and to develop coherent booking periods with interconnected networks. Response times are 10 days in relation to the allocation process regarding all the shippers' capacity requests on a yearly basis for the "Thermal year" beginning in October; 7 days in relation to a single shipper's capacity request on a monthly basis on the secondary market.</p>	<p>Yes – with a 15% discount.</p>	<p>Capacity allocation is based on an annual booking and allocation procedure at the beginning of the Gas Year. Priority is given to shippers which were party to a long-term gas transportation agreement with Snam Rete Gas (SRG) on the date of publication of Access Conditions. If remaining capacity booking requests exceed the available capacity, capacity is allocated pro-rata. The Regulator monitors capacity allocation and has so far confirmed these. As from next year, maximum duration of contracts will be 5 years.</p>	<p>Yes. SRG offers monthly contracts on the secondary market (can be booked until one month before the beginning of the month). SRG is working towards applying 1 Day booking period on the secondary market. In addition, mandatory release at redelivery points in case of customer by new shipper.</p>	<p>New Network Code will be coherent with UIOLI in 2003. Snam Rete Gas currently requires that a shipper's aggregate National Network Entry Points capacity must be less than or equal to his aggregate National Network Exit Points capacity, which in turn must be less than or equal to his aggregate Regional Network Redelivery Points capacity. Combined with transfer of capacity in case of customers shifting supplier, this prevents a shipper from booking Entry capacity without having a corresponding Exit capacity.</p>
	<p>Standard transportation contracts have a duration of 1 year – however, minimum duration one month with premium</p>	<p>Will be offered on conditions similar to firm contracts but with transfer of payment from new capacity holder to interrupted</p>	<p>Congestion management and capacity allocation currently not an issue. Gas Law II anchors the "backpack"</p>	<p>Yes. OMV Erdgas requires no control over capacity rights beyond the transportation contract.</p>	<p>Gas Law II will introduce "use-it-or-lose-it" as per 1 October 2002 i.e. transport capacity not used is lost.</p>

TSO	Minimum duration of services offered and response time	Interruptible services offered?	Capacity allocation mechanism	TPA capacity rights freely tradable?	Anti-hoarding and reutilisation of un-used capacity
	<p>(Factor 2) for all services. Customers on the domestic market can change supplier on a monthly basis without affecting their transportation contracts with LDCs. Contracts with duration of 10 years are subject to a discount of approx. 10% (factor 0.909) and 5 year contracts of 4% (factor 0.960). Market and communication rules implementing Gas Law being discussed. Current response time to TPA requests: 2-max. 4 weeks depending on the complexity of the request.</p>	shipper.	principle i.e. if a customer changes supplier, the entire line capacity used for his supply remains available.		
	<p>A Standard Transportation Agreement, whereby transportation capacity is contracted on a firm basis, can be contracted at the start of a quarter for a term no less than one year. Capacity can also be traded and transferred on in a secondary market with the</p>	<p>Regarding interruptible services, the Gas Amendment Act 2000, provides for interruptible capacity to be made available to facilitate, "...an increase in the limited amount of capacity in the natural gas network... for the purpose of increasing the amount of electricity</p>	<p>Unclear – however new legislation and imminent availability of surplus capacity arising from commissioning of 2nd Interconnector will relieve any residual congestion.</p>	<p>Yes, subject to approval of the Transporter. There is a secondary market in capacity.</p>	<p>Yes. The Transporter has a right to take back capacity from Shippers if it is not being utilised.</p>

TSO	Minimum duration of services offered and response time	Interruptible services offered?	Capacity allocation mechanism	TPA capacity rights freely tradable?	Anti-hoarding and reutilisation of un-used capacity
	<p>approval of the Transporter. This is an active market and “capacity transfers” take place on a daily basis. BGE does not have formalised response times for access requests. Due to the limited market size and number of shippers so far, an individual approach is taken to accommodate customer needs. Response time will depend on whether a shipper is already familiar with the software applied. If so, response can be given within a week.</p>	<p>generation". There are a number of interruptible contracts in place arising from this legislation. However, given the imminent availability of surplus capacity arising from the commissioning of the 2nd Interconnector, interruptible services are not provided as a standard transportation product under the Code of Operations.</p>			
	<p>Standard contract offered has 1 year duration – shorter contracts will be offered upon request. No rebate for multi-annual contracts. Nova has not had any transport requests but believes two weeks response time would be sufficient and that 5 working days may be a reasonable</p>	<p>No – due to the flexibility in minimum duration. But being considered to improve load factor of the system.</p>	<p>“First-committed-first-served”.</p>	<p>Any assignment of capacity rights must receive prior written approval from Nova.</p>	<p>Not applicable.</p>

TSO	Minimum duration of services offered and response time	Interruptible services offered?	Capacity allocation mechanism	TPA capacity rights freely tradable?	Anti-hoarding and reutilisation of un-used capacity
	target to work towards.				
	<p>Capacity is assigned to shippers once a year on a yearly basis (1st October – 30th September). Capacity's transfers are allowed on a monthly basis, but Edison T&S is studying a solution to allow capacity's transfers on a weekly/daily basis. Edison is normally able to respond to capacity booking requests within a very short period of time (within minutes). In some cases, however, response can take between one day and maximum one week (busy periods).</p>	Yes	<p>The Italian Regulator issued capacity allocation and congestion management procedures on 26 July 2002. Capacity rights for the Gas Year 2002-2003 were conferred prior to 1 September with effect from 1 October. At entry point with the European network, capacity is assigned for 5 years to users holding long-term import contracts. In all other cases, capacity is allocated for one Gas Year ("thermal year"). The following priority is given to contracts: 1) TOP contracts signed before the entry into force of Directive 98/30/EC; 2) TOP contracts signed after the Directive; 3) annual import contracts and 4) other contracts.</p>	Trading transmission capacity is allowed.	Yes. In addition, a promoter of new infrastructure (pipelines and LNG terminals) can not have priority access to more than 80% of its capacity.

8.2 Transparency, tariffation and the role and resources of the TSOs:

TSO	Publication of available capacities	Publication of actual historical flows?	Tariff methodology applied?	Rules applicable to backhaul?	Role and system resources of the TSO
	Physical capabilities of entry points. Firm and interruptible exit capacities published for each distribution zone and for the aggregated Transmission system 5 years ahead.	For each entry point during previous year.	Cost-reflective charges set in accordance with licence. Entry charges set through auctions, exit charges regulated.	Due to capacity charges based on LRMC backhaul typically charged less than forward flow	Transco responsible for physical balancing (residual balancer). Draws on market and contractual rights.
	Currently based on traffic lights but working towards publication of available firm capacity at main entry points – publication expected early November 2002.	Foreseen in proposed Code of Conduct.	Regulated tariffs approved by the regulator CREG. Tariffs – based on a global regulated revenue - will be published on and applicable as from 1 November 2002.	At year-end profits from backhaul transportation will be redistributed.	According to proposed Code of Conduct, TSO will be responsible for physical balancing of the system based on means at its disposal including contracted minimum system capacities for operational purposes (send-out capacity at LNG terminal and underground gas storage facility).
	Available free capacity at 13 cross-border points published 15 months ahead – updated at least monthly or when new information is available. Counterflow capacities also published.	No	TPA tariff for a given section currently depends on length, gas quality, pipeline diameter and maximum capacity. Tariffs in 2002 should be 5% lower than in 2001. As from 1.1.2003, tariffs will be based on entry-exit (decoupled	If backhaul transport capacity is contracted on a section, tariffs in both directions are reduced i.e. tariff is the same in both directions. In the 2003 entry-exit system, backhaul transportation will be included in “an	Primary balancing responsibility lies with shippers but the final responsibility for maintaining physical transmission system balance lies with TSO who uses balancing incentives on system users to ensure

TSO	Publication of available capacities	Publication of actual historical flows?	Tariff methodology applied?	Rules applicable to backhaul?	Role and system resources of the TSO
			points)	<i>economically sound and defensible</i> ” manner in the applied tariffs.	balancing. From 2003, GTS will purchase flexibility on the market.
	Physical, Ordered and Available capacities at entry terminal and cross-border points published since 1 October 2002 and will be updated regularly.	No	Tariffs are postage stamps in the form of entry and exit charges. Tariffs are set on the basis of two criteria: cost-based and international benchmarking. More specific benchmark criteria will apply in the future – yet to be defined. DONG E-S has chosen not to publish a description of its tariff methodology before an appeal case against a decision by the Danish Energy Regulatory Authority has been concluded.	Backhaul is implicitly taken into account in the general tariff setting which is based on the total volume of gas transported regardless of flow direction. Backhaul capacities at export border stations offered upon request.	DONG Energy Service has the sole responsibility of maintaining the physical balance of the system including the residual balancing role. To this end, DONG E-S controls the line pack as well as a limited system operator storage. DONG E-S considers these tools essential given the lack of possibility for the TSO to buy and sell in a liquid gas market. This system is complimentary to the balancing requirements on the shippers and the balancing agreements offered to the shippers by DONG E-S. Regarding cross border trade, the connected TSOs and DONG E-S is preparing OBA's. Until OBA's are established the so called "fixed swing principle" is applied – where the largest shipper

TSO	Publication of available capacities	Publication of actual historical flows?	Tariff methodology applied?	Rules applicable to backhaul?	Role and system resources of the TSO
					(in this case DONG Trading) has agreed to take the swing - the difference between the total nominated values and the actual metered flow.
	No. However, from 1 January 2003, Ruhrgas will implement a traffic light system for the main entry points (where green: <80% booked; yellow >80% booked; red: >95% booked).	No.	Transportation pricing is subject to market conditions based on assumed pipeline-to-pipeline competition and is subject to annual international and national benchmarking (currently based on the expertise of Prof. Ströbele, University of Münster).	Backhaul not taken into account. If capacity were booked in forward and in reverse flow, the shippers would pay the same tariff.	TSO does not appear to have own gas and appears to be an “infrastructure provider only”. Relationship between RG Transport and RG Trading unclear (e.g. for “formal reasons” no contract can be concluded between RG Trading and RG Transport)
	Traffic lights for main entry points, blending stations and storages; publication of physical and available capacities not yet appropriate due to existing confidentiality obligations.	No (because of confidentiality reasons).	Transportation tariffs distance and diameter dependent and are based on international benchmarking. No information published on tariff derivation but tariffs are based on VV Erdgas II.	As backhaul transports are not common transportation practice, no relevant tariffs are published.	Thyssengas as TSO is responsible for maintenance, operation and development of its network and in so far maintaining physical system balance, but does not have own gas. However, a formal agreement exists between TG Transport and TG Trading under which TG Trading makes available certain flexibility to TG Transport to

TSO	Publication of available capacities	Publication of actual historical flows?	Tariff methodology applied?	Rules applicable to backhaul?	Role and system resources of the TSO
					enable it to balance the system without having own gas.
	Only through GTE's traffic lights at border crossings. For storage, only physical capacities are published.	No.	Transportation tariffs distance and diameter dependent and are based on international benchmarking. No information published on tariff derivation but tariffs are based on VV Erdgas II.	<i>"As backhaul transports are not common transportation practice, no relevant tariffs are published".</i>	VNG Transport division "buys" gas internally from VNG Trading based on an internal arrangement.
	Up to now through GTE's traffic lights. WINGAS transport division intends to publish its own Internet based traffic lights before the end of 2002 providing indicative information on available capacities with at least monthly updates. Internet based online-communication platform with shippers allows quick response on transportation / capacity requests (also designed for online-capacity booking).	No.	The general tariff methodology is based on international benchmarking and existing pipe-to-pipe competition in Germany. No further information on methodology available. Distance related tariffs as a basis for individual negotiation in line with methodology as agreed in German VV Gas.	If a shipper books capacity from A to B and viceversa, WINGAS "offers price reduction" which are negotiated individually. However, this is designed as a rebate for "double-capacity-reservation" and not for gas-flow-netting (the latter being the result of the sum of all shippers' individual decisions on capacity utilisation).	Per definition, WINGAS transport division as TSO is not in a position to supply gas to any shipper. WINGAS transport division needs to get access to the portfolio of its shippers in order to maintain system balance and to be in a position to have a residual balancing role. Surplus and deficit imbalances are currently absorbed or provided by the WINGAS trading division but on the account of the WINGAS transport division.
	Only through GTE's traffic lights. BEB is "considering" to publish	Currently no publication of historical utilisation levels.	BEB's tariffs are market-reflective based on national and international	In case of backhaul transportation of a shipper "tariff"	While the responsibility for maintaining system integrity lies with BEB-

TSO	Publication of available capacities	Publication of actual historical flows?	Tariff methodology applied?	Rules applicable to backhaul?	Role and system resources of the TSO
	further information in due course.		benchmarking and are adjusted on a yearly basis in function of developments in pipe-to-pipe competition and international benchmarking.	<i>reductions will be applied</i> on an individual basis.	Transport, BEB as system operator has neither a residual balancing role nor acts as a supplier of last resort. BEB-Transport, however, does assume a limited role in physical balancing. System resources used in this respect are line-pack capacity and a limited amount of storage capacity, which is reflected in the unbundled accounts of BEB Storage.
	<p>Yes – ATCs at the 5 main entry points for an annual transportation contract beginning the first day of the following six months are published. Claimed to be updated at least every month. However, on 12 September, the latest update had been made only on 3 June 2002 and capacities beyond 1 December were not available.</p>	No.	The methodology used for tariff derivation is not published.	Implicitly taken into account to some extent although tariffs remain 60% distant related.	<p>“Basic line-pack” is owned by the TSO. The TSO does not have specific storage rights but buys or "borrows" the gas it needs in real time from a gas supplier under a specific gas supply contract. Physically, the flexibility resources of Gaz de France-Transport are mainly linked with the real time operation of storages. Corresponding quantities are purchased or sold by Gaz de France Transport from</p>

TSO	Publication of available capacities	Publication of actual historical flows?	Tariff methodology applied?	Rules applicable to backhaul?	Role and system resources of the TSO
					or to the gas owners in the underground storages.
	<p>No. However, GTE publishes a traffic light (red) for capacity available at Port de Larrau (F-E border).</p>	<p>No.</p>	<p>The methodology used for setting tariffs is not published. Tariffs have not changed since published 10 August 2000. However, a regulated Entry/Exit tariff is under way. The methodology applied, subject to approval of the regulator, is based upon the principle of cost-reflectivity and uses a robust modelling of the network taking into account backhaul, seasonal scenarios and congestion of pipelines and compressor stations and is intended to send proper economic signals to the market. If approved by the regulator, the methodology will be published on the web-site of GSO.</p>	<p>A shipper having a transport contract for one direction will get 80% refunded for transportation in the opposite direction.</p>	<p>The responsibility framework between GSO as TSO and shipper is well defined. The TSO has directly at its disposal adequate means to ensure physical balancing including line-pack owned by the TSO and contractually subscribed flexibility rights.</p>
	<p>Publication of nominal, contracted and available capacities at all entry points including LNG</p>	<p>No.</p>	<p>Postage stamp.</p>	<p>None.</p>	<p>Enagas only buys gas for regulated market but has as System Operator of the network</p>

TSO	Publication of available capacities	Publication of actual historical flows?	Tariff methodology applied?	Rules applicable to backhaul?	Role and system resources of the TSO
	regasification and storage plants. Capacities published for each quarter in 2002-2005 i.e. more than 3 years ahead. (Available on www.enagas.es)				developed rules for getting gas from any shipper to solve an emergency. These rule are included in the Network Code but not yet approved by the the Government. Enagas controls line-pack and underground and LNG storage.
	Traffic light information at import points. <i>“Detailed information is confidential because of the size of the country”</i> .	No.	Cost based subject to approval by regulator.	None.	Unclear.
	Available capacities at cross-border entry points are published on a monthly basis (split between Firm, Yearly Interruptible and Seasonal Interruptible). Available firm capacities at exit points on the national transmission system are equally published monthly. Physical reference capacities are published for each redelivery point on the regional network.	No.	Regulated entry-exit tariff model. Regulator has applied international benchmarking in setting key economic parameters such as operating costs and Cost of Capital (WACC).	When calculating entry-exit charges, the cost associated with back-haul transportation services has been evaluated at 8% of direct transportation service.	SRG responsible for physical balancing. For this purpose, Snam Rete Gas books storage capacity from shippers to provide hourly modulation and maintain system pressure. SRG owns and controls roughly 430 mimmion m ^{&} of linepack and has a storage contract for a booked volume of 100 million m ³ .
	No – only GTE traffic lights. Publication of	Will start 1 October 2002 as a result of Gas	Tariffs are cost-based and not related to	No backhaul in OMV operated pipelines – but	TSOs transport and meter gas while the

TSO	Publication of available capacities	Publication of actual historical flows?	Tariff methodology applied?	Rules applicable to backhaul?	Role and system resources of the TSO
	ATCs is required by the Gas Law II which entered into force as from 1/10 2002. Publication expected before the end of the year.	Law II.	benchmarking. For domestic transport, the regulator will set and publish tariffs. The regulator will have to approve transit tariffs.	new Gas Law contains provisions to ensure appropriate tariffs for counterflows with possibility for the regulator to fix these.	“regulation zone manager” is responsible for maintaining physical system balance and control of the transmission system as defined by the Gas Law II. The regulation zone manager draws on the market for system balancing based on a merit order (including off-take; in-take and line-pack).
	Following commissioning of the second Interconnector (scheduled for Q4 2002) surplus capacity will be available on the system. BGE is progressing plans to publish available capacities at the main entry points into the system from 2003.	Unclear.	Entry-postalised Exit; cost reactivity and system efficiency. Full transparency on BGE’s web-site of tariff calculation.	None - postalised exit charges.	Services required by the TSO are put to tender annually to ensure competitive pricing.
	Not published. Traffic light for import terminal from Denmark published by GTE. There is no scarcity of capacity.	No.	Tariffs published without prior approval by regulator. Tariffs mainly a postalised capacity-based and cost-based tariff. Regulator monitors accounts of TSO which allows some degree of verification of tariffs.	Backhaul not used.	Unclear – but under discussion. Nova Naturgas (vertically integrated) is responsible for physical balancing of its transmission system. Flexibility in the network shared pro rata by shippers in function of their booked capacity.

TSO	Publication of available capacities	Publication of actual historical flows?	Tariff methodology applied?	Rules applicable to backhaul?	Role and system resources of the TSO
	Published on a monthly basis.	No.	Regulated entry-exit model on NTS and a smoothed “post stamp” model on RTS. Both models are calculated from the allowed revenue taking into account the operational costs, the capital costs (WACC) and amortisation as defined by the Regulator.	The rules for backhaul are applied in the entry-exit model by Snam Rete Gas, which calculates the national transmission tariffs. The regional tariff model does not take into account the flows in the pipelines but only the daily peak delivery.	For physical balancing (intra-day, line-pack and technical optimisation needs) Edison T&S has booked a storage service on its own storage facilities. Edison T&S booked roughly 5.5 million m ³ .

8.3 Balancing:

TSO	Balancing system applied?	Tolerance levels applied?	Gas cash-out price - short imbalance	Gas cash-out price - long imbalance	Gas price reference used for imbalances
	Daily balancing – imbalance charges market based (system marginal prices – in July 2002 these varied +/- 5-20% from system average price.	All imbalances cashed out.	SMP Buy Price (105-120% of SAP in July 2002). Default marginal price approx. 1.7 p/therm above System Average Price.	SMP Sell Price (84-95% of SAP in July 2002).	OCM (On-the-day-Commodity-Market)
	Hourly balancing	Free Rate Flexibility service offered up to 10% of subscribed <u>capacity</u> . Free <u>volume</u> flexibility offered equal to subscribed capacity i.e. 10 x Free Rate Flexibility.	Gas price at 130% and payment of price for flexibility that should have been booked.	Gas price at 70% and payment of price for flexibility that should have been booked.	Zeebrugge gas price
	Daily balancing with hourly tolerance.	Tolerance temperature dependant. (13% above 0°C down to 0% at -17°C) In addition, 2% operational margin is allowed both hourly and daily.	190% (2002) 180% (2003)	52.5% (2002) 55% (2003)	The relevant gas price, if required adapted in order to prevent artificial unbalance with arbitrage between the GTS balancing system and the spot market.
	Daily balancing combined with max. hourly tolerance levels. DONG E-S' former balancing rules were changed per 1.10.2002 following a decision by the Danish Energy regulator in June 2002 when the previous rules were deemed unreasonable.	Accumulated imbalance on a daily basis per shipper must not exceed a tolerance band of +/- 15% of reserved daily capacity with +/-40% tolerance per hour. Balancing services are offered.	120% (reduced from 150% on 1 October 2002)	40% (reduced from 50% on 1 October 2002)	DONG's lowest large customer tariff is applied in the absence of a spot market

TSO	Balancing system applied?	Tolerance levels applied?	Gas cash-out price - short imbalance	Gas cash-out price - long imbalance	Gas price reference used for imbalances
	<p>Generally, the customer has to ensure that input quantities are <u>simultaneously</u> taken back at the exit point with the same heat content. Cumulated differentials between input and output must not exceed 15% of max. daily quantity and 15% of max. hourly capacity if the customer requires flexibility in the hourly input. Alternatively, Ruhrgas offers customers flow control provided that the customer ensures suitable on-line data transmission equipment.</p>	<p>Free balancing until 15% of max. daily/hourly capacities. Extended balancing up to 25% of max. capacities subject to imbalancing charges of 85 Euro/m³/h/a or in kind payment. Tolerances reduced for < 100km transportation.</p>	<p>270% Or “in kind” the following month</p>	<p>50% Or “in kind” the following month</p>	<p>Average German import price. In kind offsetting based on Zeebrugge spot price.</p>
	<p>Hourly balancing.</p>	<p>Free balancing until 15% of max. daily/hourly capacities in case of unavoidable, unpredictable and process driven load fluctuations and distance >100 km. Extended balancing up to 25% of max. hourly capacity subject to capacity charges of 80 Euro/(m³/h/a, volume balancing in kind in the</p>	<p>In kind in the following months or 200%.</p>	<p>In kind in the following months or 50%.</p>	<p>Published border price.</p>

TSO	Balancing system applied?	Tolerance levels applied?	Gas cash-out price - short imbalance	Gas cash-out price - long imbalance	Gas price reference used for imbalances
		following months.			
	<p>The basic objective is for the customer to match delivery and receipt and receipt matched in time and calorific value simultaneous. As this “<i>may be impossible</i>” some flexibility is allowed within the max. hourly capacity reserved.</p>	<p>The cumulative differences between inlet and outlet volumes must at no time exceed 15% of the max. daily capacity. Delivery and receipt should be distributed as evenly as possible and for any hour not differ by more than 10% from the inlet/outlet volumes of the preceding hour. VNG also offers an extended balancing services.</p>	<p>260% - up to 15% 520% - over 15%</p>	<p>40% - up to 15% 20% - over 15%</p>	<p>Published border price</p>
	<p>Generally, the customer has to ensure that input quantities are <u>simultaneously</u> taken back at the exit point. Various flexibility options for shippers</p> <ul style="list-style-type: none"> • Free balancing • extended balancing • storage services • ex ante pooling of imbalances • steering service on behalf of shippers based on online transfer of exit point data 	<p>The following flexibilities are offered: Free balancing until 15% of max. daily/hourly capacities in case of unavoidable, unpredictable and process driven load fluctuations. Extended balancing service up to 50% of max. hourly capacity subject to imbalancing price of 71.58 Euro/m³/h/a. Flexibilities reduced for <100 km transportation.</p>	<p>Based on methodology as agreed in German Gas VV:</p> <p>Monthly balancing system with daily / hourly tolerances: free of charge within the flexibilities (15 % balancing, extended balancing service).</p> <p>System gives incentive to shipper to balance accumulated in- and output over the month. If accumulated in- and output is not balanced by the end of the</p>	<p>Based on methodology as agreed in German Gas VV:</p> <p>Monthly balancing system with daily / hourly tolerances: free of charge within the flexibilities (15 % balancing, extended balancing service).</p> <p>System gives incentive to shipper to balance accumulated in- and output over the month. If accumulated in- and output is not balanced by the end of the</p>	<p>Published border price.</p>

TSO	Balancing system applied?	Tolerance levels applied?	Gas cash-out price - short imbalance	Gas cash-out price - long imbalance	Gas price reference used for imbalances
	<ul style="list-style-type: none"> pooling of capacities in order to create a capacity portfolio. 		month by using the flexibilities, accumulated short imbalance will be priced at 300 % of the published border price. However, shipper may trade off imbalances with other shippers.	month by using the flexibilities, accumulated long imbalance will be priced at 33 % of the published border price. However, shipper may trade off imbalances with other shippers.	
	<p>A tolerance service comprising monthly balancing with daily/hourly tolerance of 15% of max daily/hourly volume is offered in case of unavoidable unplanned load fluctuations and transmission distances above 100 km. For transmission distances below 100 km tolerances will be reduced according to availability and technical system capabilities. The fee for this flexibility is rolled into the transportation tariff.</p> <p>An additional flexibility service to allow for tolerances up to a total of 30% is offered for a fee of 106.72 Euro/m³/h/a.</p> <p>Tolerances</p>	<p>Free balancing until 15% of max. daily/hourly capacities. Extended balancing up to 30% of max. capacities subject to imbalancing charges.</p>	<p>150% (with 15% “regular” flexibility). 110% with extended flexibility service (up to 30%).</p>	<p>50% (with 15% “regular” flexibility). 90% with extended flexibility service (up to 30%).</p>	<p>Average German gas import price.</p>

TSO	Balancing system applied?	Tolerance levels applied?	Gas cash-out price - short imbalance	Gas cash-out price - long imbalance	Gas price reference used for imbalances
	above 30% can be managed via access to storage service.				
	Daily balancing.	Daily imbalance tolerance is +/- 20% of daily capacities up to 1000 MWh/day and +/- 5% above that. Cumulated imbalance tolerance is 3 times the daily tolerance level. A penalty of 0.3 Euro/MWh is paid for differences between nominated and actual deliveries subtracted the tolerance levels.	150%	50%	Average of day-ahead-bid and day-ahead-offer at the Zeebrugge Hub as published by ESGM + 1.3 €/MWh
	Daily balancing. Balancing rules for GSO Trading remains to be established. Protocols are being established. GSO does not apply penalties to its own customers as long as they do not threaten system safety. GSO provides a penalty discount of 50% up to 5 times per customer per year. This service is included in the tariff.	Daily imbalance tolerance is +/- 15% of daily capacities up to 1500 MWh/day and +/- 5% above that. Cumulated imbalance tolerance is 3 times the daily tolerance level. For overrun of daily tolerance level a supplement of 0.8 of the NBP spot price is to be paid. For cumulated overrun, the supplement is 0.2 of the NBP spot price. A penalty of 0.3 Euro/MWh is paid for differences between nominated and actual deliveries			NBP Spot Price as published by IPE (highest of 5 days following imbalance).

TSO	Balancing system applied?	Tolerance levels applied?	Gas cash-out price - short imbalance	Gas cash-out price - long imbalance	Gas price reference used for imbalances
		subtracted the tolerance levels.			
	Daily balancing.	<p>1.5 to 5 days gas storage of transmission capacity reserved included in TPA tariff.</p> <p>5 days gas storage of regasification capacity reserved included in TPA tariff.</p> <p>105% on daily basis in the entry and exit point.</p>	<p>Regulated if imbalance is not inside in the tolerance applied.</p> <p>Minimum limit: regulated</p> <p>Maximum limit: Tariff Storage</p>	Regulated if imbalance is not inside the tolerance applied.	Regulated.
	Daily balancing.	3% tolerance on daily quantities in winter season (November to March) and 5% during the rest of the year.	110% within 3% tolerance 150% outside tolerance + capacity penalty.	90% within 3% tolerance 70% outside tolerance + capacity penalty.	Zeebrugge Day-ahead (or marginal system price).
	Shippers are obliged to balance their injections and offtakes on a daily basis and are not responsible for hourly fluctuations. Hourly balance is provided by SRG using linepack and storage. Imbalances of shippers with a storage contract is debited their storage accounts, whereas shippers out of balance and with no storage contract is subject to	8% of daily capacity (with threshold of 150,000 m ³ /d under which no penalties are charged) with a penalty of 0.1 Euro/GJ or 15% of daily capacity with penalty of 0.3 Euro/GJ.	Daily imbalances are subject to a penalty fee of 0.1 Euro/GJ which amounts to approx. 3% of current average gas market price.	Daily imbalances are subject to a penalty fee of 0.1 Euro/GJ which amounts to approx. 3% of current average gas market price.	Fixed fee corresponding to approx. 3% of average gas market price.

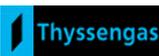
TSO	Balancing system applied?	Tolerance levels applied?	Gas cash-out price - short imbalance	Gas cash-out price - long imbalance	Gas price reference used for imbalances
	<p>penalties.</p> <p>As from 1/10 2002 there will be hourly balancing for a test period of six months carried out through a highly sophisticated “balance group model” handled by an independent Clearing and Settlement Agency. Austria will be split in 3 control areas, so-called “regulation zones” which are interconnected systems of pipelines. The regulation zone managers shall keep its system in balance via gas raised through a merit order established by the Clearing Agency which may be compared to an auction, where reliable energy suppliers and customers can place their bids to buy or sell gas. Each balance group manager is responsible for forecasting and nominating to the Clearing and Settlement Agency.</p>	<p>The balancing account for any transport contract must not exceed 2% of the committed transport capacity multiplied by a factor 2.</p>	<p>Based on weighed average of offers as ranked by the Clearing and Settlement Agency.</p>	<p>Based on weighed average of offers as ranked by the Clearing and Settlement Agency.</p>	<p>Based on bids to sell or buy imbalance gas.</p>
	<p>Daily balancing.</p>	<p>+/-3% when annual consumption</p>	<p>Whitin tolerance levels equal to cost of</p>	<p>Whitin tolerance levels equal to cost of</p>	<p>Based on competitive tendering.</p>

TSO	Balancing system applied?	Tolerance levels applied?	Gas cash-out price - short imbalance	Gas cash-out price - long imbalance	Gas price reference used for imbalances
		>1,5 mill. MWh. +/-8% when below that.	gas. Outside: 200% of this balancing price.	gas. Outside: 50% of this balancing price.	
	Hourly balancing.	Imbalances up to +/- 10% are not charged.	0.02 SEK/m ³ is charged for deviations exceeding +/- 10% up to 20%. For imbalances beyond that, Nova will charge additionally.	0.02 SEK/m ³ is charged for deviations exceeding +/- 10% up to 20%. For imbalances beyond that, Nova will charge additionally.	Not applicable.
	Daily.	Different imbalance charges are applied depending on the basis of the level of imbalance. No imbalance charge is foreseen when gas imbalance is below 6,000 GJ. If gas imbalance is higher and above 8% but below 15% of daily capacity, the charge is 0.1€/GJ. Above 15%, the charge is 0.3 €/GJ. Different capacity overrun charges are applied for overrun in the course of a month of maximum daily capacity): At the import entry points: over 2% the charge is 1,125*the yearly capacity entry charge. At national production entry points: over 4% the charge is	No gas cash-out is foreseen in the Italian transmission balancing regime. Short and long positions are closed on the storage facilities. If shippers do not own gas in storage and they are short, it means that they have used strategic storage. In this case a gas cash-out price will be applied by the storage operator and there is an obligation to restore the same quantity at a lower price (1€/GJ or 1.5€/GJ of difference).	No gas cash-out is foreseen in the Italian transmission balancing regime. Short and long positions are closed on the storage facilities. If shippers do not own gas in storage and they are short, it means that they have used strategic storage. In this case a gas cash-out price will be applied by the storage operator and there is an obligation to restore the same quantity at a lower price (1€/GJ or 1.5€/GJ of difference).	

TSO	Balancing system applied?	Tolerance levels applied?	Gas cash-out price - short imbalance	Gas cash-out price - long imbalance	Gas price reference used for imbalances
		<p>1,125*the yearly capacity entry charge. At exit points: overrun between 5% and 15%: the charge is 1,125*the yearly capacity exit charge. At exit point with overrun over 15%, the charge is 1,5*the yearly capacity exit charge.</p> <p>Delivery points: overrun over 10% the charge is 1,1* the yearly capacity delivery charge.</p>			

8.4 Cost-neutral balancing, pooling and level of TPA.

TSO	How is cost-neutral balancing applied?	Pooling of imbalances possible?	Information on balancing status	Number of users	Share of capacity utilisation by third parties
	Transco remains cash neutral as balancing is based on actual costs of buying or selling gas shipper imbalances.	Imbalances can be traded until close of the relevant Gas Day. System users can also effect a gas transfer by shifting gas with a willing counterpart at a given entry point. This can be done several days after Gas-Day.	Daily Balance Report published on the web-site. Within-day information also available to shippers of their position. Hourly up-dates on indicative cash-out prices and system status.	Currently ~175 shipper accounts registered though on any particular day only ~90 are active of which ~20 are gas traders.	100%
	Tariff system is “cost plus”. Any excess profit - including balancing penalties above costs - is reimbursed to customers next year.	Ex-ante pooling for customers with same entry point allowed	Internet application available providing information on an hourly basis.	3 active grid users	0% of L-grid. 2.1% of H-grid capacity of which 0.1% are eligible customers.
	Income from penalties will be given back to the market. In elaborating the 2003 tariffs, particular attention will be paid to the amount of fines and mechanisms for channeling back income from fines back to the market.	GTS will provide technical assistance for a bulletin board. Balancing is done on a shipper portfolio basis. System users can combine their portfolios and in this way become one shipper with the possibility of pooling imbalances.	Online transport information system (OTIS) providing insight into hourly deliveries with a maximum frequency of 1 time every 5 minutes.	32 users of transport services and 11 users of quality conversion services (numbers vary continuously).	11% of transportation and 8% of quality conversion services. As of 1 April 2003 (projected date): 100%.
	Revenues above the cost of balancing “are to be reallocated to the shipper community”. The regulatory	No ex ante competition in imbalance services yet. Denmark still has only few shippers. A shipper having	Market participants provided with balancing report the day after the gas day.	Since 1 September 2002 – three transport customers including DONG Trade.	Third party/non-DONG users represent 4-5% of the reserved capacity for the supply of Danish end

TSO	How is cost-neutral balancing applied?	Pooling of imbalances possible?	Information on balancing status	Number of users	Share of capacity utilisation by third parties
	framework conditions in this respect are currently being developed.	more transportation contracts can pool the imbalances of the individual contracts and different shippers can pool imbalance positions and thereby avoid/reduce imbalance charges through agreements between them.			customers.
	Cost neutrality does not appear to be ensured. It is claimed, however, that balancing charges (270% of average import price) “reflects the conditions for trading gas in the commodity market”.	Ex-ante pooling possible provided an agreement exists to this effect and that Ruhr gas is notified and provided that the different balancing positions refer to the same transportation route.	Information about balancing charges is provided on a monthly basis.	58 firm contracts and 33 interruptible contracts. 2 (virtual) storage contracts.	?
	Unclear whether cost neutrality is ensured. It is claimed, however, that balancing charges are based on the gas trading market and that penalty fees provide appropriate incentives on shippers to balance input and off-take and not to endanger the system.	Ex-ante pooling possible provided an agreement exists to this effect and that Thyssengas is notified and provided that the different balancing positions refer to the same transportation route.	Information about balancing charges is provided on a monthly basis.	Number of customers (incl. TG-Trading): - Transport: 11 (one part-time interruptible) - Storage: 1	3%
	Unclear if this is ensured.	Pooling service not provided. VNG sees no demand for this.	As from October 2002, VNG expects to have a new internet	8 customers. No storage system users.	30.6 billion kWh transported for third parties in 2001 compared

TSO	How is cost-neutral balancing applied?	Pooling of imbalances possible?	Information on balancing status	Number of users	Share of capacity utilisation by third parties
			platform in operation on which customers can inform themselves at any time about their balancing accounts. Currently, this information is provided in writing.		to a total VNG trade of 154.4 billion kWh (i.e. 17%).
	Penalties are based on international benchmarking and on methodology as agreed in the German VV Gas. While cost-neutrality does not appear to be ensured and while penalties are only aimed at giving incentives to shippers in order to keep the system in balance and not to interfere with WINGAS' obligations towards other shippers. Up to now it has not been necessary for WINGAS transport division to charge any shipper with penalties (because of flexibilities offered).	Shippers may pool and trade imbalance positions ex ante.	Information about balancing charges is normally provided on a monthly basis.	21 transportation contracts with third parties. 42 transportation contracts on third parties' networks (service of WINGAS transportation division: "transportation chain")	9% for transportation (including transits through the WINGAS system) and 15% for storage.
	<i>"Market-reflectivity of tariffs is confirmed by the market/by negotiations"</i>	Ex ante pooling/trading possible if more shippers combine their portfolios into	Information about balancing charges is normally provided on a monthly basis.	18 users of transportation services (including transit) and 3 storage users.	14% of transportation capacity (including transit).

TSO	How is cost-neutral balancing applied?	Pooling of imbalances possible?	Information on balancing status	Number of users	Share of capacity utilisation by third parties
	<i>with the shippers.</i> Shippers are able to contract flexibility on the market, which is considered to ensure that no excess cost can be charged by the TSO.	one contract. Nevertheless, BEB is always open to negotiate individual solutions with shippers.			
	This is not ensured. Imbalance penalty charges claimed to be negligible compared with overall transmission charges. <i>"Therefore"</i> there are no monopoly profits made by TSO from imbalance charges. It is also claimed that the costs of establishing a mechanism for paying back balancing profits would be <i>"much higher"</i> than the amount itself.	Ex post pooling not possible. Shippers can, however, exchange gas for the following day at each entry point for a fee of 18000 Euro/year.	Provisional daily and cumulated imbalance status provided at 11.30 a.m. on the day after the Gas Day on a secured website. At present no information provided during the day.	Five third party shippers; two modulation contracts and no LNG access contracts.	Approx. 4% (22% of the eligible market which is approx. 20% of the total French market).
	A system to ensure this needs to be put in place – it could be part of the overall revenue regulation. In the longer term, the creation of a hub in the South-West would provide for a market based balancing system.	Apparently not. A future hub could facilitate trading of imbalances.	GSO transmits every day at 10 a.m. a provisional daily and cumulated imbalance status for the previous Gas Day to all operators.	n.a. (considered to be a business secret).	n.a. (considered to be a business secret).
	Included in the	No.	On a daily basis	11 transmission	In 2002: 55%

TSO	How is cost-neutral balancing applied?	Pooling of imbalances possible?	Information on balancing status	Number of users	Share of capacity utilisation by third parties
	tariff services – based on Royal Decree.		in the Logistical System.	shippers (excluding Enagas which supplies the regulated market) 8 users of LNG regasification terminals 5 storage shippers	for transmission – Enagas supplies the regulated tariff market (45%).
	Unclear - Balancing charges claimed to be based on capacity and linepack costs.	Not excluded – but not stipulated in main commercial conditions.	Available on a daily basis.	2	2-3%
	Unclear – but Snam Rete Gas is a legally unbundled company subject to a regulated TPA regime.	Shippers (with or without storage contract) are allowed to pool imbalances both ex-ante (on a daily basis) and ex-post (on a monthly basis).	Provisional balance provided the day after the Gas Day.	26 shippers. Firm capacity used by 26 shippers and interruptible capacity used by 7 shippers.	In principle 100% as ENI and SRG are separate entities.
	Balancing energy is raised from market participants through an auction mechanisms with prices set by the market. The Clearing and Settlement Agency is a “non-profit” organisation.	The whole balance group model is based on the idea of pooling – even ex post. Nominations for a past hour may be traded until the end of the month to minimise energy balancing.	Price of balancing energy is published on a daily basis. Online balancing status is available for customers having contracted for it.	15 transportation clients and approx. 10 storage clients.	Capacity used by OMV Erdgas marketing affiliates is less than 10%.
	The price of balancing gas is determined following competitive tender. The TSO is cash neutral with respect to balancing costs. Any residual under/over recovery of balancing costs is smeared back	Yes. “After Day Trading”. Secondary market in Imbalance Trades is facilitated to enable participants to trade out imbalances and is regularly used. Until Gas Day+4, any shippers may	Balancing charges are separately disclosed on monthly transportation invoices.	TPA contracts in place to serve 13 end-user off-take points consuming 73% of overall Irish gas demand.	73%

TSO	How is cost-neutral balancing applied?	Pooling of imbalances possible?	Information on balancing status	Number of users	Share of capacity utilisation by third parties
	to Shippers.	agree between them on a different allocation from Initial Allocation of their aggregate allocated quantity of gas on the Gas Day.			
	Not applicable.	Not applicable.	Information system not yet fully developed.	None.	0%.
	Unclear – but Edison T&S is a legally unbundled company subject to a regulated TPA regime.	Cumulative monthly imbalance can be traded within 15 days after the cumulative monthly imbalance notification.	Provisional allocation information the day after the Gas Day.	6 third party users of firm capacity.	Edison T&S S.p.A. is a transmission and storage company therefore 100% of the capacity is put at Third Parties disposal.

Responses received to the Questionnaire on Guidelines for Good Practice

GTE members:

- Transco (UK)
- Ruhrgas (D)
- WINGAS (D)
- BEB (D)
- VNG (D)
- Thyssengas (D)
- Bord Gais (IRL)
- SOTEG (L)
- GSO (F)
- Gaz de France (F)
- Snam Rete Gas (I)
- Edison T & S (I)
- Gastransport Services (NL)
- Fluxys (B)
- DONG Energi-Service (DK)
- OMV (A)
- Nova Naturgas (S)
- Enagas (E)
- MOL (H), SPP (SK) and Trngas (CZ) – all based on GTE questionnaire format

Regulators:

- CNE (Spain)
- OFGEM (UK)
- Ofreg (Northern Ireland)
- Energitilsynet (Denmark)
- Energy Market Authority (Finland)

Ministries:

- Energistyrelsen (Denmark)
- Ministry of Trade and Industry (Finland)
- Department of Public Enterprise (Ireland)
- BMWi (Germany)
- French ministry

Others:

- UNESA
- Trianel (German member of GEODE)
- NARA