

Master Agreement
For Storage Services

- MA Storage-

between

E.ON Energy Trading SE, Holzstrasse 6, 40221 Düsseldorf, Germany

- hereinafter referred to as "EET" -

and

E.ON Ruhrgas AG, Huttropstrasse 60, 45138 Essen, Germany

- hereinafter referred to as "ERG" -

- EET and ERG hereinafter each individually referred to as a "Party" and collectively referred to as "the Parties" -

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Preamble

WHEREAS, ERG and EET are affiliated companies of the E.ON group, and the E.ON group conducts business activities in the entire value chains of the power and gas business that range from power generation and gas production to distribution and customer sales.

WHEREAS, EET is the centralized trading unit of the E.ON group focusing on the European energy and energy-derivatives wholesale trading markets, in particular by holding access to the main European commodity exchanges, broker platforms and other OTC-markets.

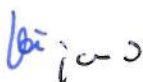
WHEREAS, ERG and EET receive or could receive gas storage and/or flexibility services from External Counterparties under separate agreements (“Underlying Storage Services Agreements”), and the respective other Party has or could have an obligation to provide certain gas storage services and ancillary flexibility services to External Counterparties under separate agreements.

WHEREAS, the Parties desire or could desire to provide each other with gas storage services and ancillary flexibility services (“Storage Services”) on the basis of certain contracts (“Asset Contracts”).

WHEREAS, under each Asset Contract the Customer is both entitled and obliged to purchase Storage Services from the Supplier and the Supplier is both entitled and obliged to sell such Storage Services to the Customer, in accordance with the terms and conditions of such Asset Contract.

WHEREAS, the price to be paid by the Customer to the Supplier for the Storage Services is to be calculated according to what is set out in this Master Agreement.

WHEREAS, the actual sale and purchase of Storage Services is agreed and executed under the Asset Contracts.



Terms used in this Master Agreement shall have the meanings set out in the **Annex “Definitions”**.

Accordingly, the Parties agree as follows:

Article 1

Scope of Application, Resolution of Conflicts and types of Storage Services

- 1.1 This Master Agreement applies to those Asset Contracts in which the application of this Master Agreement is explicitly agreed upon.
- 1.2 In the event a provision of this Master Agreement conflicts with a provision of an Asset Contract, the latter shall prevail.
- 1.3 This Master Agreement and the respective Asset Contracts (if applicable for the relevant Asset Contract) distinguish between Short Term Capacity and Long Term Capacity and provide for different provisions for these different types of Storage Services, in particular with regard to pricing and applicable transfer procedures.

Article 2

Pricing

- 2.1 When the Customer purchases Short Term Capacity under an Asset Contract, the following elements of remuneration (Price Elements) shall apply:
 - (1) a Standing Charge as described in Art. 2.3 and defined in **Annex 2.3**;
 - (2) a Recalculation Payment as described in Art. 3 and defined in **Annex 3**;
 - (3) a Commodity Payment as described in Art. 2.4 and defined in **Annex 2.4**;and

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- (4) a Remuneration for Optimisation Activities - as specified in Art. 10.1 - provided by the Customer to the Supplier and calculated according to **Annex 10.1**.
 - (5) a compensation for non-availability of Transportation Services as specified in Art. 2.6.
- 2.2 Each of the Price Elements (1) and (3) is payable by the Customer to the Supplier. Price Element (2) is payable by the Customer to the Supplier if positive and payable by the Supplier to the Customer if negative. Price Elements (4) and (5) are payable by the Supplier to the Customer.
- 2.3 The Standing Charge for Short Term Capacity reflects the market value of the Short Term Capacity provided to the Customer under an Asset Contract taking into account the forward prices derived from the trading markets, the historical price volatility and the flexibility of the Short Term Capacity under each Asset Contract. The Standing Charge is calculated during each Storage Year “y” in respect of the pricing of the Storage Services provided for the Storage Year “y+2” in accordance with the methodology set forth in Annex 2.3. All Price Elements are to be stated in the currency which is the legal tender at the seat of the Supplier.
- 2.4 The Commodity Payment is the payment for the variable cost associated with the injection of gas into and the withdrawal of gas from storage for each Asset Contract in accordance with the methodology set forth in **Annex 2.4**.
- 2.5 When the Customer purchases Long Term Capacity under an Asset Contract, the pricing mechanism as defined in **Annex 2.5** shall apply. In addition, a compensation for non-availability of Transportation Services as specified in Art. 2.6 may apply.

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- 2.6 The quantity of Transportation Services required to fully use the transferred Storage Services shall be calculated and provided by the Supplier to the Customer in accordance with each Asset Contract. Whenever the Supplier does not provide the required Transportation Services to fully use the Storage Services, the Parties can agree on an adequate compensation for the Customer in the respective Asset Contract.

Article 3

Changes in Contract Parameters

If at any point during or after the process of the Standing Charge calculation in respect of an Asset Contract one of the Parties becomes aware of any change in the Contract Parameters or Marginal Transportation Costs used for the calculation of such Standing Charge for Short Term Capacity or notified at the time of sale of Long Term Capacity, this Party shall notify the other Party about this change as soon as reasonably practicable and the procedure specified in **Annex 3** shall apply.

Article 4

Invoicing and Payments

- 4.1 EET is responsible for calculating all payments set out in Art. 2.1 and 2.5 (Remuneration Payments) and for issuing specifications of such Remuneration Payments regardless if EET is the Supplier or the Customer. The calculations and specifications of the Remuneration Payments have to be provided to the Supplier by the 5th Working Day after the end of each Delivery Month at the latest.
- 4.2 The Parties shall provide each other with all relevant data for the calculation of such Remuneration Payments.
- 4.3 The Supplier will issue to the Customer invoices regarding the Delivery Month not later than the 10th Working Day after the end of the Delivery Month. In the event that EET has not provided calculations and specifications in accordance with Art. 4.1 by the 5th Working Day after the end of the Delivery Month, the Supplier may invoice the Customer a reasonably estimated amount.
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- 4.4 Remuneration Payments shall be due on the 10th Working Day following the receipt of the invoice. Overdue payments shall accrue interest from, and including, the due date to, but excluding the date of payment, at an interest rate corresponding to the German Civil Code (BGB) as stipulated in § 288 BGB.
- 4.5 Any prices, fees, costs and other charges invoiced in accordance with this Master Agreement and/or any Asset Contract are net amounts and subject to any applicable taxes and charges.

Article 5

Modification of Underlying Storage Services Agreements and Negotiation of new Underlying Storage Services Agreements

- 5.1 In case of any modification of the terms (price etc.) of an Underlying Storage Services Agreement to which an Asset Contract relates and if such modification has an impact on the Standing Charge, a Recalculation of the Standing Charge pursuant to Annex 3 is required for any affected period for which a Standing Charge has already been calculated. Any changes occurring after the Delivery Day of Storage Services shall not result in any payments (or changes to payments already made) between the Parties.
- 5.2 In case of the Supplier entering into renegotiations with External Counterparties regarding Underlying Storage Services Agreements, to which an Asset Contract relates, which could impact the terms and conditions of an Asset Contract, the Supplier shall carry out such renegotiation in co-operation with the Customer, provided the Storage Services affected by the renegotiations have not already been delivered to the Customer. For the avoidance of doubt the Supplier takes all decisions concerning such renegotiations.
- 5.3 In case the Customer identifies an opportunity to renegotiate the terms and conditions of Underlying Storage Services Agreements to which an Asset Contract relates, the Customer shall inform the Supplier accordingly and the

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Customer shall be kept fully informed as to how discussions progress with the External Counterparty. For the avoidance of doubt the Supplier takes all decisions concerning such renegotiations.

- 5.4 In the event that any of the Parties negotiates a new Underlying Storage Services Agreement with an External Counterparty for which deliveries are planned under a new Asset Contract, Art 5.3 of this Master Agreement shall apply accordingly.

Article 6

Information Exchange and Documentation

- 6.1 The Parties shall use all reasonable endeavours to enable each other to fulfill their obligations under this Master Agreement. In particular, each Party shall submit to the other Party all data (be it as hard copy or in electronic format) required for the performance of the obligations under this Master Agreement as well as any explanations relating to this data.
- 6.2 In particular, EET will provide sufficient information (including all input parameters used for the price calculation) and access to the calculation models used under this Master Agreement to ERG in order to allow the checking of the calculation of remuneration according to this Master Agreement. ERG has the right to ask EET for detailed explanations of the price calculation and EET is obliged to provide all said information.
- 6.3 Any Party that wants to object to any calculation or specification provided by the other Party shall do so in writing within 5 Working Days upon receipt of such calculation or specification. Failure to do so shall be deemed to be an acceptance of such calculation or specification.
- 6.4 The Parties shall be obliged to properly document the performance of their obligations under this Master Agreement. The documentation must be prepared in such a way that an expert third-party or relevant authority could gain insight into the calculation of the remuneration of the transactions executed under this Master Agreement. This documentation shall be kept for at least 10 years after the end of the

Delivery Year. At the request of one of the Parties the other Party is obliged to make available the respective documentation to the requesting Party.

- 6.5 The Parties shall exchange in writing lists of contact persons responsible for the operation of this Master Agreement and of the respective Asset Contracts (**Annex 6.5**) and keep this list up to date.

Article 7

VAT, Customs and other Tax Issues

- 7.1 All amounts referred to in this Master Agreement are exclusive of VAT.
- 7.2 The Parties are dependent companies of E.ON AG as the controlling company according to Sec. 2 para. 2 no. 2 Umsatzsteuergesetz (*German VAT Tax Group*) and shall not invoice the other Party with VAT.
- 7.3 In the event that ERG or EET withdraws from the German VAT Tax Group, EET shall pay and invoice to ERG and ERG shall pay and invoice to EET VAT at the applicable VAT rate.
- 7.4 All payments referred to under this Master Agreement are exclusive of any customs and excise duties. If deliveries under this Master Agreement (or any Asset Contract) are subject to customs and excise duties each of ERG or EET shall state these customs and excise duties separately on the invoice and the other Party shall pay such amounts.
- 7.5 All payments referred to in this Master Agreement shall be made without any withholding of or deduction for any taxes to be paid unless such withholding or deduction is required by tax law.

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Article 8 Miscellaneous

- 8.1 EET may delegate the execution of the tasks imposed on it under this Master Agreement - either partly or completely - to other companies of the E.ON group, ERG included. In such event, EET is obliged to inform ERG of such delegation. The execution of the tasks cannot be delegated by EET to another company of the E.ON group without the prior agreement about the terms and conditions of the delegation between EET and the other company.
- 8.2 The rights arising under this Master Agreement cannot be assigned by any Party to any third party without the prior written consent of the other Party. For the avoidance of doubt it is noted that section 354 a of the German Commercial Code (*Handelsgesetzbuch*) remains unaffected.

Article 9 Legal Effect and Termination

- 9.1 The term of this Master Agreement shall be from the Effective Date until 31 December 2011. This Agreement shall be automatically renewed for another year, if not terminated by the Parties according to Art. 9.2 or 9.3.
- 9.2 Each Party shall be entitled to terminate this Master Agreement with the termination date as at 31 December of each calendar year by providing the other Party with a 12- month-prior written notice of termination. In accordance with Art. 9.1, a first-time termination of this Master Agreement shall only be admissible as at 31 December 2011.
- 9.3 Notwithstanding Art. 9.2, in the event of E.ON AG either owning - directly or indirectly - 50% or less of the shares representing the equity capital of any Party or otherwise losing control over any Party, either Party shall be entitled to terminate this Master Agreement with immediate effect.

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- 9.4 No such termination as mentioned in Art. 9.2 and 9.3 shall have retroactive effect on those rights and obligations arising under this Master Agreement which were created or existing prior to the termination becoming effective. With regard to Storage Services for which a Standing Charge has already been fixed under this Master Agreement - but which at the time the termination becomes legally effective, have not yet been delivered - **Annex 9.4** shall apply.
- 9.5 If this Master Agreement is terminated, all Asset Contracts concluded by ERG and EET which refer to this Master Agreement are automatically terminated and **Annex 9.4** shall apply.
- 9.6 For the avoidance of doubt, a termination of an Asset Contract that refers to this Master Agreement does not result in the termination of this Master Agreement. However, Art. 9.4 applies accordingly.

Article 10

Optimisation Activities

The Customer shall perform Optimisation Activities as specified in **Annex 10.1**. In particular, the Customer is responsible for the planning of scheduling and dispatching of the injection and withdrawal of gas under an Asset Contract. In this regard, the Customer takes into consideration all regulatory frameworks and technical features of the market, which determine and affect the respective injection and withdrawal of gas. Moreover, the Customer will be responsible for the optimal use of all flexibilities under an Asset Contract.

Article 11

Form and Modification of this Master Agreement

- 11.1 This Master Agreement was prepared in writing in two originals, one for each Party. Any amendment of this Master Agreement or any Asset Contract subject to it, including this provision, shall only be considered as valid and binding on the Parties if executed in writing by the Parties.

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- 11.2 Art. 11.1 also applies to amendments and supplements of the Annexes of this Master Agreement.
- 11.3 In case of significant changes of the economic circumstances having material influence on the commercial basis of this Master Agreement, the Parties shall mutually agree upon any necessary amendments or modifications of this Master Agreement in order to properly reflect such changes.

Article 12

Applicable Law

This Master Agreement is governed by and shall be construed in accordance with the laws of Germany.

Article 13

Confidentiality

- 13.1 During the term of this Master Agreement and at any time after its expiration, the Parties shall preserve in strict confidence any information exchanged - be it in writing, recorded in any other manner or in oral form - between the Parties in course of the negotiations and performance of this Master Agreement and any Asset Contract (hereinafter referred to as the "Confidential Information"). Confidential Information shall include, but is not limited to, technical, financial, commercial, marketing, production and operating information or data regarding the Parties or their customers, trading and co-operation partners.
- 13.2 Confidential Information, however, shall not include information which
- (a) is disclosed to third parties with the other Party's prior written consent;
 - (b) is disclosed by a Party to its directors, employees, affiliates, agents,

professional advisors, bank or other financing institution or rating agency;

- (c) is disclosed to comply with an applicable law, regulation, or rule of any exchange, system operator or regulatory body, or in connection with any court or regulatory proceeding; provided that all Parties shall, to the extent practicable and permissible under such law, regulation, or rule, use reasonable efforts to prevent or limit the disclosure and to give the other Party prompt notice of it; or
- (d) is in or lawfully comes into public domain other than by a breach of this confidentiality obligation.

Article 14

Mediation / Arbitration Clause

- 14.1 In the case of a dispute arising from this Master Agreement or from an Asset Contract, the Parties shall first attempt to reach a settlement through negotiations and if such negotiations fail to settle the dispute refer the dispute to the head of Commodity Portfolio Optimisation of E.ON AG or the successor organisational unit for mediation. If a settlement still cannot be reached the dispute shall be referred to the head of Trading & Optimisation of E.ON AG or the successor organisational unit for mediation. As a final instance, the COO of E.ON AG shall settle the dispute with binding effect for the Parties.
- 14.2 The Parties do not intend that any third party shall have any rights under or be able to enforce this Master Agreement and the Parties exclude to the extent permitted under applicable law any such third party rights that might otherwise be implied.

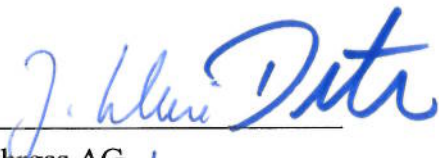
Article 15

Severability Clause

The invalidity or unenforceability of any provision of this Master Agreement shall not

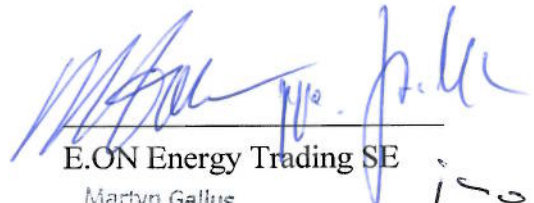
affect its overall validity. Instead of the invalid or unenforceable provision, such a provision shall come into effect which comes closest to the economic objective pursued by the Parties with the invalid or unenforceable provision. The same applies to any gaps in this Master Agreement.

Essen, 20 August 2009



E.ON Ruhrgas AG


Düsseldorf, 28 August 2009



E.ON Energy Trading SE
Martyn Gallus
Managing Director


Annex "Definitions"

Ask Price	A price offered by a trader selling into the market
Asset Contract	As described in the Preamble
Bid Price	A price offered by a trader buying in the market
Bid-Ask Spread	As defined in Article A2.3.14
Commodity Payment	As defined in Article 2.4 and Annex2.4
Confidential Information	As defined in Article 13.1
Contract Parameters	As defined in Article A2.3.8
Customer	The recipient of Storage Services under an Asset Contract
Day	A period starting at 06:00 on one day and ending at the expiry of 05:59 on the next day
Delivery Day	A Day in which Storage Services are to be delivered under an Asset Contract.
Delivery Month	A Month in which Storage Services are to be delivered under an Asset Contract.
Delivery Year	A Storage Year in which Storage Services are to be delivered under an Asset Contract.
Effective Date	Shall be the date this Master Agreement is signed by the last Party.
E.ON group	E.ON AG and all affiliated companies according to § 15 AktG.
External Counterparty	Any party other than ERG and EET having contracted or contracting in the future with ERG and / or EET
Fast Churn	Means less than 20 days per complete churn
Forward Prices	Means the Gas Forward Price
gas	Any hydrocarbons or mixture of hydrocarbons and other gases consisting primarily of methane which at a temperature of 15 °C and atmospheric pressure are or is predominantly in the gaseous state
Gas Forward Price	The forward price for gas for the relevant period and market as defined in A2.3.11
Historic Outturn Prices	The closing prices for Delivery Days in a specified period in the past quoted for the market into which the respective storage delivers. The closing prices for the respective Delivery Days shall be the mean of the Bid and Ask Prices as quoted for the respective Delivery Day on the last Trading Day before the Delivery Day.
Injection Capacity	As defined in Article A2.5.2
Injection Capacity Price	As defined in Article A2.5.2
Injection Commodity Cost	As defined in Article A2.3.8(g)
Inventory	The quantity of gas held in storage
Inventory Adjusted Injection Factor	As defined in Article A2.3.8(b)


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Inventory Adjusted Withdrawal Factor	As defined in Article A2.3.8(d)
Long Term Capacity	Storage Services which are transferred within Storage Year “y” and which are to be delivered during Storage Years “y+x” (where $x > 2$).
Marginal Transportation Costs	As defined in Article A2.3.16
Maintenance	As defined in Article A2.3.8(i)
Market Component	As defined in Article A2.3.6
Market Parameters	As defined in Article A2.3.10
Master Agreement	All provisions and regulations of this Master Agreement For Storage Services including all its Annexes
Maximum Injection Quantity	As defined in Article A2.3.8(a)
Maximum Inventory	As defined in Article A2.3.8(e)
Maximum Withdrawal Quantity	As defined in Article A2.3.8(c)
Mean Reversion Rate	As defined in Article A2.3.12
Mid Churn	Means more than 20 days and less than 60 days per complete churn
Minimum Inventory	As defined in Article A2.3.8(f)
Month	A period from (and including) the first Day of any calendar month to (and including) the last Day of the calendar month
Optimisation Activities	As defined in Article 10.1 and Annex 10.1.
Party	As defined on the cover page of the Master Agreement
Price Curve	Means a forward price curve as referred to in A2.3.17
Price Curve Documentation	Means the documentation describing how a Price Curve is generated, as referred to in A2.3.17(c).
Pricing Month	A Month in which the rights and obligations of Short Term Capacity under an Asset Contract are being priced.
Pricing Year	A Storage Year in which the rights and obligations in respect of Short Term Capacity under an Asset Contract are being priced.
Recalculation	A recalculation of the Standing Charge calculated in accordance with Annex 3.
Recalculation Payment	As defined in Article A3.6
Recalculation Gas Forward Price	As defined in Article A3.7
Recalculation Market Parameters	As defined in Article A3.7
Remuneration for Optimisation Activities	As defined in Annex 10.1
Remuneration Payments	As defined in Article 4.1
Sales Revenue	As defined in Article A2.5.3

Seasonal Churn	Means more than 60 days per churn
Short Term Capacity	Storage Services which are transferred within Storage Year “y” and which are to be delivered within the Storage Year “y+2”.
Standing Charge	The price paid by the Customer to the Supplier to reflect the value of Short Term Capacity as defined in Article A2.3.1 or the value of Long Term Capacity as defined in Article A2.5.1.
Storage Model	Quantitative Energy Model (QEM) gas storage valuation application as developed by Tristram Scott
Storage Services	As defined in the fourth Preamble
Storage Year	A period commencing on (and including) the Day of 1 April and ending on (and including) the Day of the immediately following 31 March and – for contracts delivering into the UK – a period commencing on (and including) the Day of 1 May and ending on (and including) the Day of the immediately following 30 April.
Summer	A period commencing on (and including) the Day of 1 April and ending on (and including) the Day of the immediately following 30 September
Supplier	The supplier of Storage Services under an Asset Contract
Target Price	As defined in Article A2.5.2
Transportation Services	Means (i) long term or short term firm and/or interruptible entry capacity and firm and/or interruptible exit capacity, (ii) virtual reverse flow capacity and/or (iii) optimization of transportation portfolio for those transportation systems as required for the fulfilment of Storage Services to be provided under an Asset Contract.
Trading Day	A day on which gas is traded in the relevant market and a price is published by an agreed source
Underlying Storage Services Agreement	As defined in the third Preamble
Volatility	The annualised volatility of Historic Outturn Prices as determined in A2.3.13
Winter	A period commencing on (and including) the Day of 1 October and ending on (and including) the Day of the immediately following 31 March
Withdrawal Capacity	As defined in Article A2.5.2
Withdrawal Capacity Price	As defined in Article A2.5.2
Withdrawal Commodity Cost	As defined in Article A2.3.8(h)
Working Day	A day (other than a Saturday or a Sunday) which is not a public holiday in Northrhine-Westfalia and on which the clearing banks in Frankfurt are open for business
Working Gas Capacity	As defined in Article A2.5.2
Working Gas	As defined in Article A2.5.2

Capacity Price	
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Annex 2.3

Calculation of Standing Charge for Short Term Capacity

- A2.3.1 The Standing Charge is the price for each Delivery Month under each Asset Contract for the right to make nominations of gas flows to and from storage, to make use of other flexibility services and to store own gas under the respective Asset Contracts. The Standing Charge for Short term Capacity reflects the Market Component of the contractual rights and obligations as specified in the Asset Contract taking into account the forward prices derived from the trading markets, the historical price volatility, the mean reversion rate, the variable costs and the flexibility of Storage Services under each Asset Contract.
- A2.3.2 The Standing Charge for Short Term Capacity shall be determined during Storage Year Y (the Pricing Year) in respect of the second Storage Year ahead Y+2 (the Delivery Year).
- A2.3.3 Following the end of each Pricing Month within the Pricing Year the Market Component shall be calculated for the Delivery Year in accordance with A2.3.6 and following the end of the Pricing Year the Remuneration for Optimisation Activities shall be calculated for the Delivery Month in accordance with and Annex 10.1.
- A2.3.4 Following the end of the Pricing Year, the Standing Charge for Short Term Capacity for every Month within the Delivery Year (each a Delivery Month) shall be calculated as follows:

$$SC_{M,c} = \frac{1}{l} SC_{Y,c}$$

Where:

$SC_{M,c}$ is the Standing Charge for Short Term Capacity for Delivery Month M and Asset Contract c

$SC_{Y,c}$ is the Standing Charge for Short Term Capacity for Delivery Year Y and Asset Contract c, calculated as follows:

$$SC_{Y,c} = \frac{1}{l} \sum_{p=1}^l MC_{Y,c,p}$$

Where:

p is an index specifying each Pricing Month of the Delivery Year

$MC_{Y,c,p}$ is the Market Component for Delivery Year Y and Asset Contract c calculated at the end of Pricing Month p

l is the time period of pricing / number of Pricing months ($1 \leq l \leq 12$)

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SC_{M,c} shall be paid after each Delivery Month in accordance with Art. 4

A2.3.5 EET shall be responsible for the calculation of the Market Component and Standing Charge for Short Term Capacity and shall provide the calculations to ERG within 15 Working Days after the end of each Pricing Month. If so requested by ERG, EET shall provide a detailed explanation of such calculations. If ERG do not agree with any calculation so provided, the provisions of Article 6.3 shall apply.

A2.3.6 The Market Component for Delivery Year Y, Asset Contract c and Pricing Month p, MC_{Y,c,p}, shall be calculated at the end of the Pricing Month p through the use of the Storage Model which uses the Contract Parameters together with the expected probability distributions of future spot prices to determine the optimal operating policy. The expected value of the chosen policy can be calculated as follows:

$$MC_{Y,c,p} = \frac{\sum_{s=1}^s \left(\sum_{n=1}^n \left((SP_d - (WCC_{Y,c,p} + MTCw_{c,p} + 0.5 \times BOS)) \times W_d \right) - \sum_{n=1}^n \left((SP_d + (ICG_{Y,c,p} + MTCi_{c,p} + 0.5 \times BOS)) \times I_d \right) \right)}{s}$$

Where:

- s is the number of simulations and shall be at least 1000
- n is the number of days in the Delivery Year
- d is a Day in the Delivery Year
- SP_d is the simulated spot price on Day d, such spot prices to be determined according to the log-normal mean reverting model described in A2.3.10
- WCC_{Y,c,p} is the Withdrawal Commodity Cost for the Delivery Year Y for Asset Contract c and Pricing Month p and as further specified in each Asset Contract. For avoidance of doubt, this cost shall be the forecast cost applicable to the relevant Delivery Year as determined in the Pricing Month based on any escalation specified in the Asset Contract.
- BOS is the Bid-Ask Spread
- W_d is the simulated withdrawal quantity on Day d, determined by the Storage Model as the optimal operating policy
- ICG_{Y,c,p} is the Injection Commodity Cost for the Delivery Year Y for Asset Contract c and Pricing Month p and as further specified in each Asset Contract. For avoidance of doubt, this cost shall be the forecast cost applicable to the relevant Delivery Year as determined in the Pricing Month based on any escalation specified in the Asset Contract.

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- I_d is the simulated injection quantity on Day d , determined by the Storage Model as the optimal operating policy
- $MTCw_{Y,c,p}$ is the Marginal Transportation Cost for the respective Delivery Year Y for withdrawal of gas under the Asset Contract c , as defined in Article A2.3.16 and calculated at the end of Pricing Month p .
- $MTCi_{Y,c,p}$ is the Marginal Transportation Cost for the respective Delivery Year Y for injection of gas under the Asset Contract c , as defined in Article A2.3.16 and calculated at the end of Pricing Month p .

A2.3.7 All calculations of the Standing Charge for Short Term Capacity and all other payments shall be in the base currency of the Supplier. Where any of the input parameters required for the calculation of the Standing Charge for Short Term Capacity are denominated in a different currency, such input parameter shall be immediately converted (prior to any averaging) using mid-point of the forward exchange rate taken from the Price Curve Documentation as specified in A2.3.17 at the time.

A2.3.8 In respect of each Asset Contract, the Supplier shall notify EET of the Contract Parameters to be used for the calculation of the Standing Charge at least 10 Working Days prior to the first Pricing Month in respect of a Delivery Year. The Contract Parameters to be notified by the Supplier for the Delivery Year shall include:

- (a) Maximum Injection Quantity, being the maximum quantity which may be injected into storage on any Day, provided that the Maximum Injection Quantity shall be reduced according to any Maintenance;
- (b) Inventory Adjusted Injection Factor, being the factor by which the Maximum Injection Quantity must be adjusted dependent on the Inventory at the end of the previous Day
- (c) Maximum Withdrawal Quantity, being the maximum quantity which may be withdrawn from storage on any Day, provided that the Maximum Withdrawal Quantity shall be reduced according to any Maintenance;
- (d) Inventory Adjusted Withdrawal Factor, being the factor by which the Maximum Withdrawal Quantity must be adjusted dependent on the Inventory at the end of the previous Day.
- (e) Maximum Inventory, being the maximum quantity of gas which may be held in storage, provided that the Maximum Inventory shall be reduced according to any Maintenance;
- (f) Minimum Inventory, being the minimum quantity of gas which must be held in storage, provided that the Minimum Inventory shall be reduced according to any Maintenance;
- (g) Injection Commodity Cost, being the fee levied on each unit of gas injected into storage and as further specified in each Asset Contract;

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- (h) Withdrawal Commodity Cost, being the fee levied on each unit of gas withdrawn from storage and as further specified in each Asset Contract;
- (i) Maintenance, being the foreseen and pre-notified restrictions to any or all of the Maximum Injection Quantity, the Maximum Withdrawal Quantity, the Maximum Inventory and the Minimum Inventory for any period due to maintenance etc, as defined in an Asset Contract;

A2.3.9 When notifying such Contract Parameters:

- (a) Where any Contract Parameter is a fixed quantity in the Asset Contract, the Supplier shall use such fixed quantity unless the Supplier has reasons to assume that such quantity will change, in which case the Supplier shall provide its good faith best estimate of such quantity together with an explanation of the change;
- (b) Where according to an Asset Contract any Contract Parameter has yet to be fixed at the time of the notification, the Supplier shall provide its good faith best estimate of such quantity.

A2.3.10 For each calculation of the Market Component, the following Market Parameters shall be used:

- (a) The Gas Forward Price, being as defined in A2.3.11;
- (b) Mean Reversion Rate, being as defined in A2.3.12;
- (c) Volatility, being as defined in A2.3.13; and
- (d) Bid-Ask Spread, being as defined in A2.3.14.

The Market Parameters (a to c) will be used as inputs to a single-factor log-normal mean reverting model. The model can be described by the discrete approximation to the following differential equation below where $x = \log(SP)$, from which SP can be derived.

$$x_{i+1} = x_i + \left[\alpha(\mu - x_i) - \frac{1}{2}\sigma^2 \right] \Delta t + \sigma \sqrt{\Delta t} \epsilon_i$$

Where:

μ is the expected spot price level (Gas Forward Price as defined in A2.3.11)

σ is the annualised volatility level (Volatility as defined in A2.3.13)

α is the mean reversion factor (Mean Reversion Rate as defined in A2.3.12)

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Δt is the time step

ε_i is a normal random variate

A2.3.11 The Gas Forward Price for the respective Delivery Month shall be determined according to the following process:

- (a) Each Asset Contract shall specify into which market(s) the Asset Contract delivers and which Price Curve is relevant and for avoidance of doubt such Price Curve shall be mid-point prices.
- (b) The monthly shaped forward curve for gas in the relevant market shall be taken from the relevant Price Curve for each Trading Day of the Pricing Month as further described in A2.3.17.
- (c) The Gas Forward Price used shall be the mid-point forward price for the respective Delivery Month, averaged over all Trading Days of the Pricing Month

A2.3.12 The Mean Reversion Rate shall be determined from the Historic Outturn Prices. A single value (MRR_H) shall be calculated for the Mean Reversion Rate to be applied to the spot price simulation for all Days. The formulae used to calculate the Mean Reversion Rate shall be:

$$MRR_H = \frac{1}{36} \sum_{m=1}^{36} MRR_m$$

Where:

MRR_m is the mean reversion rate calculated for the month m

m is an index of the months from the last three complete Storage Years

$$MRR_m = \frac{-b}{1/365}$$

Where:

$b = -1$

$$b = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sum (y - \bar{y})^2}$$

Where:

$$x = \ln\left(\frac{P_d}{P_{d-1}}\right)$$

$$y = \ln(P_{d-1})$$

$$\bar{x} = \frac{1}{N_m} \sum x$$

$$\bar{y} = \frac{1}{N_m} \sum y$$

P_d is the spot price for Day d taken from the Historic Outturn Prices

N_m is the number of days in month m

P_{d-1} is the spot price for the Day immediately prior to Day d taken from the Historic Outturn Prices

A2.3.13 The Volatility shall be determined from the Historic Outturn Prices.

- (a) The value for Volatility (Vol_w) applied to the spot price simulation for all Days during the Winter shall be calculated through the following formulae:

$$Vol_w = \frac{1}{18} \sum_{m=1}^{18} Vol_m$$

Where:

Vol_m is the annualised volatility calculated from the spot prices in month m

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m is an index of the months during the Winter from the last three complete Storage Years

$$Vol_m = \sqrt{\frac{\sum (x - \bar{x})^2}{n-1}} \times \sqrt{304}$$

Where:

$$x = \ln\left(\frac{P_d}{P_{d-1}}\right)$$

P_d is the spot price for Day d taken from the Historic Outturn Prices

P_{d-1} is the spot price for the Day immediately prior to Day d

n is the number of observations of x from the sample month

(b) The value for Volatility (Vol_s) applied to the spot price simulation for all Days during the Summer shall be calculated through the following formulae:

$$Vol_s = \frac{1}{18} \sum_{m=1}^{18} Vol_m$$

Where:

Vol_m is the annualised volatility calculated from the spot prices in month m
 m is an index of the months during the Summer from the last three complete Storage Years

$$Vol_m = \sqrt{\frac{\sum (x - \bar{x})^2}{n-1}} \times \sqrt{304}$$

Where:

$$x = \ln\left(\frac{P_d}{P_{d-1}}\right)$$

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- P_d is the spot price for Day d taken from the Historic Outturn Prices
- P_{d-1} is the spot price for the Day immediately prior to Day d taken from the Historic Outturn Prices
- n is the number of observations of x from the sample month

A2.3.14 The Bid-Ask Spread shall be determined by calculating the arithmetic average of the differences between the Bid and Ask prices as quoted each Day from the Historic Outturn Prices.

A2.3.15 The calculation of the Market Component will assume that there is an Inventory of zero on the first Day of the Storage Year, and that the Inventory must be zero at the end of the final Day of the Storage Year. For the avoidance of doubt, this assumption is only for calculation purposes and does not place any obligation on either Party to reduce the physical inventory to zero at the end of any Storage Year.

A2.3.16 The Marginal Transportation Costs are the additional cost (for each unit of gas) that the Customer is obliged to pay to a transmission operator to inject gas into or withdraw gas from the delivery point of the storage facility in an Asset Contract, as may be more specifically defined in the Asset Contract. In respect of each Asset Contract, the Supplier shall notify the Customer of the Marginal Transportation Costs to be used for the determination of the Standing Charge for Short Term Capacity at least 10 Working Days prior to the first Pricing Month in respect of a Delivery Year.

A2.3.17 Determination of Price Curves

- (a) For the purposes of this Master Agreement, Price Curves shall be used for the determination of prices. Each Asset Contract shall include a reference to a Price Curve to be used for pricing purposes and the respective Price Curve Documentation. For each Asset Contract the Price Curves based on the latest version of the Price Curve Documentation shall be used.
- (b) For commodities the Price Curves used under this Master Agreement shall reflect the market price and the difference between the Bid Prices and Ask Prices for the respective commodity. The Price Curves could be shaped in different delivery periods and/ or settlement periods compared to commodities traded in the respective market. In case there is a reference to mid-market Price Curves, the Bid-Ask Spread shall be defined separately.
- (c) The Price Curve Documentation shall at least include the following components:
 - (i) A reference to one or more sources for the market prices and/ or indices.


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- (ii) A method to calculate the Price Curve from the mentioned sources.
- (iii) If required, a method to transform the result of A2.3.17 (c, ii) into a shaped Price Curve, e.g. a monthly shaped forward curve.
- (iv) If required, a method to derive Bid-/Ask-Prices e.g. from broker screens, recorded telephone calls with EET counterparties etc.
- (d) The methods to derive these Price Curves shall be properly documented and are subject to change in order to best reflect actual market conditions. Changes to methods shall be agreed between the Parties.
- (e) At the date hereof, the Price Curve Documentation as set out below has been defined, shared, understood and agreed by the Parties:

Price Curve or Bid-/ Ask Spread

Reference for documentation

Bid-/ Ask- Spread Fuel Oil 1% Fob Barges Rotterdam

Document
"Dokumentation
BID_ASK_SPREAD
GCRG" version 1.1 and
dated 01/10/2008.

Bid-/ Ask- Spread Gasoil 0.1% Fob Barges Rotterdam

Document
"Dokumentation
BID_ASK_SPREAD
GCRG" version 1.1 and
dated 01/10/2008.

Bid-/ Ask- Spread NBP Hedging (Financial Gas)

Document "Bid-Ask
Spread for Financial Gas
Positions" version 1.0 and
dated 19/01/2009.

FO_1_FOBARA_B.EUR (Fuel Oil 1% Fob Barges Rotterdam)

Document "Market
Curves for the evaluation
of Trading Positions"
version 4.0 and dated
03/04/2009.

GO_0.1_FOBARA_B.EUR (Gasoil 0.1% Fob Barges Rotterdam)

Document "Market
Curves for the evaluation
of Trading Positions"
version 4.0 and dated
03/04/2009.

NG_IPE_IDX.EUR (ICE NBP M-1 Index)

Document "Market
Curves for the evaluation
of Trading Positions"
version 4.0 and dated
03/04/2009.

Price Curve or Bid-/ Ask Spread**Reference for documentation**

NG_NBP.GBP (Shaped NBP Mid)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

NG_NBP_BID.GBP (Shaped NBP Bid)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

NG_NBP_OFFER.GBP (Shaped NBP Offer)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

NG_SAP.GBP (NTS System Average Price)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

NG_SMP_SELL.GBP (NTS System Marginal Price Sell)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

NG_SMP_BUY.GBP (NTS System Marginal Price Buy)

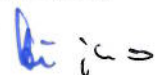
Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

NG_ZEEBRUGGE.GBP (Shaped ZHUB Mid)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

NG_ZEEBRUGGE_BID.GBP (Shaped ZHUB Bid)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.



Price Curve or Bid-/ Ask Spread**Reference for documentation**

NG_ZEEBRUGGE_OFFER.GBP (Shaped ZHUB Offer)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

NG_TTF.EUR (Shaped TTF Mid)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

NG_TTF_BID.EUR (Shaped TTF Bid)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

NG_TTF_OFFER.EUR (Shaped TTF Offer)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

NG_EGT_H.EUR (Shaped EGT-H Mid, now NCG)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

NG_NBP_TRADED.GBP (Traded Products NBP Mid)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

NG_NBP_TRADED_BID.GBP (Traded Products NBP Bid)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

NG_NBP_TRADED_OFFER.GBP (Traded Products NBP Offer)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

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Price Curve or Bid-/ Ask Spread

NG_ZEEBRUGGE_TRADED.GBP (Traded Products ZHUB Mid)

NG_ZEEBRUGGE_TRADED_BID.GBP (Traded Products ZHUB Bid)

NG_ZEEBRUGGE_TRADED_OFFER.GBP (Traded Products ZHUB Offer)

NG_TTF_TRADED.GBP (Traded Products TTF Mid)

NG_TTF_TRADED_BID.GBP (Traded Products TTF Bid)

NG_TTF_TRADED_OFFER.GBP (Traded Products TTF Offer)

HEL.EUR (Rheinschiene HEL)

HSL.EUR (Rheinschiene HSL)

Reference for documentation

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

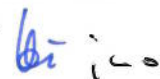
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Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.



Price Curve or Bid-/ Ask Spread**Reference for documentation**

COAL_API2.USD (API#2 Mid)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

COAL_API2.EUR (API#2 Mid in Euro)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

COAL_BAFA.EUR (BAFA Quotierung)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

FX_ECB_GBP.EUR (ECB GBP <-> Euro exchange rate)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

FX_ECB_USD.EUR (ECB USD <-> Euro exchange rate)

Document "Market Curves for the evaluation of Trading Positions" version 4.0 and dated 03/04/2009.

A2.3.18 In case the Standing Charge for Short Term Capacity as calculated according to this Annex 2.3 does not reflect the market price of the Storage Services sold under an Asset Contract due to liquidity constraints or other market imperfections, the Parties can agree on a different pricing model or other Contract Parameters or Market Parameters whichever better reflects the market price given the liquidity constraints or other market imperfections.



Annex 2.4

The Commodity Payment

The Commodity Payment is the fee for each Asset Contract that the Customer pays to the Supplier under this Master Agreement for the variable costs associated with the injection of gas into and withdrawal of gas from the storage facility. Following the end of each Delivery Month the Commodity Payment shall be calculated as follows:

$$CP_{M,c} = \sum_{d=1}^m I_d \times ICC_{M,c} + \sum_{d=1}^m W_d \times WCC_{M,c}$$

Where:

$CP_{M,c}$	is the Commodity Payment payable for Delivery Month M and Asset Contract c
d	is a Day in Delivery Month M
m	is the number of days in Delivery Month M
I_d	is the quantity of gas injected into storage on Day d
$ICC_{M,c}$	is the Injection Commodity Cost for Asset Contract c for Delivery Month M
W_d	is the quantity of gas withdrawn from storage on Day d
$WCC_{M,c}$	is the Withdrawal Commodity Cost for Asset Contract c for Delivery Month M

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Annex 2.5

Standing Charge for Long Term Capacity

A2.5.1 The Standing Charge for Long Term Capacity shall be determined according to the following formula:

$$SC^{LT} = \text{MAX}(TP, SP * (1 - X\%)), \text{ where}$$

SC^{LT} is the Standing Charge for Long Term Capacity

TP is the Target Price of the Supplier as specified in A2.5.2;

SP is the Sales Revenue which the Customer achieves in the market as specified in A2.5.3;

$X\%$ determines the compensation for the services provided by the Customer of the Long Term Capacity as defined in Annex 2.5.4 and shall be a number defined in the relevant Asset Contract;

A2.5.2. The Target Price for the Long Term Capacity shall be calculated as follows:

$$TP = WDP * WC + ICP * IC + WGP * WG, \text{ where}$$

TP is the Target Price;

WDP is the Withdrawal Capacity Price for each m³/h Withdrawal Capacity as specified by the Supplier for the respective Asset Contract before the date of the relevant sale of Long Term Capacity to the Customer;

WC is the Withdrawal Capacity in m³/h sold under the respective Asset Contract;

ICP is the Injection Capacity Price for each m³/h Injection Capacity as specified by the Supplier for the respective Asset Contract before the date of the relevant sale of Long Term Capacity to the Customer;

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IC is the Injection Capacity in m³/h sold under the respective Asset Contract;

WGP is the Working Gas Capacity price for each m³ working gas as specified by the Supplier for the respective Asset Contract before the date of the relevant sale of Long Term Capacity to the Customer,

WGC is the Working Gas Capacity sold under the respective Asset Contract;

A2.5.3 The Sales Revenue shall be the price for Storage Services sold by the Customer to External Counterparties in the market and shall be demonstrated to the Supplier of the Storage Services. The Customer shall ensure that the terms and conditions of the Storage Services sold to External Counterparties reflect the specifications and constraints set out in the respective Asset Contract. The Sales Revenues shall be adjusted, in case

- i) the delivery point of the Storage Services sold to External Counterparties differs from the trading hub as specified under the respective Asset Contracts;
- ii) the specifications of the Storage Services sold to External Counterparties deviate significantly from the Contract Parameters set out in the Asset Contract. In case of doubt, this deviation could be demonstrated by applying the calculation method as set out in A2.3.1 with the specifications sold to the third party and with the Contract Parameters under the respective Asset Contract. Selling a different bundle of Withdrawal Capacity, Injection Capacity and Working Gas Capacity shall not be treated as a deviation from the Contract Parameters, as this is covered by the pricing mechanism for Long Term Capacity.

A2.5.4 The Customer of the Long Term Capacity shall be compensated for the following services provided to the Supplier:

- i) Performance of sales activities for flexibility products in the relevant market, among others: keep External Counterparty contacts, maintain and extend market knowledge, monitor and follow-up on regulatory updates effecting flexibility business;

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- ii) Passing through the force majeure risks as defined in the relevant Asset Contract to External Counterparties;
- iii) Planning of scheduling and dispatching of the injection and withdrawal of gas;
- iv) Support activities enabling sales activities, like legal support to negotiate contracts with External Counterparties, and setting up and executing risk monitoring frame works; and
- v) Manage credit risk with External Counterparties.

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Annex 3

Recalculation of Standing Charges

- A3.1 If, at any point after a Standing Charge has been calculated or after a Recalculation has been carried out, one of the Parties becomes aware of any change in the Contract Parameters or Marginal Transportation Costs (i) used for such Standing Charge calculation or Recalculation for Short term Capacity or (ii) notified at the time of sale or used for a Recalculation in case of Long term Capacity, this Party shall notify the other Party about this change as soon as reasonably practicable and a Recalculation of the Standing Charge for each remaining Delivery Month (including partial months) in the Delivery Year(s) affected shall be carried out using the procedure set out in this Annex.
- A3.2 For the avoidance of doubt, both Parties may agree not to undertake a Recalculation for a change notified by either Party.
- A3.3 The responsibilities of ERG and EET in case of a Recalculation shall be as follows:
- (a) Each Party is responsible for informing the other Party of any changes of the Contract Parameters and Marginal Transportation Costs as soon as reasonably practicable;
 - (b) EET is responsible for the calculation of the Recalculation Payment using the method in Article A3.6 and shall provide ERG with details of the calculation no later than the end of the month immediately following the month in which the change was notified.
- A3.4 Where the change in Contract Parameters notified in accordance with Article A3.1 is in respect of:
- (a) the current Delivery Year, then the Recalculation shall be for the remaining period (including parts of months) of the current Delivery Year together with the Delivery Year +1 and shall be calculated in accordance with Article A3.8;
 - (b) a future Delivery Year or Years, then the Recalculation shall be for that full Delivery Year or Years in accordance with Article A3.6.
- A3.5 The Recalculation will take place at the point in time t , where time t is the Day that one Party notifies the other Party that there is a change in Contract Parameters or Marginal Transportation Cost.
- A3.6 Recalculation of the Standing Charge is based on the following mathematical relationship and will result in a Recalculation Payment:

$$REC_P_{Y,t} = MC_NEW_{Y,t} (RMP_t, MTC_{new}, CQ_{new})$$

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$$- MC_OLD_{Y,t} (RMP_t, MTC_{old}, CQ_{old})$$

Where:

$REC_P_{Y,t}$	is the Recalculation Payment for Delivery Year Y, calculated at time t.
$MC_OLD_{Y,t}$	is the Market Component calculated for Delivery Year Y, calculated at time t using those Contract Parameters and Marginal Transportation Costs valid directly before notification of the change and the Recalculation Market Parameters.
$MC_NEW_{Y,t}$	is the Market Component calculated for Delivery Year Y, calculated at time t using those Contract Parameters and Marginal Transportation Costs valid directly after notification of the change and the Recalculation Market Parameters.
MTC_{new}	are the new Marginal Transportation Costs that are valid directly after notification of the change
MTC_{old}	are the old Marginal Transportation Costs that were valid directly before notification of the change
RMP_t	are the Recalculation Market Parameters (calculated in accordance with Article A3.7) at the point in time t
CQ_{new}	are the Contract Parameters that are valid after notification of the change
CQ_{old}	are the Contract Parameters that were valid directly before notification of the change

A3.7 The Recalculation Market Parameters shall be the Market Parameters as specified in Article A2.3.10, with the exception of the Gas Forward Price, which shall be replaced by the Recalculation Gas Forward Price. The Recalculation Gas Forward Price shall be the shaped forward curve for the relevant market as quoted in the Price Curve Documentation as specified in A2.3.17 on Day t. The forward curve will be used with as fine a granularity as is quoted in the Price Curve Documentation as specified in A2.3.17. The simulations of spot prices will then be performed using the Recalculation Gas Forward Price with the Mean Reversion Rate and the Volatility from the Market Parameters. Where the quoted product from the Price Curve Documentation as specified in A2.3.17 is quoted at a daily granularity, such daily prices shall be used and there will be no simulation of spot prices.

A3.8 If there are changes to the Contract Parameters within the current Delivery Year, the calculation of both $MC_OLD_{Y,t}$ and $MC_NEW_{Y,t}$ in A3.6 shall use:

(a) As a start Day t

to use

- (b) An end Day of the last Day of Delivery Year +1
- (c) The inventory held by the Customer on Day t-1

A3.9 The Recalculation Payment will be divided by the number of remaining complete Delivery Months in the Storage Year, and will be paid in equal monthly instalments in addition to SC_M .

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Annex 6.5
List of Contact Persons

On behalf of EET:

Jochen Nospickel, Tel. +49 (0) 211 73275 4300, e-mail: Jochen.Nospickel@eon.com

On behalf of ERG:

David Riemenschneider, Tel. +49 (0)201 184 7465, e-mail: David.Riemenschneider@eon-
ruhrgas.com



Annex 9.4

Calculation of Termination Payment

A9.4.1 If an Asset Contract terminates, then the following process applies:

- (a) The Supplier shall notify the Customer, as soon as reasonably practicable after it becomes aware that an Asset Contract will terminate, of the revised Contract Parameters as a result of the Asset Contract terminating (i.e. the Maximum Injection Quantity, Maximum Withdrawal Quantity, Maximum Inventory and the Minimum Inventory would be reduced to zero after the termination date);
- (b) For all Delivery Years affected by the change in the Contract Parameters, EET shall calculate the Recalculation Payments in accordance with A3.4;
- (c) EET shall calculate the Termination Payment in accordance with A9.4.2 (which shall be payable instead of the Standing Charges and Recalculation Payments), and shall provide ERG with the calculations at the same time as the Recalculation Payments are notified;
- (d) The Termination Payment shall be due and payable in the first Delivery Month for which A9.4.1 requires a Recalculation Payment to be calculated.

A9.4.2 The Termination Payment shall be calculated as follows. If the result is positive, the Customer shall pay the amount to the Supplier, and if the result is negative, the Supplier shall pay the amount to the Customer.

$$\text{Termination Payment} = \sum_{Y=0}^{\Phi} \frac{SC_Y + REC_P_Y}{(1 + X)^Y}$$

Where:

- | | |
|------------|--|
| Y | is an index representing Delivery Years, with Y=0 being the first Delivery Year for which Article A9.4.1 requires a Recalculation Payment to be calculated and Φ is the last Delivery Year for which a Standing Charge has been calculated. |
| SC_Y | is the Standing Charge in respect of Delivery Year Y |
| REC_P_Y | is the sum of all Recalculation Payments in respect of Delivery Year Y |
| X | is the 12-month EURIBOR plus 2 percentage points |

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Annex 10.1
Description of and Remuneration for Optimisation Activities for Short Term Capacity

A10.1.1. The performance of the following activities is essentially necessary in order to realise the prices described in Annex 2.3 in the trading markets. A successful risk management and an ongoing optimization of commodity positions can only be reached, if the activities described below are performed by the Customer to the Supplier:

- a. Portfolio management: optimization of volume and timing of purchasing and selling gas
- b. Scheduling: optimization of hourly schedules of each asset;
- c. Dispatching: continuous intra-day monitoring of gas supply and execution of necessary adjustments;
- d. Nomination of schedules to the Supplier or the relevant transmission or storage operator; and
- e. Market analysis and forecasting.

A10.1.2. Following the end of the Pricing Year, the Remuneration for Optimisation Activities for Delivery Month M and Asset Contract c, $ROA_{M,c}$, shall be calculated as follows:

- a. Where EET is the Supplier of the Storage Services under an Asset Contract c $ROA_{M,c}$, shall be zero.
- b. Where EET is the Customer of the Storage Services under an Asset Contract c, $ROA_{M,c}$, shall be calculated as follows:

$$ROA_{M,c} = \frac{1}{12} ROA_{Y,c}$$

Where:

$ROA_{Y,c}$ is the Remuneration for Optimisation Activities for Delivery Year Y and Asset Contract c and shall be calculated as follows:

$$ROA_{Y,c} = (0.015 \times \text{IntinsicValue}_{Y,c}) + (0.15 \times \text{ExtrinsicValue}_{Y,c})$$

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Where:

Intrinsic Value_{Y,c} = Valuation of storage according Annex 2.3 'Calculation of Standing Charge' but with a Volatility (being as defined in A2.3.13) of zero.

Extrinsic Value_{Y,c} = MC_{Y,c} - Intrinsic Value_{Y,c}

- c. Where EET is both a Supplier of, and Customer for Storage Services of the same type (and for the avoidance of doubt the same type shall mean being both the Supplier and Customer of comparable storage services with regard to the flexibility bought and sold, e.g. Fast Churn; Mid Churn; Seasonal Churn), then ROA_{M,c} shall be based on the net position and shall be calculated in accordance with Article A10.1.2(b) above, other than:
- i. Extrinsic Value_{Y,c} shall be the net value of the extrinsic values for the contracts being netted i.e. Extrinsic Value_{Y,c} for the purchase contract less the Extrinsic Value_{Y,c} of the sales contract.
 - ii. Intrinsic Value_{Y,c} shall be the net value of the intrinsic values being netted i.e. Intrinsic Value_{Y,c} for the purchase contract less the Intrinsic Value_{Y,c} of the sales contract.

A10.1.3. EET shall be responsible for the calculation of the Remuneration for Optimisation Activities and shall provide the calculations to ERG within 15 Working Days after the end of each Pricing Year.

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