SHIPPER MANUAL

Valid from 1 October 2022

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1 Applicability and Definitions

1.1 Applicability

This Shipper Manual sets out detailed rules for communication between shippers and Operator, Operator and Field Operators and describes the communication lines between Operator and Terminals and Plants.

The Shipper Manual is detailing out some of the provisions of the Operations Manual.

The Shipper Manual is developed according to the process described in Section 59, 4th paragraph of the Petroleum Regulation.

Proposals for amendments to the Shipper Manual shall be developed by the Operator and submitted to the shippers and the owners of the Transportation System in writing for consultation.

The shippers and the owners of the Transportation System shall submit their comments within 20 Business Days after receipt of such notice from the Operator. The Operator shall take due consideration of the shippers' and the owners of the Transportation System's comments.

If the Operator, in its sole opinion, after having received and reviewed the shippers'and the owners of the Transportation System's comments decides to amend the Shipper Manual, such changes shall be submitted to the shippers and the owners of the Transportation System in writing in reasonable time before coming into force.

1.2 Definitions

The definitions set out in the relevant Terms and Conditions shall also be valid for this Shipper Manual. In addition, the following terms shall have the meaning ascribed to them below:

1. "Area" shall mean one of the areas A to P as further described in Tarifforskriften.

2. "Daily Delivery Instruction" shall mean the instruction from the Operator to the Shipper's Field Operator, Plant and Terminals specifying the quantity of Gas to be delivered for a Day into or out of the Transportation System, as applicable.

3. "Daily Field Nomination" shall mean the shipper's nominated Gas deliveries from Shipper's Field.

4. "Daily Exit Point Nomination" shall mean the sum of a shipper's nominated Gas deliveries at any Exit Point.

5. "Dispatching" shall mean all information exchange, actions and operations performed in connection with the planning and execution of transportation of Gas.

6. “Dispatching Messages” shall mean the information messages described in article 12.

7. “Downstream Shipper” shall mean a shipper having a transportation contract with a DTSO.

8. “Downstream Shipper Code” shall mean the code used to identify the shippers’ transportation contracts with the DTSO.

9. “Downstream Transportation System Operator” or “DTSO" shall mean a legal entity responsible for the operation of a transportation system downstream the Exit Point.

10. “Expected Maximum Daily Delivery” shall have the meaning described in the Booking Manual article 2.

11. “Field Availability” shall mean the minimum and maximum Gas quantity (Sm^3) at any time forecasted by the Shipper’s Field Operator to be available for nomination at a Field.

12. “Field Availability Transaction” shall mean transaction of Field Availability between shippers.

13. “Field Imbalance” shall mean the difference between production from a Shipper’s Field and shippers’ aggregated nominations related to the Field.

14. "Field Lifting Key" or “FLK” shall mean the distribution key (expressed as a percentage share) of Field Availability amongst the shippers.

15. “First Nomination Deadline” shall mean the deadline for the shippers, at 14:00, to make the initial nominations for the following Day.

16. “Gjøa Area Fields” shall mean Gjøa field and Vega Unit.

17. “Linepack” shall mean the quantity of Gas which the Operator decides must be provided by the Field(s) in order to make deliveries as requested by the shippers and provide the necessary operating tolerances.

18. “Main Data Collection Process” shall have the meaning described in article 2.1.

19. “Nomination Lead Time” shall mean the current full hour and the following two hours.

20. “Plant” shall mean the Gas treatment- and processing facilities which supply Gas into Area D.

21. “Portfolio GCV” shall have the meaning described in article 10.

22. "Recovery Factor" shall mean the factor that multiplied with the quantity of produced Gas gives the need for Booked Processing Capacity or Booked Quality Service, as described in article 10.

23. "Resource Category" shall have the meaning as described in the "Guideline to Classification of the Petroleum Resources on the Norwegian Continental Shelf" issued by the Norwegian Petroleum Directorate.

24. "Shrinkage Factor" shall mean the factor used to convert Rich Gas processed at Kårstø gas plant, Kollsnes gas plant or at the Heimdal platform to resultant Dry Gas as described in article 10.

25. "Shipper Code" shall mean the unique code that identifies a shipper.

26. "Shipper Imbalance" shall have the meaning described in article 7.1.

27. "Shipper Pair" shall mean the combination of Shipper Code and Downstream Shipper Code.

28. "Snorre Injection" shall mean the point where gas may be delivered from the Gullfaks area for the purpose of injection into the Snorre field.

29. "Spur Line" shall mean the 12" Statfjord UK gas pipeline.

30. "Statfjord Area Fields" shall mean Statfjord Unit, Statfjord Nord and Statfjord Øst.

31. "Tampen Area Fields" shall mean Statfjord Area Fields and all other fields delivering Gas at an Area A Entry Point.

32. "Terminal" shall mean onshore Gas receiving facilities operated by the Operator.

33. "Terms and Conditions" shall mean either:

    a. Terms and Conditions for Transportation of Gas in Gassled, or
    b. Terms and Conditions for Transportation of Gas in Haltenpipe, or
    c. Terms and Conditions for Transportation of Gas in Valemon Rich Gas Pipeline, or
    d. Terms and Conditions for Transportation of Gas in Utsira High Gas Pipeline, or
    e. Terms and Conditions for Transportation and Processing of NGL in Vestprosess, or
    f. Terms and Conditions for Transportation of Gas in Polarled, or
    g. Terms and Conditions for Processing of Gas at Nyhamna Gas Plant.

    The respective Terms and Conditions is entered into between the owners of the relevant Transportation System and the shipper.

34. "Transportation System" shall mean either Gassled, Haltenpipe, the Valemon Rich Gas Pipeline, the Utsira High Gas Pipeline, Vestprosess, Polarled or Nyhamna Gas Plant as the case may be.

35. "Week" shall mean the 7 Day period commencing on Monday at 06:00.

36. "Within Day" shall mean the remaining part of the current Day or after the First Nomination Deadline then Within Day shall mean the remaining part of the current Day and the full next Day.

All references to points in time during a Day are expressed in Central European Time.

2 Information exchange

2.1 Main Data Collection

In order to make plans for transportation and redelivery of shippers' Gas, both on short term and longer term, the Operator needs volume forecasts.

The Main Data Collection Process is primarily directed towards the Shippers' Field Operators. The Process is an annual process performed in the period from September through October.

Through the Main Data Collection Process the Shippers' Field Operators shall provide relevant information from all fields and discoveries in Resource Category 1 - 5, i.e from producing fields, sanctioned fields and pre-sanctioned fields.

The information shall include annual forecasts and maximum and minimum daily capacity for remaining field life. The information shall also include information about quality of the Gas.

Time schedule and information required will be developed and communicated to the Shippers' Field Operators in due time prior to startup of the process. The time schedule is coordinated with the Norwegian Petroleum Directorate's RNB Process[1].

The Main Data Collection will form basis for the following processes/plans:

- Shipment planning at Kårstø gas plant (details described in Terms and Conditions for Transportation of Gas in Gassled Appendix C and Appendix E)
- NGL forecast redeliveries at Kollsnes gas plant
- Shipment planning at Vestprosess (Details described in Terms and Conditions for Transportation and Processing of NGL in Vestprosess Appendix C)
- Shipment planning at Nyhamna Gas Plant (Details described in Terms and Conditions for Processing of Gas at Nyhamna Gas Plant Appendix C)
- Area D quality nomination process procedure (details described in Booking Manual)

[1] Norwegian Petroleum Directorate Revised National Budget

- Qualified Need procedure (details described in the Booking Manual)
- Transport plan process
- Operator's infrastructure work

2.2 Fifteen Months Rolling Availability Forecast

In addition to the Main Data Collection process described under article 2.1 the Shippers' Field Operators shall provide a Fifteen Months Rolling Availability Forecast (FMRA).

The FMRA shall be issued to the Operator within the 20th day of each Month containing for each month:

- Minimum and maximum export quantity in volume (Sm^3/d) of Rich Gas or Dry Gas
- Expected Daily Deliveries in volume (Sm^3/d) of Rich Gas and/or Dry Gas
- Gas quality

The forecast shall be revised as soon as possible if a discrepancy is discovered or a significant change has occured. After agreement with the Operator the Shippers' Field Operators may alternativly issue a six Months Rolling Availability Forecast (SMRA).

2.3 Weekly Availability Forecast

Shippers' Field Operators shall provide a Weekly Availability Forecast (WAF).

WAF shall be issued within Thursday at 12:00 each Week for each Day of the following Week containing:

- Daily Field maximum export quantity in Sm^3/d
- Daily Field minimum export quantity in Sm^3/d
- Details of daily expected quality figures as requested by the Operator

The WAF messages shall also contain information about planned activities for the upcoming Week that will or might affect the production from the Field.

Any changes to the WAF shall be reported to the Operator without undue delay. In case the revised WAF is caused by an event at the Field, the revised WAF shall specify cause, start and expected duration of the event.

In the case of a Field being curtailed or shut in and the Shipper's Field Operator does not issue a revised availability forecast within two hours after the event, the Operator may issue new availability figures and inform the shippers accordingly. The new availability figures will be based on the Field deliveries within Day, the information of the problem and the prevailing situation in the Transportation System.

2.4 Weekly Availability Plants Forecast

Plants shall provide Weekly Availability Plant Forecasts (WAP).

WAP shall be issued within Thursday at 14.00 each Week for each Day of the following Week.

Any changes to the WAP shall be communicated to the Operator without undue delay.

2.5 GCV and WI forecasts at Area D Exit Points

The Operator will issue a two Day rolling GCV and WI forecast (WQNS) for each Exit Point in Area D by 02:00 on the day before the first Day in the forecast.

2.6 Field Lifting Key

Changes in Field Lifting Key shall be reported in Field Lifting Key (FLK) message from the Shipper's Field Operator to the Operator.

3 Bilateral Transactions

Bilateral Transactions can take place at the following points:

- Entry Points in Area A, Area B, Area D, Area F, Area G, Area H, Area I, Area J, Area K, Area L, Area M and Area O.
- Entry Point E1 and P1.
- A virtual point inside Area D.
- Exit Points in Area D, Area F, Area I, Area J, and Area L.
- Exit Point B2 (Draugen)
- Exit Point N2 manually via the Operator.

Bilateral Transactions will not be accepted at Area C or Area N Entry Points or at Exit Points in Area A, Exit Point B1 , Area C, Area E, Area G, Area H Area K, Area M, Area O, Area P or at Snorre Injection.

A shipper that receives entitlement to Gas at a virtual point inside Area D may exit such Gas at any Area D Exit Point.

A shipper that receives entitlement to Gas at an Exit Point in Area D must exit such Gas at the same Exit Point.

All Bilateral Transactions shall be stated in kWh/Day per transaction point in the shippers' Daily Nomination messages.

When a Bilateral Transaction is made, the receiving shipper must have sufficient Bookings downstream the transaction point.

A shipper that has received Gas in a Bilateral Transaction will have to comply with applicable Transportation Curtailment and/or restrictions due to the bottleneck procedure (as described in the Booking Manual).

4 Operational Services

4.1 General

The Operator shall operate the Transportation System with regard to operational tolerances and sufficient working quantity of Gas to accommodate:

- Shipper requirements for Transportation Services
- Variation in flow rates
- Survival time in case of unplanned events at Fields, Plants and Terminals
- Gas quality and quality blending
- Pressure harmonisation
- Planned and unplanned maintenance
- Capacity tests
- Energy optimisation

4.2 Linefill

Linefill accounts for the shippers will be administrated by the Operator. The ownership of Linefill will be calculated for each Transportation System and Area. Ownership of Linefill will be recalculated within end May every year. Shippers' share of Linefill shall be equal to the respective shipper's Qualified Need in proportion to all shippers' Qualified Need in the Transportation System and Area for the next Year. For Area D the Qualified Need will be based on Qualified Need at the Entry Points. For Transportation Systems and Areas where the Gas flows to Area D, the linefill accounts will be kept as one account for the shipper. For other Transportation Systems and Areas there will be separate linefill accounts for each Transportation System/Area.

After recalculation of Linefill the Operator will inform the shippers of their obligation to adjust Linefill.

4.3 Linepack

The Operator will decide the level of Linepack and administer all Linepack in the relevant Transportation System.

Operator may instruct Shipper's Field Operator to provide Linepack. The Operator`s Linepack instructions will be included in the Daily Delivery Instruction to the Field.

Operator will maintain a Linepack account for each Field.

4.4 Opflex

Opflex is an operational back-up service for shippers in Area D. Opflex is only available Within Day.

Daily Opflex may be provided if a shipper experience loss of Gas due to reduced Field Availability or Transportation Curtailment. Daily Opflex can only cover deliveries which were nominated prior to the unforeseen problem occurred.

Cumulative Opflex provided to a shipper can not exceed such shipper's sum of one Day's capacity rights at the Exit Points in Area D for the relevant Day.

Shipper's Daily Field Nomination shall have priority to any Opflex nomination made by other shippers. Shippers' renominations might lead to reduced Opflex for other shippers.

The Operator shall provide Opflex to shippers on a first come first served basis.

Based on the Operator`s acceptance of Opflex, the shipper shall include the agreed quantity of Opflex in the Shipper's Daily Field Nomination message.

Redelivery of Opflex shall be executed as soon as possible. The Operator is mandated to revise shipper's Daily Field Nomination for redelivery of Opflex. The Operator`s revisions shall have priority after the shipper's own nominations.

The Operator shall maintain an Opflex account for each shipper and each Field. The shipper's Opflex status shall be communicated to the shippers on a daily basis in the DCS messages.

4.5 Lineflex

In Transportation Systems where Lineflex is possible, this service will be available for periods with planned maintenance activities in the relevant Transportation System or at Fields. The Lineflex service will allow a shipper to deliver Gas into the relevant Transportation System for redelivery during the event.

The shipper shall withdraw its Lineflex volume as planned. In the event that the Lineflex is not withdrawn the Operator will instruct the shipper to withdraw the Lineflex as soon as possible.

Operator will issue a Lineflex Overview Shipper (LFOS) with a deadline for the shippers to apply for Lineflex connected to a specific maintenance periode.

Shipper's Requests for Lineflex (LFRS) shall be be sent to dispatching@tccprod.gassco.no and contain the following:

- Lineflex period
- Specification of the injection period and the withdrawal period divided in daily quantities (kWh).
- Maintenance ID number (given in the maintenance plan).

If the requests for Lineflex exceed available Lineflex capacity in the relevant Transportation System, then the available Lineflex capacity will be allocated pro-rata between the shippers based on the shipper's share of the Expected Maximum Daily Delivery related to the field(s) affected by the maintenance ID number. Operator will issue a Lineflex Awarded Shipper (LFAS) report stating the allocated Lineflex.

If the Operator receives a request for Lineflex after the deadline for Lineflex allocation then the shipper will be assigned Lineflex on a first come first served basis.

The shipper shall include the agreed quantity of Lineflex in the shipper's Daily Field Nomination message.

Due to unforeseen reasons the Gas may not be available to the shipper during the planned withdrawel period. In such cases the Lineflex will be redelivered within a reasonable period.

Withdrawal of Lineflex shall have priority to deliveries of Opflex.

The Operator shall maintain a Lineflex account for each shipper for the relevant Transportation System(s).

The Lineflex status shall be communicated to the shippers in DCS messages.

5 Dispatching principles of the Transportation Systems

This section describes the daily Dispatching processes related to the Transportation Systems.

All shippers and Shippers' Field Operator shall secure a 24/7 Dispatching coverage.

The shipper will receive its Field Availability from the Operator. Shipper's Gas has to be disposed through Exit Point nomination(s), Bilateral Transaction(s) and /or Operational Service(s) in accordance with the procedures described in this Shipper Manual.

5.1 Shipper availability

5.1.1 General

The Operator shall calculate each shipper's minimum and maximum availability in energy (kWh) from each Field. The calculations will be based on the Shipper's Field Operator's WAF adjusted for the following parametres:

- Field Imbalance
- Field Availability Transactions
- Relevant Shrinkage Factor and GCV

Operator shall communicate minimum and maximum availabilities in energy (kWh) and relevant Recovery Factors to the shippers in the Weekly Availability Shipper (WAS) message, Daily Availability Shipper (DAS) message and Daily Confirmation Shipper (DCS) message.

WAS messages shall be communicated to shippers within Thursday by 14:00 for the following Week.

DAS messages shall be communicated by 10:00 for the following Day.

DCS messages shall be communicated after 14:00 for the following Day.

When the Operator receives revised availabilities from the Shippers' Field Operators, the Operator shall without delay and within 2 hours inform the affected shippers by issuing revised WAS/DAS/DCS including relevant information concerning the event.

If the Operator is informed about events at the Field affecting deliveries of Gas, information shall be issued to relevant shippers without delay.

5.1.2 Field Availability Transactions

Field Availability Transactions shall be notified in the Daily Field Nomination messages. When the Operator has received confirmation via Daily Field Nomination messages from both shippers involved in the transaction, the shippers' maximum and minimum availabilities will be revised accordingly.

5.1.3 Availability calculations for Tampen Area Fields

The shippers having Gas available at Tampen Area Fields shall have their availability from these Fields calculated as Rich Gas energy (kWh) at Field in addition to the Dry Gas energy (kWh) exit Area D.

The calculation of the volume to be delivered from Statfjord B to Area A shall be based on the calculated nomination to Area A from the applicable Statfjord Area Field.

Relevant Field GCV's for the Tampen Area Fields will be included in WAS/DAS/DCS.

5.1.4 Availability calculations for Fields delivering into Area B

The shippers having Gas available at Fields delivering into Area B shall have their availability from these Fields calculated as Rich Gas energy (kWh) in addition to the Dry Gas energy (kWh) exit Area D.

Relevant Field GCV's for the Fields delivering into Area B will be included in WAS/DAS/DCS.

5.1.5 Availability calculations for Gjøa Area Fields and fields delivering Gas into Area K and Area L

The shippers having Gas available at the Gjøa Area Fields and fields delivering Gas into Area K and Area L shall have their availability from these fields calculated as Rich Gas energy (kWh) for each respective field.

Relevant Field GCVs will be included in the respective WAS/DAS/DCS.

5.2 **Shipper nomination**

5.2.1 General

The shippers' Daily Field Nominations and Daily Exit Point Nominations shall be performed before First Nomination Deadline for the following Day.

Revised nominations after the First Nomination Deadline will be accepted continously as long as the changes can be accommodated within technical and operational limits. If the revised nomination is accepted by the Operator it shall have the same priority as other nominations.

Revised Daily Exit Point Nomination will only have effect for the period starting after the Nomination Lead Time.

The sum of Shipper`s Daily Field Nomination and such Shipper`s aggregated Bilateral Transactions at an Entry Point must be positive or zero.

5.2.2 Shippers' Daily Field Nomination procedure

The Shippers shall in the Daily Field Nomination messages to the Operator specify in energy (kWh):

- Quantities to be nominated from each Field
- Bilateral Transactions upstream of or at an Entry Point and inside Area D
- Field Availability Transactions
- Nominations for Operational Services
- Shipper Imbalance

As shippers' Daily Field Nominations are made in energy (kWh) it is necessary to convert the nominations in Area D to volume (Sm3) /mass (tonne) for upstream Areas and services. Such convertions will be done in accordance with the formulas specified in Article 6.1.

5.2.3 Shippers' Daily Nominations at Exit Point A3, Exit Point B2, Exit Points C1 and C2, Exit Point E2 and E5, Exit Point H2, Exit Point P2 and Exit Points in Area D, Area F, Area I, Area K, Area L and Snorre Injection

In the Daily Exit Point Nomination message the shipper shall notify:

- Gas to be redelivered at Exit Point A3,
- Gas to be redelivered at Exit Point B2,
- Gas to be redelivered at Exit Points C1 and/or C2,
- Gas to be redelivered at each Exit Point in Area D,
- Gas to be redelivered at Exit Points E2 and/or E5,
- Gas to be redelivered at Exit Point P2,
- Gas to be redelivered at the Exit Point in Area F including Shipper's Field(s) to deliver such Gas,
- Gas to be redelivered at Snorre Injection including Shipper's Field(s) to
- deliver such Gas,
- Gas to be redelivered at Exit Point H2 including Shipper's Field(s) to deliver such Gas,
- Gas to be redelivered at the Exit Point in Area I including Shipper's Field(s) to deliver such Gas,
- Gas to be redelivered at Exit Point(s) in K including Shipper's Field(s) to deliver such Gas,
- Gas to be redelivered at Exit Point(s) in L including Shipper's Field(s) to deliver such Gas, and
- Bilateral Transactions at an Exit Point.

In the Daily Exit Point Nomination message from Area D the shippers shall notify hourly flow rates in energy (kWh) per Shipper Pair.

Hourly nominations for Shipper Pairs can be negative as long as the shipper's aggregated nomination per hour towards the DTSO is zero or positive.

Shippers shall make a revised nomination when they receive a revised Field Availability and/or a revised Booking and/or a Bottleneck Curtailment. If shippers do not revise its nomination as instructed, or there is no time to await the revised nomination, the Operator has the right to perform a revised nomination on behalf of the shipper. The Operator shall inform the shipper of any revised nomination by sending one or both of the following messages:

- Daily Confirmation Shippers (DCS)
- Transport Notice (TDT)

5.2.4 Nomination processes for Exit Point A3, Area F, Area I and Snorre Injection

The nomination and reporting of quantities related to Statfjord Area Fields, Exit Point A3, Exit Points in Area F, Area I and Snorre Injection will be operated in accordance with the UK definition of a Day.

Shipper's Daily Field Nomination shall be performed as a Rich Gas energy (kWh) nomination on the Daily Field Nomination messages.

A shipper's Daily Exit Point Nomination in Rich Gas energy (kWh) per Field must be equal to the shipper's Daily Field Nomination.

The shippers' Daily Exit Point Nomination shall be performed as a Rich Gas energy (kWh) nomination on a Daily Exit Point Nomination message and define field specific Downstream Shipper Codes in order to link Daily Exit Point Nomination to a Field.

The Gas export from the Tampen Area Fields have three possible export directions: Area F, Exit Point A1 and Exit Points A3. A Statfjord Area Field may have different Gas quality depending on the Gas export directions. GCV's for the different export directions will, for Dispatching purposes, be made available in WAS and DAS messages.

The daily allocation of volume will be reported to the FLAGS operator and relevant Shipper's Field Operator in the Daily Allocation Report UK (DARUK) and the Daily Allocation Report Shipper's Field Operator (DARA), messages respectively.

The Daily Allocation Report Shipper (DARSF) contains the shipper's attribution of mass, volume, energy and composition of deliveries.

5.2.5 Nomination process Area L

The nomination and reporting of quantities related to Exit Area L will be operated in accordance with the UK definition of a Day.

Shipper's Daily Field Nomination shall be performed as a Rich Gas energy (kWh) nomination in the Daily Field Nomination message.

A shipper's Daily Exit Point Nomination in Rich Gas energy (kWh) per Field must be equal to the shipper's Daily Field Nomination.

The shipper's Daily Exit Point Nomination shall be performed as a Rich Gas energy (kWh)

nomination on a Daily Exit Point Nomination message and define field specific Downstream Shipper Codes in order to link Daily Exit Point Nominations to a Field.

The daily allocation of volume will be reported to the SAGE operator (if requested) and the Shipper's Field Operator in the Daily Allocation Report UK (DARUK) and the Daily Allocation Report Shipper's Field Operator (DARA) messages resepctively.

The Daily Allocation Report Shipper (DARSF) contains the shipper's attribution of mass, volume, energy and composition of deliveries.

5.2.6 Nomination process Exit Point B2

All fields in Area B will have two possible export directions: Exit Point B1 or B2. GCV in the different directions will, for Dispatching purposes, be made available in WAS and DAS messages.

Shipper's Daily Field Nomination towards Exit Point B2 shall be performed as a Rich Gas energy (kWh) nomination on the Daily Field Nomination message.

A shipper's Daily Exit Point Nomination in Rich Gas energy (kWh) per Field to Exit Point B2 must be equal to the shipper's Daily Field Nomination to Exit Point B2.

With reference to article 8.6, the Operator may instruct Shippers nominating to Exit Point B2 on which field(s) to nominate from.

5.2.7 Nomination process Area K

The Heidrun field will have three possible export directions: Exit Point B1, B2 or Area K. GCV in the different directions will, for Dispatching purposes, be made available in WAS and DAS messages.

Shipper's Daily Field Nomination towards Area K shall be performed as a Rich Gas energy (kWh) nomination on the Daily Field Nomination message.

A shipper's Daily Exit Point Nomination in Rich Gas energy (kWh) per Field in Area K must be equal to the shipper's Daily Field Nomination towards Area K.

5.2.8 Nomination process Area M and Area N

Nomination at Entry Point M1 will be based on Shipper's Daily Field Nomination for fields delivering Gas to Area E and relevant Recovery Factors.

There will be no nomination for deliveries at Entry Point M2.

There will be no nomination for deliveries at Entry Points in Area N.

5.3 Validation of shippers' Daily Nominations

5.3.1 General

The Operator validates the shippers' Daily Field Nominations and Daily Exit Point Nominations. The shippers are informed about the resultant validation through the Daily Confirmation Shipper (DCS) message.

5.3.2 Shipper's Daily Field Nomination versus Daily Exit Point Nomination

The sum of the shipper's Daily Field Nominations in energy (kWh) must be equal to the sum of the shipper's Daily Exit Point Nominations adjusted for Bilateral Transactions, Opflex, Linefill, Lineflex and/or Shipper Imbalance.

If the nominations described in the previous paragraph are not equal, the shipper will be requested to make a revised nomination. Imbalances within the Nomination Lead Time will be re-calculated by the Operator.

5.3.3 Nomination versus Booking

Shipper's nominations in volume (Sm^3) or mass (tonne/kg) shall always be lower or equal to shipper's Bookings.

Shippers's nomination in an Area upstream Area D shall be equal to the sum of the shipper's Daily Field Nomination and calculated as described in article 6.1.

Shipper's nomination for Exit Point A2 shall be equal to the sum of the shipper's Daily Field Nomination Exit Area F for Fields delivering Gas to Area A and calculated as described in article 6.2.

Shipper's nomination for Exit Point A3 shall be equal to the sum of the shipper's Daily Field Nomination at Exit Point A3 and calculated as described in article 6.2.

Shipper's nomination for Exit Point B2 shall be equal to the sum of the shipper's Daily Field Nomination at Exit Point B2 and calculated as described in article 6.2.

Shipper's nomination for Exit Point H2 shall be equal to the sum of the shipper's Daily Field Nomination Exit Area K for fields delivering Gas to Area H and calculated as described in article 6.2.
Booking at Exit Point H1 shall cover Daily Exit Point Nomination for Exit Points H1 and H2.

Shippers's nomination for Exit Points in Area F, Area I, Area K and Area L shall be equal to the sum of the shipper's Daily Field Nomination at the relevant Exit Point and calculated as described in article 6.2.

Shipper's nomination at an Entry Point in Area D shall be equal to the sum of the shipper's Daily Field Nomination for the Field(s) upstream such Entry Point and calculated as described in article 6.3.

Shipper's nomination at an Exit Point in Area D shall be calculated as described in article 6.4.

In situations where shipper does not align its nominations with its Bookings within reasonable time, the Operator shall, on behalf of the shipper, limit the nominations to the Bookings. The Operator shall without delay inform of corrective actions taken.

5.3.4 Shippers Daily Field Nomination versus Field Availability

The Operator will validate the shipper's Daily Field Nominations versus the shipper's share of the Field Availabilities.

A shipper will be allowed to make a Daily Field Nomination below its share of minimum Field Availability as long as the aggregated Daily Field Nominations from all shippers at the Field are higher than or equal to the minimum Field Availability.

In the event that the shippers' aggregated Daily Field Nominations exceed the maximum Field Availability or are below minimum Field Availability, the Operator will notify relevant shippers.

The shipper shall respond with revision of its Daily Field Nominations within 1 hour. In the event that the shipper does not respond within 1 hour, the Operator is entitled to adjust the Shippers Daily Field Nomination.

5.3.5 Exit Point balancing in Area D

At Day + 1 the Operator will compare metered export quantities with the aggregated shipper's Exit Point Nominations for the Day.

The Operator and the DTSOs may agree to deem quantities to have been delivered as nominated. The accumulated differences between the aggregated shippers' Exit Point Nominations and the metered quantities are defined as imbalance between the Operator and the DTSOs. This process is performed at all Exit Points having a balancing agreement and is in general implemented at all Exit Points in Area D except the UK Exit Points.

5.3.6 Exit Point Matching

The Operator will compare the shipper's Exit Point Nominations per Shipper Pair, on daily or hourly rates, with the corresponding nominations received from the DTSOs ("Matching").

Exit Points B2 (Draugen), D1 (Snurrevarden), D9 (Rogass), D11 (Naturkraft),E2 (Kollsnes Næringspark), P2 (Nyhamna Reservekraftverk), and E5 (Mongstad Gas Pipeline) do not have Matching. For these Exit Points the difference between nominations and metered quantities are reported in a Monthly Balancing Report (MBR).

Exit Point D7 (St. Fergus) and D10 (Easington) do not have Matching, and a daily attribution process will be performed.

The FLAGS operator will perform Matching of nominations per shipper per Field on a daily basis at the Exit Points A3 (Spur Line), Area F and Area I.

Exit Points in Area K do not have Matching, and a monthly attribution process will be performed.

For Area L the Operator will validate the shippers Exit Point Nominations against Shipper's Daily Field Nomination. The SAGE operator will receive the validated figures of the Exit Point Nominatins and confirm or reject these nominations.

The Operator downstream Exit Point D5 (Zeebrugge) will perform Matching of Exit Point D5.

The Matching procedure will follow the steps below:

- After First Nomination Deadline the Operator will send all received Exit Point Nominations from the shippers to the DTSO. The DTSO shall send the nominations received from their Downstream Shippers to the Operator. These nominations are now given the status "Accepted by TSO".

- Within 16:00 at D-1 the Operator will send a Transportation Notice (TDT) to each shipper containing the shipper's and respective Downstream Shipper's nominations.

- After 16:00 at D-1 the Operator will start performing an overall validation of all nominations in the system.

- Within 17:00 at D-1 the Operator and the DTSO's exchange their validated nominations. These nominations are now given the status "Processed by TSO".

- After 17:00 at D-1 the Operator and the DTSO, as applicable, shall perform a Matching of shipper and Downstream Shipper figures and apply the "lesser rule" principle.

- Within 18:00 at D-1 the Operator shall send validated and matched ("Confirmed by TSO") figures, in addition to the relevant DTSO's validated figures, to the shippers in a TDT.

Revised nominations will be validated and Matched continuously using the above procedure as applicable.

5.4 Instructions

The Operator will send Daily Delivery Instruction Field (DDIF) to the Shippers' Field Operators as an aggregated volume per Day by 22:00 for the following Day based on the shippers' Daily Field Nominations and the Operator's instructions. If there are significant changes the Operator will send revised DDIF messages.

The Operator will send Daily Delivery Instruction Plant (DDIP) to the Plants as an aggregated volume per Day by 22:00 for the following Day. The DDIP will contain deliveries to and from the Plant per pipeline. If there are any changes the Operator will send revised DDIP messages without delay.

The Operator will send Daily Delivery Instruction Terminal (DDIT) to the Terminals as an aggregated energy equivalent per hour of the Day by 22:00 for the following Day. The DDIT messages will contain aggregated volume per Day and estimated GCV for the Day. If there are any changes the Operator will send revised DDIP messages without delay.

5.5 Reporting

The Shipper's Field Operator will send Daily Production Report Field (DPRF) to the Operator within 09:00 of the succeding Day.

The Operator will send Daily Lifting Report Field (DLRF) to the Shipper's Field Operator within 10:00 for the preceding Day.

The Operator will send Reported Terminal GCV (DQRS) giving the average GCV and H2S of the redelivered Gas at each Exit Point in Area D to the shippers within 10:00 for the preceding Day.

The Operator will send Monthly Field Lifting Report (MFLR) to the Shipper's Field Operator within the 7th Business Day of the succeding Month.

6 Conversion between energy and volume

To convert between figures in Sm3 or Tonnes and figures in energy the formulas below will be used in the various Transportation Systems and /or Areas. The figures in Sm3 or Tonnes are used for Booking at the relevant booking points.

6.1 Conversion related to Shipper's Daily Field Nomination in Area D

Shipper's Field Nomination(s) in an Area upstream Area D shall be the sum of the Shipper's Daily Field Nomination(s) calculated as follows:

$$\text{Nomination (MSm}^3\text{or Tonnes)} = \frac{\left(\text{Nomination} \pm \sum \text{Transaction}\right) * \text{Shrinkage}}{\text{Dry gas GCV}}$$

Where:

- Nomination (MSm³ or Tonnes) = shipper 's calculated nomination for the Field in MSm³ for Rich Gas or Tonnes for Unstabilised Condensate
- Nomination = shipper `s Dry Gas nomination for the Field in GWh
- Transaction = shipper's Bilateral Transaction(s) upstream of the Exit Point in GWh
- Shrinkage = Shrinkage Factor for the Field
  Dry gas GCV = dry gas GCV for the Field in kWh/Sm³

6.2 Conversion related to Shipper's Daily Nomination except for Area D

Shipper's Daily Field Nomination(s) in an Area, except for Gas delivered to Area D, shall be the sum of the Shipper's Daily Field Nomination(s) calculated as follows:

$$\text{Nomination } (MSm^3) = \sum \left(\frac{\text{Exit nomination}_f \pm Transaction_f}{\text{Rich gas GCV}_\text{f}} \right)$$

Where:

- Nomination (MSm³) = shipper's calculated nomination at the Exit Point in MSm³
- Exit nomination $_f$ = shipper's Daily Exit Point Nomination in GWh Rich Gas energy related to Field f
- Transaction $_f$ = shipper's Bilateral Transaction(s) related to Field f
- Rich Gas GCV$_f$ = Rich Gas GCV for Field f in kWh/Sm³

6.3 Conversion related to Shipper's Daily Nomination at Entry Points in Area D

Shipper's calculated nomination in MSm³ at an Entry Point in Area D is calculated in the following way:

$$\text{Nomination}\ (MSm^3) = \frac{\sum(\text{Nomination}_f \pm \text{Transaction})}{\text{Dry gas GCV}}$$

Where:

- Nomination (MSm³) = shipper's calculated nomination on the Entry Point in MSm³
- Nomination$_f$ = shipper's nomination at the Entry Point in GWh related to Field f
- Transaction = shipper 's Bilateral Transaction(s) upstream of or at the Entry Point in GWh
- Dry gas GCV = shipper's dry gas portfolio GCV related to the Entry Point in kWh/Sm³

6.4 Conversion related to Shippers' Daily Nomination at Exit Points in Area D

A shipper's calculated nomination in MSm³ at an Exit Point in Area D is calculated in the following way:

$$\text{Nomination}\ (\text{MSm}^3) = \frac{\sum(\text{Nomination} \pm \text{Transaction})}{\text{Dry Gas GCV}}$$

Where:

- Nomination (MSm³) = shipper's calculated Exit Point nomination at the Exit Point in MSm³
- Nomination = shipper's nomination(s) at the Exit Point in GWh
- Transaction = shipper's transaction(s) at the Exit Point in GWh
- Dry Gas GCV = shipper's common Dry Gas portfolio GCV in Area D in kWh/Sm³

6.5 Conversion related to Shipper's Daily Nomination at Entry M1

Shipper's Daily Field Nomination(s) at M1 shall be the sum of the Shipper's Daily Field Nomination(s) calculated as follows:

$$\text{Nomination Entry Point M1}\ (Sm3) = \sum \frac{(\text{Nomination} \pm \sum \text{Transaction} \pm \sum \text{NGL Transaction}) * \text{Shrinkage} * \text{Recovery factor}}{\text{Dry gas GCV}}$$

Where:

- Nomination (Sm³) = shipper 's calculated nomination for the Field in Sm³ for NGL
- Nomination = shipper `s Dry Gas nomination for the Field in GWh
- Transaction = shipper's Bilateral Transaction(s) upstream of the Entry Points E1, G1, G2 in GWh
- NGL Transaction = shipper's Bilateral NGL Transaction(s) upstream M1 in GWh
- Shrinkage = Shrinkage Factor for the Field
- Recoveryfactor = Recovery Factor for the Field for relevant Area and/or Service
- Dry gas GCV = dry gas GCV for the Field in kWh/Sm³

7 Imbalances

7.1 Shipper Imbalance

The Operator will maintain Shipper Imbalance accounts per Shipper.

Shipper Imbalance may arise due to:

- Difference between nominated and attributed quantity at the UK Exit Points
- Difference between nominated and attributed quantity related to ethane routed from Area C to Area D
- If ethane is routed from Area C to Area D due to operational reasons
- The allocation of fuel gas consumption in Area D
- Mismatch between Daily Field Nominations and Daily Exit Point Nominations
- Mismatch related to Bilateral Transactions

The shippers shall adjust their nominations in order to keep the accumulated Shipper Imbalance as close to zero as possible. The account is not to be used for other purposes.

The Shipper Imbalance status is reported in the DCS and TDT messages.

Due to possible recalculations as described in the Operation Manual a Shipper Imbalance may arise after the company have ceased to be a Shipper. The company will be informed about such Shipper Imbalance and need to get the balance to zero as soon as possible.

7.2 Field Imbalance

The Operator will maintain Field Imbalance accounts per Field.

The Operator will try to keep aggregated Field Imbalances as close to zero as possible if necessary by adjusting the Field Availability.

The Operator will inform, in due time, the affected shippers and Shippers' Field Operators about significant adjustments to the Field Availabilty.

Any balance on the Field Imbalance account when a Field permanently stop production will be transferred to the Shipper Imbalance account based on the latest Field Lifting Key.

7.3 Imbalance towards DTSO

The difference between metered volume and shippers' Daily Exit Point Nominations will be accounted for in accordance with the operational agreement between the Operator and the DTSO.

8 Attribution and allocation

8.1 Special considerations

The attribution and allocation described in this article 8 is a deviation from the normal allocation described in the Operation Manual.

8.2 Monthly attribution process related to routing of ethane from Area C to Area D

The monthly measured quantity of ethane routed from Area C to Area D will be attributed to the shippers. Attribution in this respect means that metered quantities will be allocated to the shippers pro rata to the sum of the shipper's Daily Nominations for the Month of the ethane routed from Area C to Area D.

8.3 Daily Attribution process related to Exit Point D7 (St. Fergus) and Exit Point D10 (Easington)

The daily measured quantity delivered at Exit Point D7 (St. Fergus) and Exit Point D10 (Easington) will be attributed to the shippers. Attribution in this respect means that metered quantities will be allocated to the shippers pro rata to their Daily Exit Point Nominations.

The Operator will issue a Daily Attribution Report (DARS) to the shippers.

At Exit Point D7 (St. Fergus) the measured quantity will be determined based on allocated volume due to the measurement configuration.

The attribution will be performed both on measured energy in kWh@15°C and kWh@25°C.

At Exit Point D7 (St. Fergus) it is agreed that 1 kWh@25°C = 1,001 kWh@15°C.

8.4 Daily Allocation process Area A, Area F, Area I and Exit Point A3

The Operator will perform daily allocation of quantities delivered from Area F and Area I and to Exit Point A3. The quantities shall be allocated and reported per component per Field and per shipper.

All production needs to be allocated to a shipper. In cases with production without nomination the Operator will, in close cooperation with the Shipper's Field Operator, establish the basis for allocation.

Daily allocation Area F:
The Statfjord Area Fields, except Statfjord Unit will be allocated quantities equal to nominations. The remaining quantities metered into Area F and at Exit Point A3 will be allocated between Statfjord Unit and the remaining Tampen Area Fields based on nomination.

Reporting of Area F, Area I and Exit Point A3 quantities
The daily allocation of Area F, Area I and Exit Point A3 will be reported to the FLAGS operator in the daily allocation report UK (DARUK) message.

Daily allocation of volume from Tampen Area Fields to Area F and Area A will be reported to the Shippers' Field Operator in the Daily Allocation Report Shipper's Field Operator (DARA) message.

Daily allocated volume from the Gjøa Area Fields will be reported to the Gjøa Shippers' Field Operator in the Daily Allocation Report Shipper's Field Operator (DARA) message.

The Daily Allocation Report Shipper (DARSF) contains the shipper attribution of mass, volume and energy.

8.5 Daily Allocation process Area L

The Operator will perform daily allocation of quantities delivered to Area L. The quantities shall be allocated and reported per component per Field and per shipper.

All production needs to be allocated to a shipper. In cases with production without nomination the Operator will, in close cooperation with the Shipper's Field Operator, establish the basis for allocation.

Daily allocated volume from the Area L Field will be reported to the Area L Shippers' Field Operator in the Daily Allocation Report Shipper's Field Operator (DARA) message.

The Daily Allocation Report Shipper (DARSF) contains the shipper attribution of mass, volume and energy.

8.6 Daily Attribution process Snorre Injection

The Operator will perform daily attribution of quantities delivered to Snorre Injection. The quantities shall be attributed and reported to the Shipper's Field Operator.

All metered injection needs to be attributed to a field and a shipper. In cases with injection without nomination the Operator will, in close cooperation with the Shipper's Field Operator, establish the basis for attribution.

8.7 Monthly Allocation process Exit Point B2

The Shipper's fractional share of a Component for each Shipper's Field(s) at Exit Point B1 will be adjusted for the Shippers Field Nomination at Exit Point B2.

The adjustments are performed by reducing the total mass of each Shipper's Field(s) nominating at Exit Point B2.

8.8 Monthly allocation process Area K

The Operator will on a monthly basis perform allocation of quantities in Area K. The quantities shall be allocated and reported per Field and per shipper.

Differences between the Exit point(s) nominations and the monthly attribution will be included in the Shippers Linefill account.

All Gas delivered needs to be allocated to a shipper. In cases with deliveries without nomination the Operator will, in close cooperation with the Shipper's Field Operator, establish the basis for allocation of such deliveries.

8.9 Monthly adjustments to the Field Production Imbalance account

The Field Production Imbalance account will be adjusted monthly based on revised production data and nominations.

The monthly adjustment calculates the difference between aggregated production into Area D and shippers' aggregated nominations related to the Field, adjusted for delta Opflex, delta Linepack and metering deviation. Such metering deviation is calculated as the difference in all metering entering Area D and all metering exiting Area D, adjusted for the total change of inventory in Area D.

9 Off-spec Gas in Area D

The Operator will inform shippers of Off-spec Gas in accordance with this article.

If redelivery of Gas is expected to be Off-spec Gas, the Operator will estimate the quantity and quality and send information to the relevant shippers in a "Preliminary Warning Notice".

The "Preliminary Warning Notice" (QDGN) will contain:

- Reasons for event
- Estimated quantity
- Estimated quality
- Expected time of arrival at Exit Point
- Force Majeure declaration, if applicable

After redelivery of Off-spec Gas the Operator will allocate the actual quality value of the Gas pro rata based on the shippers' matched figures.

Off-spec Gas are reported in the "Quality Gas Allocation Report" (QDGA).

The QDGA will contain:

- Shippers' allocated quantity of Gas at Exit Points Area D
- Relevant quality values (for instance GCV, WI, CO_2, H_2S)

If the redelivered Gas is not Off-spec Gas a "Cancellation of Warning Notice" (QDGC) will be issued.

The QDGC will contain:

- Reference to relevant case number
- Incidence description

The notices will be distributed to all shippers delivering Gas at the relevant Exit Point(s).

10 Factors

10.1 General

Factors are issued twice a Year in connection with the biannual booking rounds as described in the Booking Manual. In addition the Operator will revise the factors when needed.

10.2 Portfolio GCV`s in Area D

Based on an evaluation of volume and composition from forecasts, historical deliveries and shipper's shares of the respective fields, the Operator will calculate a shipper specific Portfolio GCV. Such Portfolio GCV will be calculated for every Entry Point in Area D and a common Area D Exit Point Portfolio GCV for the shipper for relevant Years. Shippers can see an updated list of the portfolio GCV`s in the Gassco Booking System.

10.3 Shrinkage Factors for Fields upstream Kårstø gas plant, Kollsnes gas plant, Nyhamna gas plant and Heimdal field

Based on an evaluation of volume and composition from forecasts and historical deliveries, the Operator will calculate field specific Shrinkage Factors for Fields upstream Kårstø gas plant, Kollsnes gas plant, Nyhamna gas plant and Heimdal field for relevant Years.

10.4 Recovery Factors

Based on an evaluation of volume and composition from forecasts and historical deliveries, the Operator will calculate field specific Recovery Factors for relevant Years for the relevant services.

11 Miscellaneous

11.1 Communication to Operator Dispatching/operations

AS4 adress http://as4.Gassco.no/exchange
Dispatch messages: dispatching@tccprod.gassco.no
E-mail addresses: tcc@-gassco.no Telephone, operations: +47 52 81 28 97
Telephone, Dispatching: +47 52 81 28 96

11.2 Communication protocol

The preferred communication protocol for messages is AS4 over public internet.

Gassco will use AS4 in compliance with EASEE-gas and ENTSOG standard and recommendation.

Email/SMTP should only be used for messages containing non sensitive data and as a backup communication protocol.

- Email Messages must be sent from a fixed IP address.
  No public cloud IP is accepted.
- The IP address must be approved and will then be whitelisted by Gassco.
- Gassco will only send messages to Company Email addresses. No personal Email addresses in the external company will be accepted.

11.3 Message content, NOMINT

The shippers will send one NOMINT message for Exit Point B2 and one per. Exit Point in Area D, Area E, Area F and Area I, Area L, Area K and Area P. The shippers will also send one message containing Daily Field Nomination, relevant transactions Opflex, Lineflex, Linefill and Shipper Imbalance.

11.4 Message content, NOMRES

The Operator will reply to the NOMINT with a NOMRES message to all shippers using Edig@s. This will be one message giving a total overview of all Daily Field Nominations, relevant transactions, Opflex, Lineflex, Linefill and Shipper Imbalance, and Daily Exit Point Nominations Accepted/Processed/Confirmed by the Operator and the DTSO's.

11.5 Energy units

The shippers' nominations have to be expressed in kWh @ 25°C reference temperature.

11.6 Summer/Wintertime

23 hours Day

In the transition to summer time the day has 23 hours and available capacity in the booking system will accordingly be 23/24 of normal availability. In those parts of the Transportation System, which are not fully booked the reduction will have no effect. Nominations for the transition to summer day have to be delivered inside the 23 hours and the nominated daily quantity will have to be within the daily availability shown in the booking system.

25 hours Day

In the transition to wintertime the day has 25 hours and the available capacity in the booking system will accordingly be 25/24 of normal availability. Operator will make spare capacity related to the extra hour available in a Short Term Initial Booking round. The capacity will be allocated prorate according to existing Bookings on the booking points.

In either case the setting of the new time will follow the international standard. This means that in the transition to summertime the change occurs at 02:00 AM Central European Time (CET), which then becomes 03:00 CET. In the transition to wintertime the change occurs at 03:00 AM CET, which then becomes 02:00 CET.

12 Dispatching Messages

12.1 General

In this article the most important message types for shippers used in the daily Dispatching process are listed.

The Operator supports Edig@s format for shippers to nominate Field – and Exit Point quantities.

Updated formats of these messages can be obtained by contacting the Operator on: ds@Gassco.no.

12.2 Messages from shippers to the Operator

Daily:

- SDT = Daily Field Nomination message
- SDT = Daily Exit Point Nomination message

Periodically:

- LFRS = Lineflex Request Shipper

12.3 Messages from the Operator to the shippers

Weekly:

- WAS = Weekly Availability Shipper

Daily:

- DAS = Daily Availability Shipper
- TDT = Daily Transport Notice
- DCS = Daily Confirmation Shipper
- DQRS = Reported terminal GCV
- DARS = Daily Attribution Report
- DARSF =Daily Allocation Report
- WQNS = GCV forecast at Exit Point

Periodically:

- LFAS = Lineflex Awarded Shipper
- LFOS = Lineflex Overview Shipper

Event driven:

- QDGN = Preliminary Warning Notice
- QDGA = Quality Gas Allocation Report
- QDGC = Cancellation of Warning Notice

12.4 Messages from Shipper's Field Operator to Operator

Forecast/long term:

- FLK = Field Lifting Key
- FMRA/SMRA = Fifteen/Six Month Rolling Availability

Weekly

- WAF = Weekly Availability Field

Daily:

- DPRF = Daily Production Report Field

Monthly:

- MPRF = Monthly Production Report Field (On the first Day of the next Month)

12.5 Messages from Operator to Shipper's Field Operator

Daily:

- DDIF = Daily Delivery Instruction Field
- DLRF = Daily Lifting Report Field (Within 10:00 the next Day)

- DARA = Daily Allocation Report

Monthly:

- MFLR = Monthly Field Lifting Report

12.6 Messages from Operator to Plant

Daily:

- DDIP = Daily Delivery Instruction Plant

12.7 Messages from Operator to Terminal

Daily:

- DDIT = Daily Delivery Instruction Terminal

12.8 Messages from Operator to DTSO

Monthly:

- MBR = Monthly Balancing Report

12.9 Messages from Operator to FLAGS operator and SAGE operator

Daily:

- DARUK = Daily allocation Report

13 Maintenance Planning Procedure

The Operator shall co-ordinate the planning of yearly maintenance related to fields delivering Gas from the Norwegian Continental Shelf.

The Operator shall develop long term plans for maintenance for a period of ten years, and a more detailed maintenance plan for the coming 2 years in accordance with the following procedure.

13.1 Long term maintenance planning

Week 5: The Shippers' Field Operators submit to the Operator their plans for maintenance.

Such plan for year x + 2 and the following 8 years shall contain the following information:

- Name of location / installation / facility involved
- Major scope of work
- Number of days for maintenance

The Operator will call for meetings with the representatives to discuss and verify input to the long term maintenance plan.

Week 10: Final update of long term plans to be issued by the Operator to relevant Shippers' Field Operators and relevant shippers.

Throughout the year the Shippers' Field Operators shall inform the Operator about any update of the long term plans for maintenance whenever such information is available. The Operator shall, within two weeks after receiving such information, issue and distribute an updated long term plan.

13.2 Maintenance planning

Annual maintenance planning shall apply for planned maintenance to be carried out in the period 1 April through 30 September the following year. The period 1 April through 30 September is not valid for Vestprosess.

Gassco will issue a maintenance plan for the coming 2 calendar years. This maintenance plan will be published on flow.gassco.no according to the principles for Operator's publication of operational information.

This plan will be available on the Gassco Maintenance Plan (GMP) module, gmp.gassco.no.

Week 22: The Shipper's Field Operators shall submit a preliminary plan for maintenance to the Operator for the coming 2 calendar years.

Such plan shall contain the following information:

- Name of location / installation / facility involved
- Major scope of work.
- Number of days for maintenance
- Period (start/ending date and hours)
- Available capacity from the unit during the notified period, including the period when the capacity is reduced prior to a shut down and the period when the capacity is increased after the shut down
- Daily maximum capacity from the facilities throughout the maintenance and modification period (1.4-30.9) (Input to production/availability calculations).
- Provide any expected changes in Gas quality specification (especially GCV/WI/CO2) at each Entry Point (Field, Terminal, etc) in the notified period
- Type of work, impact on the Transportation System, scope and criticality, and possible alternative periods when the work can be performed

May - September:

This period is used for coordination of activities to optimise the maintenance plan.

Clarification and meetings shall be held on request of the Operator or the Shipper's Field Operator.

Based on input the Operator will issue an overall preliminary plan to involved Shipper's Field Operators for comments.

Week 41: The Operator will publish a preliminary maintenance plan for the 2 coming calender years to Shippers' Field Operators and relevant shippers, including indication of any quality implications. Gassco Booking System and flow.gassco.no will be updated accordingly.

The maintenance plan is more certain with respect to activities in the first calendar year than in the second.

Any changes to the annual maintenance plan, after week 41, shall be reported to the Operator without undue delay.

October-November: Clarification and meetings shall be held on request of the Operator or the shipper.

Week 46: Final comments to the plan from the shippers.

Week 50: The Operator issue final maintenance plan. Transportation curtailments in relation to planned maintenance will normally be performed in the weekly booking rounds.

Week 10: Information of lineflex periods for maintenance in the Maintenance Period will be sent to the Shippers in accordance with article 4.5 third paragraph.