

Guidelines for Good TPA Practice for Storage System Operators (GGPSSO)

of 2 March 2005 as updated in July 2011

Scope and objective of the GGPSSO

The GGPSSO intend to give a minimum set of rules required for the organization of the market for storage capacity. They are forward looking and should be flexible enough to account for developments in market arrangements. They are addressed to all Storage System Operators (SSOs) as well as the storage users and relate to the implementation of the European Directive 2003/55/EC (the Gas Directive). Where a storage facility is exempt from third party access, the GGPSSO should be interpreted accordingly.

The purpose of these GGPSSO is to ensure that SSOs provide the services needed by storage users on a fair and non-discriminatory basis. Systems and processes shall facilitate the sustainable development of competition in gas supply. These tasks are pursued taking into account technical constraints and the economically efficient use of the storage infrastructure.

The GGPSSO are not legally binding, and consequently no requirement can be made under the GGPSSO that contravenes national or European legislation.

In the event that any party believes that there is a conflict between the requirements of the GGPSSO and national legislation that will materially affect either its interests or its ability to comply with the GGPSSO, it will notify without any unreasonable delay the relevant national regulatory authority, specifying in detail the exact nature and extent of the conflict. This notification will be made public unless the relevant national regulatory authority is satisfied, on the basis of objective justification provided to it, that to do so would unacceptably infringe on commercial confidentiality.

It shall be incumbent upon each SSO to demonstrate to the relevant national regulatory authority, upon its request that it meets the following guidelines. The relevant national regulatory authority should check that results in both regimes (nTPA and rTPA) are equivalent in terms of non-discrimination, transparency and competition.

An overriding principle is that storage systems and processes implemented by the SSOs maintain secure, reliable and efficient operation of the storage system (Article 8(1.a) of the Gas Directive).

Subject to compatibility with national requirements, SSOs will provide TPA to storage according to the following principles by 1 April 2005 unless another date is specified below. Where implementation by 1 April 2005 is not achievable the SSO will make public the fact and notify the relevant national regulatory authority, and will pursue implementation at the earliest possible date, but in any event not later than the deadlines specified in the relevant sections.

Furthermore, where a storage system operator (SSO) is not bearing the responsibility for allocating capacity and/or congestion management (as is the case in at least one country), then the responsible party should follow the guideline proposals as presented in this document.

1. Roles and responsibilities of Storage System Operators

- 1.1. SSOs, be they separate entities, part of a combined operator in the sense of Article 15 of the Gas Directive, or part of a vertically integrated company in the sense of Article 2(20) of the Gas Directive, shall act in accordance with the principles of non-discrimination, transparency and competition. They are responsible for the provision and management of technical storage capacity, storage services and information as well as the technical integrity and safety of storage facilities.
- 1.2. SSOs shall inter alia:
 - a. operate and maintain under economic conditions secure, reliable and efficient storage facilities;
 - b. offer third party access services on a non-discriminatory and transparent basis to all storage users requesting access to storage, including own affiliated companies, either using standard storage contracts or a storage code, developed by the SSOs in proper consultation with users, and approved or monitored as appropriate by the relevant national regulatory authority;
 - c. aim at accommodating market demand on a non-discriminatory basis, without imposing barriers to customer supply and to trade, whilst granting efficient and competitive access taking into account § 3.4 and 4.2;
 - d. establish rules on the use of capacity aimed at facilitating competitive and efficient use of that storage facility, in particular to discourage storage capacity hoarding. Maximise the use of available capacity and offer unused capacity at least on an interruptible basis, and services according to § 3.3;
 - e. treat commercial information confidentially, especially with regard to any affiliated company, in order to avoid any discrimination between storage users;
 - f. provide in a timely fashion the information required by storage users and transmission system operators;
 - g. co-operate with TSOs through interoperability agreements in order to ensure efficient and secure operation of storage and transportation networks;
 - h. when asking or providing guarantees to storage users with respect to creditworthiness, ensure that these guarantees are non-discriminatory, transparent and proportionate and do not constitute any undue market entry barrier.
- 1.3. In the case of a SSO being part of a vertically integrated company, the SSO should draw up a document setting out all the terms and conditions relating to storage use by the affiliate company to be made available to the relevant national regulatory authority upon request by 1 September 2005. This requirement in no way limits any rights that the relevant national regulatory authority may have under national or European law to require information provision before 1 September 2005.

2. Role of Storage Users

2.1. Storage users shall inter alia:

- a. be responsible for making nominations and for providing gas for injection into and accepting gas on withdrawal from storage facilities in accordance with prevailing contractual specifications, technical rules and agreed procedures;
- b. provide all data required that are necessary for the SSO to carry out its duties as specified in the storage code and/or storage contract;
- c. not use capacity rights in a manner that is intended to restrict, distort or prevent competition, for example through capacity hoarding;
- d. put relevant IT in place in order to be able to communicate with SSOs via agreed interfaces and standards.

3. Necessary TPA services

- 3.1. Storage capacity not excluded from TPA pursuant to the Gas Directive shall be offered to storage users on a non-discriminatory basis that facilitates competition and trade. Therefore, the SSO shall offer to storage users the technical storage capacity, excluding the portion used for production operations and capacities reserved exclusively for transmission system operators in carrying out their functions, according to rules made transparent by the relevant national regulatory authority. Exclusion of storage capacity from TPA shall be approved or monitored by the relevant national regulatory authority.
- 3.2. Any storage capacity needed for any PSO should be offered on a TPA basis; requirements of non discrimination still apply. Depending on national law, if a party is responsible for PSOs, it shall demonstrate upon request to the relevant national regulatory authority that their requested capacity reservation is no more than what is required to satisfy the relevant PSO.
- 3.3. The SSO shall offer to storage users the storage capacity in a way that facilitates competitive, non-discriminatory, and efficient access to best meet storage users' needs and that facilitates trade in storage services in secondary markets. Specifically the SSO shall offer in the primary market, pursuant to its responsibilities under § 1, a menu of services, including the following:
 - a. bundled services (SBU) of space and injectability/deliverability with determined technical ratios and with an appropriate size;
 - b. unbundled services supplementing SBUs at least for available storage capacity at the beginning of the storage year;
 - c. long-term (≥ 1 year) and short-term services (<1 year) down to a minimum period of one day;
 - d. both firm and interruptible storage services. The price of interruptible services may reflect the probability of interruption.

- 3.4. Services offered under § 1 and § 3.3 shall:
- a. be developed with proper consultation with storage users to take into account market demand;
 - b. take into account storage technical constraints and the economically efficient use of the storage infrastructure. Any limitation on the offer of services on the grounds of these criteria should be made public under the process of 3.4.a and be duly substantiated.
- 3.5. Where compatible with the balancing regime of the interconnected gas transportation system, the SSO shall offer a service which includes an obligation to allocate the gas which has been nominated, including deemed nominations, if the nomination has been accepted by the SSO.
- 3.6. SSOs shall offer services that are consistent with the use of the interconnected gas transportation systems and facilitate easy access through cooperation with the TSO, in compliance with § 10.
- 3.7. If consistent with PSOs, taking into account technical constraints and the economically efficient use of the storage infrastructure, all services shall be offered without restriction on the starting date and the prevailing physical flow and without any unjustified additional costs in compliance with § 7. Subject to the same constraints, injection and withdrawal of gas should, in principle, be possible at any time.
- 3.8. Limits on the required minimum size of storage capacity rights shall be justified on the basis of technical constraints and permit smaller storage users to gain access to storage services. Storage users should be allowed to pool their nominations with each other with a view to overcome potential technical capacity thresholds. Moreover there should be no undue restrictions based on historical patterns.
- 3.9. The SSO should develop information systems and electronic communication to provide adequate data to storage users and to simplify transactions (such as nominations, capacity booking and transfer of capacity rights between storage users). The SSO shall respond to storage users in a time frame compatible with the storage users' reasonable commercial needs.
- 3.10. Each SSO shall meet the following timetable:
- 3.1, 3.2, 3.3.a, 3.3.c (long term), 3.4, 3.5, 3.6, 3.7 and 3.8: 1 April 2005;
3.3.b, 3.3.c (short term), 3.3.d: 1 April 2006;
3.9: 1 April 2005. Where substantial IT developments are necessary, implementation should be made no later than: 1 April 2006.

4. Storage capacity allocation and congestion management

4.1. Guidelines and Explanations on CAM¹

- a. Transparency: Allocation of storage capacity shall be made transparent by detailed publication of timing, organisation (schedule) and aggregated results of applied allocation mechanisms on the internet in the local language as well as in English. If requested by users, English should also be used by the SSOs when communicating with (potential) storage users.

In order to reach maximal market awareness and to ensure the principle of non-discrimination, SSOs shall publish at least on their website (and common marketing/trading platform(s)) in English and the local language the actual design of the capacity allocation mechanism, including a schedule for regularly applied allocations, the actual procedure and its timing as well as further conditions that may apply and the aggregated results of the process. In order to facilitate transparency, SSOs should provide, for example, the following information, for which the extensiveness depends on cost-benefit analysis/user consultations to find out user needs:

- *Working gas volumes, firm and interruptible withdrawal and injection capacity for each storage facility on a daily and longer term basis (technical, commercialised, subscribed/booked, and available capacity);*
- *Historical interruption data/Historical flows/levels of utilisation at each storage facility;*
- *Planned maintenance operations as far ahead as possible;*
- *Nomination lead times for different capacity products (yearly, monthly, daily);*
- *Clear description of CAM and CMP in the contract terms, so that users are fully aware of their storage access rights and obligations;*
- *Calculation of tariffs;*
- *Contact details;*
- *Nomination lead times;*
- *Ancillary services offered;*
- *Clear information on the applied mechanisms, procedures and necessary steps to request storage capacity or trade capacity on secondary market;*
- *Methods and timing for allocating storage capacity, if under a “ storage rights envelope” giving access to available capacity;*
- *Overview of relevant regulations;*
- *Characteristics of storage groups;*
- *Detailed information provided to storage users in case of unplanned outages (affecting injection and withdrawal rate, impact on storage operation, duration of the disruption...);*

¹ As amended in July 2011. For the full amended guidelines on CAM see the document Amendment of the Guidelines of Good Practice for Third Party Access (TPA) for Storage System Operators (GGPSSO). Guidelines for CAM and CMP, Ref. C11-GST-15-03, 14 July 2011, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_PAPERS/Gas/Tab/C11-GST-15-03_amdt%20GGPSSO%20on%20CAM%20and%20CMP_14-July-2011.pdf

- *Day-ahead service for each storage group (withdrawals per quarter, minimum and maximum price; injections per quarter, minimum and maximum price);*
- *Documents and tools (storage agreement, tool system to help to determine/optimize the storage subscriptions, storage fee calculator...);*
- *Transfer of stored gas (number of registered exchanges, number of customers).*

- b. Consultation with market: Allocation of storage capacity shall be subject to consultation with the market, e.g. concerning the actual design of the allocation mechanism(s).

To accommodate market needs, well-structured regular consultations with actual and potential storage users regarding the actual design of the allocation mechanisms, i.e. auction design, are expected to be a beneficial instrument for the design of optimum allocation, although this does not imply that the design needs to be changed frequently.

- c. Compatibility: Allocation of storage capacity shall ensure, on a best-effort basis, compatibility (e.g. regarding timing/lead time) with the transport capacity allocation mechanism(s) of the connected TSO(s) and the organisation of the gas trading market(s). Consequently, this also requires the alignment of, at least, a basic set of storage and transport products (with regard to duration and lead time for regular allocation) that should be developed in cooperation between SSOs and TSOs.

In order to facilitate a gas market, easy access to storage services is very beneficial. To prevent burdening storage customers when trying to organise related transport services, compatible allocation mechanisms therefore also require the alignment of (the definition of) storage products and transport products (with regard to contract duration and lead times for regular allocation procedures, allocation schedule) of connected TSOs and vice versa. Such an alignment requires SSOs and TSOs to cooperate together to identify the possibility (e.g. introduce floating contracts) and - if possible - define on a best-effort basis a basic set of storage and transport products. These products should be designed in such a way that they are exchangeable or interchangeable. It should be possible to commercialise these standard products on (electronic) trading platforms. In the competitive flexibility markets, the design of CAM should also take into account the organisation of the wholesale and retail markets. More precisely, this implies that products (duration), organisation and timing of storage CAM should be compatible with the organisation of the gas trading market(s).

- d. Combined products: Allocation of storage capacity shall allow for the development of combined storage and respective transport capacity as one product.

To further improve services for storage customers, the further development of compatible storage and transport CAM could be achieved by an integrated storage and transport product, to be developed and offered by SSOs. A combined storage and transport product should be offered if there is market demand for such a service, avoiding that an SSO would be forced to buy transport capacity on

speculation. This would of course imply a close cooperation of the concerned SSO with the respective TSO(s) in the concerned balancing/market. The national regulatory authority (NRA) must be informed in a timely manner when an SSO has the intention to offer combined products.

- e. Balancing market: Allocation of storage capacity shall take into account the needs for balancing markets by offering services which support the balancing, by aligning nomination and renomination periods and procedures to the technical requirements of the physical balancing regime. If technically possible, lead times shall be shortened so that balancing gas can be taken from storage.

Since storage services are often (sometimes even the only resource) used for balancing purposes, SSOs should make sure that the services offered contain, among others, standard products which are compatible with the balancing regime (both in terms of product definition and CAM).

- f. Open subscription period: Allocation of storage capacity shall start with a standardised, transparent, non-discriminatory survey that is fixed to a certain storage product in order to determine market demand for that storage product (open subscription period (OSP)). During the OSP, at least, SSOs shall provide all relevant information including specific storage product descriptions, contract durations and the conditions for the respective CAM(s) to be applied according to the results of the OSP to the potential customers. The SSO should consider providing price information to the potential customers, such as indicative prices. It is up to the discretion of SSOs whether the bids for the product are binding or not. The duration and timing of the OSP should be fixed and aligned to the duration of the respective storage contracts.

An open subscription period (OSP) is a transparent process for evaluation of the demand for a specific storage product. An OSP should be fixed (i.e. for every product a recurring OSP is to be conducted, e.g. every year for a year product). The main aim is to determine the demand situation and in series the most efficient CAM. The allocation process shall always start with an OSP in order to ensure a transparent and non-discriminatory participation of all interested storage customers in the subsequent allocation procedure. The relevant information to be provided during the OSP (at least) must be easily accessible to potential customers and in a user-friendly manner. Furthermore, an SSO should consider providing price information (e.g. indicative price). Some of that data, which is unlikely to be modified over time, like product description, contract durations, general terms and conditions could also be published on a permanent basis. Timing of the OSP should be fixed and aligned to the contract durations.² When the OSP closes, SSOs have an overview of the storage capacity demand for the specific storage product.

² "Fixed": timing provides sufficient time for storage users to contract storage services, ahead of the beginning of the contract. "Aligned to the contract durations": timing reflects the duration of the contract.

Examples: The OSP of a standardised yearly storage contract (representing a calendar year “a”) should regularly last for example from 1.10. until 15.12. of the previous year (a-1), the OSP for a daily storage contract (for day “d”) from 10:00 – 11:30 the day ahead (d-1).

- g. CAM depending on result of OSP: Allocation of storage capacity shall, with respect to the applicable mechanism, be determined by the results of the OSP:
1. If demand exceeds supply – and unless national legislation stipulates differently – auctions should be implemented for allocation of all of the capacity offered with this storage product or service in the preceding OSP. Necessary conditions for applying auctions should be in place (e.g. competition between bidders exists and absence of the possibility to strategically misbehave).
 2. If supply exceeds or is equal to demand, allocation is straightforward.

Straightforward shall be understood as any reasonable non-discriminatory and transparent allocation principle which best considers the market conditions.

An OSP can lead to two different situations: i.e. demand exceeds offer or not. This provision aims at defining a harmonised approach on the CAM to be used to deal with these two situations:

1.) The market for the selected product is tight (demand > offer):

Only if there are no (other) national provisions on the regulatory treatment of storage capacity allocation mechanisms, shall CAMs be adjusted to fit market needs – sufficiently and simultaneously representing the best possible market-based mechanism. In such cases, as long as competition between the bidders and the absence of the possibility to strategically misbehave are assured (two important conditions when performing an auction) and an appropriate reserve price is in place, auctions should be implemented as the CAM of first choice, as such mechanisms are considered to be the most market-oriented and value-reflecting way of allocating (especially scarce) capacity.

In markets with specific national public service obligation (PSO) provisions on storage with respect to, for example, ensuring compliance with gas security of supply obligations, it is noted that SSOs may be required to use alternative allocation arrangements to those recommended in this section to meet those PSOs.

2.) The market for the selected product is not tight (demand ≤ offer):

If the market for the selected product is not tight (demand ≤ offer) allocation is straightforward. In such a case, allocation should take place via an objective, transparent and a non-discriminatory process. Alternatively, SSOs could use auctions, or some other allocation mechanism that provides a similar level of objectivity, transparency and non-discrimination to allocate the capacity.

- h. Monitoring of capacity allocation conditions: Before launching a new mechanism for allocation of storage capacity, an SSO shall offer to discuss the mechanism with its NRA.

Article 17 of Regulation (EC) No. 715/2009 states that an SSO needs to “implement a non-discriminatory and transparent capacity allocation mechanism”. As such, it is the responsibility of an SSO to design the allocation mechanism. Based on Article 41(1) (section n) of Directive 2009/73/EC, a regulatory authority has the duty of “monitoring and reviewing the access conditions to storage” as provided for in Article 33. Furthermore, “in the event that the access regime to storage is defined according to Article 33(3), that task shall exclude the reviewing of tariffs”.

Regulators therefore have, at a minimum, the legal right to undertake an ex-post review of the allocation mechanism. If the allocation mechanism failed to meet the standards of non-discrimination and transparency, the consequence could be the invalidity of storage contracts, which seems to be an additional risk for both the SSO and, above all, the storage customers. CEER therefore believes that, to reduce this risk, SSOs should generally offer to discuss their proposals for any new CAM mechanism with the NRA at an appropriate time before launching the mechanism.

4.2 Guidelines and Explanations on CMP³

- a. Standardisation of Secondary Markets: SSOs should be responsible for the facilitation of secondary markets for storage capacity: the actual implementation/day-to-day operation can be outsourced to a third party. A web-based platform will be provided that enables primary customers (without restraining the possibility for bilateral agreements) to sell unused capacity on the secondary market. It should at least enable primary customers to make an anonymous offer (both bundled and unbundled storage capacity) that is visible to third parties. To foster standardisation, published master agreement templates are used. Furthermore, a lead time for the implementation/acceptation/registration of secondary trades is published. SSOs connected to the same balancing zones or market areas should cooperate (if possible) in the standardisation and consolidation of secondary markets to improve liquidity. The relevant NRA will be consulted in the decision making process. SSOs shall keep a record of all transactions on the secondary market. The collected information shall be communicated to the NRA on request.

This provision aims to ensure that there is an effective platform available where storage customers can trade their firm capacity on a firm basis with other customers. Based on Article 22 of Regulation 715/2009, SSOs are to take reasonable steps to ensure and promote that capacity rights can be freely traded on a transparent and non-discriminatory way. As such, an SSO should therefore be responsible for facilitating the secondary market, but an SSO can choose to

³ As amended in July 2011. For the full amended guidelines on CAM see the document Amendment of the Guidelines of Good Practice for Third Party Access (TPA) for Storage System Operators (GGPSSO). Guidelines for CAM and CMP, Ref. C11-GST-15-03, 14 July 2011, http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_PAPERS/Gas/Tab/C11-GST-15-03_amdt%20GGPSSO%20on%20CAM%20and%20CMP_14-July-2011.pdf

delegate the actual task of running day-to-day business, hiring people, build IT-systems etc. to a third party. SSOs connected to the same balancing zones or market areas should cooperate in the standardisation and consolidation of secondary markets to improve liquidity. Given the complexity of such cooperation relevant NRAs should be involved in this decision making process. It is important that a secondary market exists for each storage facility (which is the aim of these GGP), but the higher aim should be that eventually a national platform is founded where all storage capacity in the market can be traded.

Bulletin boards may be a first step in facilitating secondary markets but a more sophisticated trading platform should be developed according to the market development.

- b. Standardisation of Terms and Conditions: The terms and conditions for access to storage and the processes for operating the secondary market and applying for interruptible products should be standardised, accessible in a timely manner to (potential) customers and published at least on the internet in both English and local language.

This provision aims ensure that the content of storage contracts (including general terms and conditions) is known by (potential) customers who are interested in booking storage capacity. If these conditions are not known in a timely manner, a customer cannot make a good judgement whether it is (commercially) interesting to book storage capacity. Transparency is thus of utmost importance.

Given the fact that storage users in one internal market very often include international companies (that do not always have personnel that speak the national languages of all the storage operators of the EU), any information that is provided by an SSO should also be published in English.

- c. Renomination and unused capacity: A primary customer makes, at best effort, a timely nomination to the SSO on the capacity that will be used. An SSO will make best efforts to stimulate and facilitate primary customers to do so.

*This provision aims to make sure that SSOs have a clear sight on any capacity that is nominated by a primary customer. This will allow the SSO to make a timely and fair prediction of any “unused” capacity (that is marketable on an interruptible basis) so that potential customers can make a timely decision on whether they are interested in buying interruptible capacity or not. Such a timely and fair prediction can only be made by an SSO if primary capacity holders consider in a timely manner their **expected need** for gas flows/capacity utilisations (“timely meaning earlier than the latest possible official nomination time, usually one day before the gas flow day). A primary customer should therefore, at best effort, make a timely nomination (through an initial nomination), but the timing of the best efforts nomination should at least allow for a weekly preview to SSO on capacity use.*

An example of stimulation could be to include a condition in contracts whereby non-binding nominations, on best effort basis, are requested from the user on monthly, weekly, and D-1 basis. This leads to mutual building of experience between users and SSO in management of optimum allocation of potentially scarce storage capacity.

- d. Dynamic Capacity Calculation: Based on the nominations received and their own forecasts, SSOs shall strive to maximise the interruptible capacity products offer (at least on a day-ahead basis but preferably on a longer term basis), by dynamically calculating available capacity taking into account counter-flow nominations and information means available influencing capacity use. Based on dynamic calculations, SSOs may decide to perform a buyback of capacity if there is an actual need for this service and commitment of a user to contract this capacity immediately.

This provision aims at maximising short term capacity offers to the market, because visibility of actually available storage capacity is better the closer the date and time of use is. It is expected that SSOs by experience have data regarding historical flow behaviour and that this information (among other information) can be used to make a prediction. This should both be in the interest of SSOs, who can maximise the selling of their services and users, who in turn can benefit from a higher availability of storage services at least on a short term basis (quarterly, monthly, weekly, daily).

- e. Optimal use of storage and corresponding products: SSOs will offer a reasonable amount of interruptible capacity on a (short) term and with a balanced mix of contract duration. Any unused capacity will be offered in both unbundled and bundled products on an interruptible basis. The design of products should be consulted with current and potential customers. The offered products should be market-based and take into account the needs of storage users but not be overly customised, so as to prevent “1 user only fit”. Any limitations in offering products should only be the result of legal, operational or technical dependencies.

*Through this provision, SSOs will offer any **unused** capacity to make sure that the storage capacity is optimally used and that the selling (and revenues) of any capacity is maximised. SSOs should offer both unbundled and bundled products (consisting of fixed proportions of injection capacity, working gas volume and withdrawal capacity) to ensure that market players can use storage. Offering bundled products may not always be possible e.g. due to legal (re-nomination rights) and/or operational/technical (stock level) dependencies. However, limitations in offering bundled products should only be the result of such legal and/or operational dependencies and products should not be customised to fit one user.*

- f. Information on non-nominated capacity: Information on the amount of nominated storage capacity (on an aggregated level) should be provided by the SSOs on a day-ahead basis and the already sold day-ahead interruptible products. Similar best efforts should preferably apply to longer outlooks. The data should be published on a website in time series (both for unbundled and bundled services) preferably close to real-time. Also historical data on (non) nominated capacity should be published in order to make an estimate of the probability of interruption.

By applying this rule, (un)bundled storage capacity that is not (yet) (re-)nominated on a short term basis will be made more transparent and therefore can more easily be accessed and used by third parties via interruptible capacity. This measure can help – only to a limited extent – to ease the problem of congestion, at least on a short term basis. Concerning publication of non-nominated capacity, it is preferable to update the data close to real-time, because re-nominations can occur at very short notice. Therefore, providing this information in time series (e.g. in a table with additional entries for every half hour) can give holders of interruptible capacity improved transparency on the value (probability of interruption) of their interruptible capacity products. The procedure in the event of an interruption of interruptible capacity, including, where applicable, the timing, extent and ranking of individual interruptions should also be published. Storage customers (being the users of the outlook), should be consulted by the SSOs in order to find a method to gain additional value in their decision making.

- g. Transfer of Working Gas: SSOs will make an effort to facilitate the transfer of working gas of the same storage facility between a primary and secondary customer at the start and end of the duration of the interruptible or firm (bought at secondary market) contract. In case of a working gas transfer, the price should ideally be market-based.

A primary customer will already have a certain amount of gas-in-storage (working volume). Without a proper arrangement, this gas should first be retracted from the storage before the secondary customer can inject gas. Through this provision, a secondary customer is ensured that gas can be retracted immediately once the contract period starts (through a transfer of gas-in-storage). At the end of the interruptible contract, the customer might need to reinject gas, so the original user can start using storage immediately. Given its importance, the transfer of working gas should not bounce due to unreasonable high prices and an SSO can do its utmost to facilitate the transfer of gas in storage. The price in case of a transfer of working gas should ideally therefore be market-based.

- h. Pricing methods: The price for interruptible capacity that a secondary customer should pay reflects the probability of interruption. Other pricing methods, incentivising active storage capacity use – like “auctions and pay as used” – can be used if storage prices are not regulated.

Article 15 (2a) of Regulation 715/2009 states that the price for interruptible capacity is to reflect the probability of interruption. In addition, Article 1 of the same Regulation suggests that storage price principles are not harmonised. A customary option is to use a method where interruptible storage price contains a discount, reflecting the probability of interruption. Another option to promote active storage

capacity use is to use the “pay as used” method, and the use of an auction (under the appropriate circumstances, determined by NRA) is also a possibility. In “pay as used” method the SSO is incentivised to create attractive products, which will be used, as SSO is only paid per withdrawn or injected commodity. In “auctions,” attractive congestion revenues can be generated.

- i. Aggregation and overcoming technical constraints: In case a storage facility has a high minimal flow and/or other technical constraints for relatively small users, SSOs will use reasonable endeavours to aggregate customers' nominations. If aggregated nominations – despite these reasonable endeavours – are below the minimal flow level, SSOs shall cooperate with TSOs to allow a customer to continue to use a storage facility by reasonable measures, taking into account the balancing mechanism applied.

Customers who need to flow a small amount of gas will have difficulty to do so if the minimum flow is high. Through this provision, SSOs shall cooperate with TSOs to allow a customer to continue to use a storage facility by reasonable measures taking into account the balancing mechanism applied. An SSO (in the case of minimal flow and/or technical constraints) should do its utmost to continue offering its service to customers. This could be done in a number of ways (such as offering a virtual storage product backed up by multiple sources of flexibility or e.g. contracting access to linepack with adjacent TSO to overcome minimum flow constraints). It is up to an SSO to decide what measure is best practice in that respect.

- 4.3 In no circumstances should the provisions of § 4.1 and 4.2 prevent customers from changing suppliers at any time of the year.
- 4.2. The SSO shall actively endeavour to discourage hoarding and facilitate re-utilisation and trade of storage capacity by all reasonable means, including at least the offer on an interruptible basis of all unused capacity (e.g. day-ahead release of non-nominated injectability and deliverability).
- 4.3. If, in spite of all measures aimed at preventing capacity hoarding, capacity remains unused and significant and prolonged contractual congestion occurs, the relevant national regulatory authority may according to national law introduce measures to ensure the efficient functioning of the market, including the efficient use of storage capacity.

5. Confidentiality requirements

- 5.1. SSOs should take steps to ensure appropriate arrangements are in place to protect the confidentiality of information, at least including that:
 - a. commercially sensitive information from storage users' account remains confidential. Databases related to storage operations should be kept separate. New IT systems being developed in vertically integrated undertakings should be developed separately for the storage business;

- b. no information available to the SSO concerning its storage business shall be passed to other parts of any affiliate of the company in advance of being provided to all market participants; staff working for any affiliate business (e.g. supply) must have no access to information which could be commercially advantageous, such as details on actual or potential storage users, and is not made available to all market parties. The arrangements to implement this requirement should include a code of conduct for staff and a compliance programme, supervised by a Compliance Officer;
- c. if supply and storage are part of an integrated company, regardless of the internal structure of the company, or when there are no separate computer systems, specific confidentiality duties must be clearly defined. It shall be incumbent upon the companies concerned, upon request of the relevant national regulatory authority, to prove an effective establishment of firewalls between the SSO and the supply branch of the vertically integrated company. The arrangements to implement the above requirements should include a code of conduct for staff (including a compliance programme), supervised by a Compliance Officer;
- d. cost effective solutions should be implemented to ensure that the SSO and the supply business are not located in the same place. The SSO and the supply business should be located in separate buildings, provided such a measure is proportionate.

6. Transparency requirements

- 6.1. SSOs should implement user-friendly systems to make public the information specified below in a timely manner in national language and in English on the Internet. Information shall be disclosed in a meaningful, quantitatively clear and easily accessible way and on a non-discriminatory basis.
- 6.2. Non-confidential information must be provided promptly and on the same time scale to all users on a non discriminatory basis. User(s) may request the SSO not to publish information about the aggregate use of storage if such publication would harm the commercial interest of user(s). In cases of non-publication, the relevant national regulatory authority will, when requested by relevant parties, review the decision not to publish. In doing so it will balance the commercial sensitivity of information against the public interest for transparency. If it considers that the reasons for non-publication are not proportionate, are unfair, or discriminatory, the relevant national regulatory authority can require that the SSO publishes the information. In any respect, information should always be published by the SSO when three or more storage users have been allocated capacity by virtue of contractual or any other similar arrangements, excluding the portion used for production operations, and excluding capacities reserved exclusively for transmission system operators in carrying out their functions.
- 6.3. The SSO shall notify the relevant national regulatory authority, without any unreasonable delay, where it has not published specific data (e.g. for reasons of costs, to avoid any potential market abuse or to avoid significant harm to their commercial interests). The relevant national regulatory authority can require further details from the SSO, including substantiated reasons, for non-publication. If the reasons for non-publication are not proportionate, are unfair, or discriminatory, the

relevant national regulatory authority can require that the SSO publishes the information. In any case, according to article 19(3) of the Gas Directive, the main commercial conditions are to be published. In case of non publication, the information should be made available to the relevant national regulatory authority upon its request.

- 6.4. The following commercial terms should be published on the internet:
 - a. in rTPA, the tariffs and tariff methodologies for each service offered shall be published ex ante. In nTPA, the main commercial conditions including the prices for standard services must be published and updated whenever the SSO changes them; prices and underlying criteria (if applicable) should be made available to the relevant national regulatory authority at least in case of disputes;
 - b. services offered, the storage code (if applicable), the main storage standard conditions for each service outlining the rights and responsibilities of all users (including rules for counter flows during injection or withdrawal and the rules (if any) of storage capacity transfer in case of customer switching);
 - c. storage capacity allocation, congestion management and anti-hoarding and re-utilization provisions, auction terms where applicable and rules applicable for storage capacity trade on the secondary market vis-à-vis the SSO;
 - d. the rules and the charges applicable to storage penalties from storage users and compensation payments from the SSO to storage users.

- 6.5. The following operational information shall be published, for a given storage facility or for a group of storage facilities in the same balancing zone where access is provided to this group, via an online information system (in energy units or normalised cubic meters, according to interoperability criteria) to provide system users with sufficient and timely information in order to gain effective and efficient access to storage facilities:
 - a. technical, available and unused storage capacity (firm and interruptible where applicable);
 - b. for each storage site or group of storage facilities, aggregated inflows and outflows and historical utilization rates at least on a weekly basis for the immediately preceding week;
 - c. user-friendly instruments for calculating charges for a specific service (e.g. a tariff calculator) and for verifying online the level of available and/or unused storage capacity;
 - d. maps indicating the location of their storage facilities and the connecting points of the storage facilities to the relevant network;
 - e. the rules (if any) of transfer of storage capacity and injection and withdrawal capacity in case of customer switching.

- 6.6. The following information shall be published:
 - a. the method of determining available storage capacity and the operational parameters, including the rules of ownership and use of working gas;
 - b. TSO's pre-emptive rights with operational rules and processes attached;
 - c. any storage capacity not available to TPA on the grounds of article 2(9) of the Gas Directive with substantiated reasons.

- 6.7. Information described in § 6.4, 6.5 and 6.6 shall be updated in an appropriately timely fashion.
- 6.8. The SSO shall publish at least once a year, by a pre-announced deadline, all planned maintenance periods that might affect storage users' rights from storage contracts and the corresponding operational information with adequate advance notice. Where unplanned disruptions in access to the storage services occur, the SSO shall ensure current system users are notified of that disruption as soon as possible. During maintenance periods, the SSO shall regularly publish updated information on details, expected duration and effect of the maintenance. The SSO shall maintain and make available upon request to the relevant national regulatory authority and/or to those affected by any disruption information concerning the maintenance and disruptions that have occurred.
- 6.9. Storage users shall not be separately charged for information requests and transactions associated with their contracts according to standard rules and procedures (e.g. nominations). Expenses for requests not linked to general SSO roles and responsibilities and transparency requirements can be separately charged.
- 6.10. SSOs shall meet the deadlines on 1st April 2005. Where substantial IT developments are necessary, implementation should be no later than 1 April 2006.

7. Tariff structure and derivation

- 7.1. Where regulated, the tariff structure of the SSO should:
 - a. reflect efficiently incurred costs of access to storage facilities including a fair return on investment, both in the case of direct access to a specific storage site and access to a group of storage sites;
 - b. reflect the geological nature of the storage facility or facilities;
 - c. avoid cross subsidies between storage users;
 - d. promote efficient commercialisation and use of storage;
 - e. promote adequate and efficient investments according to users' needs, feasibility and technical constraints;
 - f. be clear and transparent;
 - g. be reviewed on a regular basis taking into account developments in the market; and
 - h. where appropriate, international benchmarking of tariffs may be taken into account and applied in a non-discriminatory manner.
- 7.2. Where negotiated, SSOs shall adopt any charging principles and/or tariff structures compliant with non-discrimination principles (e.g. that shall not restrict market liquidity of storage capacity, create undue barriers to market for new entrants or cross-subsidies between system users). Pursuant to Article 25 of the Gas Directive, in case of disputes, the relevant national regulatory authority shall determine appropriate arrangements. The SSO shall maintain records to enable the relevant national regulatory authority to determine the conditions of access including costs and prices

already levied on other users of that facility for the similar services. In nTPA regimes, charges shall:

- a. be non-discriminatory; prices should be the same for any storage user for the same service contracted for at the same time and under the same conditions; they should only vary subject to adaptations/changes on the grounds of varying circumstances;
- b. promote efficiency and facilitate competition in the use of storage services;
- c. provide for appropriate incentives on new investments according to storage users' needs, feasibility and technical constraints;
- d. be negotiated in a time frame compatible with the storage users' reasonable commercial needs.

8. Storage penalties

8.1. Storage penalties may be established to ensure that the SSOs and the storage users respect their contractual obligations:

- a. the SSO may be exposed to storage penalties (such as compensation payment to the storage users) in the event that it fails to fulfil contractual obligations, as set out in the storage code/contract;
- b. storage users may be exposed to storage penalties (such as overrun and scheduling charges) as an incentive to ensure they nominate and use storage capacity consistently with the capacity rights they have procured either on the primary or secondary market.

8.2. Where they are established, storage penalties shall:

- a. be proportionate and designed in a non-discriminatory and transparent manner, based on objective criteria;
- b. not hamper the entry of new participants into the market;
- c. be cost-reflective to the extent possible, whilst providing incentives for the appropriate use of storage capacity.

9. Secondary market

9.1. The SSO shall allow and facilitate bundled and unbundled services to be freely tradable between registered users in a secondary market without any undue restrictions, develop standardised contracts and procedures on the primary market to facilitate secondary trade, and recognise the transfer of rights where notified by storage users. SSO must allow the new owner to aggregate such storage capacity with its existing storage capacity operationally as long as it is compatible with the kind of services available on the primary market.

9.2. Once there is a market demand SSOs shall provide cost-reflective services (such as an electronic platform or bulletin board) to facilitate secondary storage capacity trading and associated transfer of storage capacity rights between storage users.

9.3. SSOs shall meet the following timetable:

1 April 2005: bulletin board without title transfer;

1 April 2006: implementation of the other provisions to allow for title transfer. Where substantial IT developments are needed the implementation of the other provisions shall be no later than 1 December 2006.

10. **Cooperation with TSOs**

10.1. SSOs should co-operate with the TSOs in order to ensure interoperability between both systems, e.g.:

- a. provide services consistent with those offered by the adjacent TSO and required so as to ensure the efficient use of the interconnected transmission system;
- b. render operational procedures, such as nomination, compatible with those of the adjacent TSOs;
- c. ensure re-nomination procedures match market participants' requirements;
- d. ensure consistency in matching relevant storage arrangements with the balancing requirements of the adjacent transmission system.

Annex: Definitions

1. Available storage capacity means the part of the technical storage capacity that is not contracted or held by storage users at that moment and still available to the storage users for firm and interruptible services, excluding the portion used for production operations and capacity reserved exclusively for transmission system operators in carrying out their functions.
2. Deemed nomination is a request for the use of storage capacity which has been made by the storage user or on behalf of it by an agreed third party, for example in relation to national balancing requirements.
3. Deliverability is the amount of gas that can be delivered (withdrawn) from a storage facility per time unit. The deliverability of a given storage facility is variable, and depends on factors such as the amount of gas in the reservoir at any particular time, the pressure within the reservoir, compression capability available to the reservoir, the configuration and capabilities of surface facilities associated with the reservoir, and other factors. In general, a facility's deliverability rate varies directly with the total amount of gas in the reservoir: it is at its highest when the reservoir is most full and declines as working gas is withdrawn.
4. Final customer means customers purchasing natural gas for their own use.
5. Firm capacity is storage capacity contractually guaranteed as uninterruptible by the SSO.
6. Firm services are services offered by the SSO in relation to firm capacity.
7. Injectability is the complement of the deliverability or withdrawal rate. It is the amount of gas that can be injected into a storage facility per time unit. The injection capacity of a storage facility is also variable, and is dependent on factors comparable to those that determine deliverability. By contrast, the injection rate varies inversely with the total amount of gas in storage: it is at its lowest when the reservoir is most full and increases as working gas is withdrawn.
8. Interruptible services are services offered by the SSO, in relation to interruptible storage capacity.
9. Interruptible storage capacity is storage capacity that can be interrupted by the storage system operator according to the conditions stipulated in the storage contract/storage code. The contract/code may specify the permitted duration, frequency and timing of the interruptions. It may also specify the previous notice required and possibly a fee related to the duration of the interruptions.
10. National regulatory authorities are the bodies as assigned by national law with the responsibilities as defined by Article 25 of the Gas Directive.
11. Nomination means the prior reporting by the storage user to the SSO of the actual flow that he wishes to inject into or withdraw from the system.
12. Primary storage market means the market of the storage capacity directly traded by the SSO.

13. PSO means Public Services Obligations.
14. Re-nomination means the reporting of a corrected nomination.
15. SBU means Standard Bundled Unit. Storage capacity may be sold in SBUs, which gives customers the right to withdraw, inject and hold gas in store, with determined technical ratios. SBUs should reflect the technical characteristics of the storage facility or a group of storage facilities (aquifer, peak-shaving...).
16. Secondary market means the market of the storage capacity traded otherwise than on the primary market.
17. Storage capacity is space (expressed in normal cubic meters or energy), injectability and deliverability (expressed in normal cubic meters or energy per time unit). All of them can be firm or interruptible.
18. Storage facility means a facility used for the stocking of natural gas and owned and/or operated by a natural gas undertaking, including the part of LNG facilities used for storage but excluding the portion used for production operations, and excluding facilities reserved exclusively for transmission system operators in carrying out their functions (Gas Directive).
19. Storage penalty is the additional charge that storage system operators/storage users may have to pay after not respecting their contractual obligations.
20. Storage system operator (SSO) means a natural or legal person who carries out the function of storage and is responsible for operating a storage facility.
21. Storage user means a customer of a SSO which would sign the relevant storage code or enter into storage contracts with SSOs for storing gas. Storage users may include, but are not limited, to final customers, supply undertakings, wholesale customers, traders and TSOs, to the extent that storage is necessary for the TSOs and DSOs to carry out their functions.
22. Technical storage capacity is the maximum storage capacity (injectability, deliverability and space) that the SSO can offer to storage users, excluding storage capacity for SSOs operational needs.
23. TSO means transmission system operator.
24. Unbundled storage service means that space, injectability, deliverability can be traded separately.
25. Unused Storage Capacity is any part of the technical storage capacity that has not been nominated for use, excluding capacity reserved exclusively for transmission system operators in carrying out their functions.
26. Withdrawal rate: see Deliverability.