

## INTRADAY FLEXIBILITY CONTRACT

**Operational Procedures**  
Version of September 1st, 2025



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## Article 1- Exchanging information

Unless otherwise stated, information is exchanged between the Customer and NaTran through the IS (Information System) made available to the Customer by NaTran, within the limits of the functions that NaTran can provide through this IS. Functions that are not yet operational in the IS or under development will be communicated by e-mail.

The information declared to NaTran by the Customer for the Highly Modulated Site automatically generate for the Customer either an acknowledgement of receipt (e-mail, API) or an entry in the connection log made available on the Customer Portal.

If the IS is unavailable, communication will be by e-mail accompanied, if necessary, by a prior telephone call.

The syntax and input format for the IS and e-mail messages are available in document "05"Overall process and format of IS exchanges" in the Contract.

## Article 2 - Procedures on day D-1 before 8:30 p.m.

### 2.1 Customer obligations

Every Day D-1 before 2:30 p.m. (fourteen-thirty Hours), with the possibility of a further declaration before 4:30 p.m. (sixteen-thirty Hours), the Customer declares to NaTran for Days D, D+1 and D+2:

- The Profile for the Highly Modulated Site;
- The expected Minimum Technical Hourly Flow Rate and the Maximum Technical Hourly Flow Rate of the Highly Modulated Site for the Days mentioned;

If the Customer fails to declare these elements within the prescribed time or in the event of non-declaration, NaTran will take into account the most recent information declared by the Customer for the Day in question.

The data declared in the IS are checked automatically and deemed useable by NaTran once the Customer has received technical confirmation from the IS, either via the Customer Portal or via the API.



## 2.2 NaTran's obligations

### 2.2.1 Confirmation of the feasibility of the Profile for Day D

The Profile declared by the Customer for Day D must comply with the Maximum Hourly Flow Rate and the Minimum Hourly Flow Rate of the Connection Facilities specified in the Highly Modulated Site's Connection Contract.

Based on the previous elements, NaTran gives a response to the Customer's declaration, stating whether or not the Profile declared for Day D is feasible. This response is made available no later than one minute after the declaration. Customers can consult it via either the Customer Portal or the API.

Confirmation of the feasibility of a Profile declared on D-1 before 8:30 p.m. (twenty-thirty Hours) for day D is not deemed to be firm.

NaTran carries out an hourly analysis of the feasibility of all Profiles declared by customers for all Highly Modulated Sites present on the Network, according to the terms of Article 6. Based on this analysis, NaTran triggers, if necessary, the mechanisms associated with a lack of flexibility for Day D before D-1 8:30 p.m. (twenty-thirty Hours), in accordance with the procedures of Article 2.3.

Consequently, the feasibility of the Profiles confirmed as feasible by NaTran is deemed firm only from 8:30 p.m. (twenty-thirty Hours), if NaTran has not triggered a notification of a lack of flexibility.

### 2.2.2 Provision of the Notice Period for Day D

Every day, NaTran communicates the applicable Notice Period to the Customer in the form of a green or red Flexibility Indicator.

The Notice Period associated with each Flexibility Indicator is fixed: zero for a green indicator and 6 (six) hours<sup>1</sup> for a red indicator.

The colour of the Flexibility Indicator is reassessed every hour by NaTran. It is published no later than Hour H-08 minutes on the Customer Portal and the API, and takes effect at Hour H+15. If there is no publication at Hour H-08, the last indicator published before Hour H-08 minutes applies (the publication time is that of the field `availabilityDateTime` of the object `SITEINDICATORS`, as defined in §13.1 of the document *Overall process and format of IS exchanges*).

Furthermore, NaTran has implemented a Partial Flexibility Indicator which will only apply if the Flexibility Indicator Q -> Q+ is red.

## 2.3 Request by NaTran to modify the Profile on Day D-1 for Day D (lack of flexibility)

If NaTran, acting as a Prudent and Reasonable Operator, is not able to confirm the feasibility of all the Profiles declared by the Highly Modulated Sites present on

<sup>1</sup> In this case, the notice period covers the current hour H and the 5 (five) Hours to come.

one or more of the Network Meshes, NaTran will ask the customers, for all the Highly Modulated Sites present on one or more of the Meshes in question, to change their Profiles in accordance with one of the options defined below, as chosen by each Customer.

Every Day D-1 where correction is needed for Day D, the reduction factor  $X\%$ , as required when applying options 2 and 3 described below, is communicated by NaTran to the Customer no sooner than 7.30 p.m. (nineteen-thirty Hours) and no later than 8.30 p.m. (twenty-thirty Hours).

Before 9:30 p.m. (twenty-one thirty Hours) on Day D-1, the Customer sends NaTran a modified Profile with an hourly flow rate that matches the requested amendments.

If a modified Profile does not comply with the requested amendments, NaTran will ask the Customer, before 10.30 p.m. (twenty-two thirty Hours), to take the necessary steps to become compliant.

NaTran will contact the Customer by telephone if the transmission of the modified Profile does not comply with the IS syntax or input format. If there is no phone call by NaTran in the hour following a declaration of modified Profile, the data declared by the Customer are deemed usable by NaTran.

Telephone calls will be preferred, followed by an e-mail record of the exchange.

In order to avoid any confusion, in all cases where the declared Profile is not feasible, the default Notice Period communicated by NaTran in the form of Flexibility Indicators as well as the associated controls, as specified in Article 3.3, no longer apply. Any modification to the Profile is prohibited until the end of Day D.

### **2.3.1 Option 1: “Constant Profile for Day D”**

The Customer modifies its Profile in such a way that the hourly flow rate is constant over Day D with the associated Flexibility Tolerance, at a level of its choice.

### **2.3.2 Option 2: "Equal daily consumption"**

This option is based on the principle of daily consumption that does not change between the initial Profile and the modified Profile, in particular if it entails operation at a minimum nonzero flow rate.

The Customer applies to the initial Profile a reduction factor  $X\%$  imposed by NaTran. This reduction factor is:

- The same for all Highly Modulated Sites;
- Identical to the reduction factor  $X\%$  of option 3.

For each Hour H on Day D, the hourly flow rate of the modified Profile must be as follows:



$$Q'_h = (1 - X\%) \times Q_{hr} + Q'_{min}$$

where  $Q'_{min}$  is such that daily consumption remains the same

$$\text{i.e. } \sum Q'_h = \sum Q_h$$

Where:

- $Q_h$  (MWh/h): is the hourly flow rate of the Initial Profile for each Hour H on Day D;
- $Q_{min}$  (MWh/h): minimum hourly flow rate of the Initial Profile, i.e. the minimum value of the hourly flow rates  $Q_h$  for Day D;
- $Q_{hr}$  (MWh/h): residual hourly flow corresponding to Hour H of the Profile. It is defined for each Hour H of Day D by  $Q_{hr} = Q_h - Q_{min}$
- $Q'_h$  (MWh/h): hourly flow rate of the modified Profile for each Hour H on Day D;
- $Q'_{min}$  (MWh/h): minimum hourly flow rate of the modified Profile, i.e. the minimum value of the hourly flow rates  $Q'_h$  for Day D.

The correction entails initially reducing the residual hourly flow rate  $Q_{hr}$  by the value of  $X\%$  communicated by NaTran for each Hour H of operation.

The Customer must then adjust the value from  $Q_{min}$  to  $Q'_{min}$  so that the daily consumption of the modified Profile remains unchanged versus the initial Profile.

With this reduction, the initial flexibility available to NaTran does not need to be changed, which therefore provides a guarantee to the Customer that the modified Profile is feasible.

The modified Profile is then defined for each Hour H of Day D.

### 2.3.3 Option 3: “Rebalancing of resources”

This option is based on the principle of rebalancing resources other than External Sources of intraday flexibility. This option can be chosen if the Profile includes operation at zero minimum flow rate.

The Customer applies to the initial Profile a reduction factor  $X\%$  imposed by NaTran. This reduction factor is:

- The same for all Highly Modulated Sites;
- Identical to the reduction factor  $X\%$  of option 2.

For each Hour H on Day D, the hourly flow rate of the modified Profile must be as follows:

$$Q'_h = (1 - X\%) \times Q_{hr} + Q_{min}$$

Where:

- $Q_h$  (MWh/h): is the hourly flow rate of the Initial Profile for each Hour on Day D;
- $Q_{min}$  (MWh/h): minimum hourly flow rate of the Initial Profile, i.e. the minimum value of the hourly flow rates  $Q_h$  for Day D;
- $Q_{hr}$  (MWh/h): residual hourly flow corresponding to Hour H of the Profile. It is defined for each Hour H of Day D by  $Q_{hr} = Q_h - Q_{min}$
- $Q'_h$  (MWh/h): hourly flow rate of the modified Profile for each Hour H on Day D;



- $Q'_{min}$  (MWh/h): minimum hourly flow rate of the modified Profile, i.e. the minimum value of the hourly flow rates  $Q'_h$  for Day D.

The correction entails reducing the residual hourly flow rate  $Q_{hr}$  by the value of  $X\%$  communicated by NaTran for each Hour H of operation.

The modified Profile is then defined for each Hour H of Day D.

## Article 3 - Procedures from Day D-1 at 8:30 p.m.

From 8:30 p.m. (twenty-thirty Hours) on Day D-1, if NaTran has established the feasibility of all Profiles declared by all Customers for all Highly Modulated Sites present on the Network via hourly analysis of the situation, in accordance with the procedures of paragraph 2.2.1 of this contract, then NaTran shall assess the feasibility of each new Profile sent on an ad hoc basis, as described in this Article.

### 3.1 General provisions

The Customer undertakes to comply with the Profile for Day D declared on D-1 and confirmed as feasible by NaTran, with the associated Flexibility Tolerance.

In the event of consumption variations around the hourly value of the declared Profile for the Highly Modulated Site being less in absolute value than the Flexibility Tolerance, no modification to the declared Profile is required.

- For any change to the Profile for Day D, whether upwards or downwards, where the quantity is greater than or equal to the Flexibility Tolerance, the Customer undertakes to declare the modified Profile to NaTran and then to implement this modified Profile in compliance with the Notice Period for the Flexibility Indicators in force.

The declared new Profile is only confirmed as feasible by NaTran if it complies with the procedures described in Article 3.3. If the Profile is not confirmed as feasible by NaTran, the Customer undertakes to comply with the last Day D Profile confirmed as feasible by NaTran, outside the Flexibility Tolerance, or to declare a new feasible Profile to NaTran.

The data declared in the IS are checked automatically and deemed usable by NaTran once the Customer has received technical confirmation from the IS, either via the Customer Portal or via the API.

The Customer notifies NaTran of its modified Profile no later than H+15 minutes if the change in hourly gas consumption by the Highly Modulated Site relates to Hour H in the case of a green flexibility indicator.

In the event of an applicable red indicator, this notification must be organised so as to comply with the Notice Period and the associated procedures (see §3.3 of this document).

## 3.2 Specific provisions in the event of a Consumption Uncertainties

Upon occurrence, during Day D, of any consumption uncertainty that does not allow the Customer to meet its obligations towards NaTran, the Customer will notify NaTran by phone or e-mail as soon as possible in order to agree on the measures to implement.

The latest Profile communicated by the Customer prior to the Consumption Uncertainty remains in force:

- If the Customer is in a position to go back to that Profile within 2 (two) Hours, the provisions of Article 3.1 apply with a Notice Period equal to zero;
- If the Customer is not in a position to go back to that Profile within 2 (two) Hours, then the Customer will contact NaTran prior to the expiry of the aforementioned deadline and notify NaTran that this is not possible. The Parties shall meet to define the provisions to be implemented, in particular in terms of Profile feasibility.

Within 24 (twenty-four) hours of the Consumption Uncertainty, the Customer shall send NaTran the following information by e-mail:

- The start date and time of the Consumption Uncertainty;
- The elements that explain the occurrence of the Consumption Uncertainty.

## 3.3 Assessing the feasibility of new Profiles

The functional confirmation of the new Profile will be carried out in compliance with the management rules associated with Flexibility Indicators.

These management rules associated with Flexibility Indicators are only checked if the Profile declared by the Customer for Day D complies with the Maximum Hourly Flow Rate and the Minimum Hourly Flow Rate of the Connection Facilities defined in the Highly Modulated Site's Connection Contract. If the Profile is not compliant, then the checks below are not carried out by NaTran and the Profile is not confirmed as feasible by NaTran.

### 3.3.1 Declarations made up to Day D-1 at 1 a.m.

All Profiles dealing with a Day D, received up to day D-1 at 1 a.m. (zero-one hundred Hours) are automatically confirmed as feasible by NaTran.

### 3.3.2 Declarations made after Day D-1 at 1 a.m.

Each new Profile dealing with a Day D, received during Hour H, after Day D at 1 a.m. (zero-one hundred Hours) is checked for compliance with the following rules associated with Flexibility Indicators:

#### 3.3.2.1 Profile received in the first quarter of Hour H

As an operational tolerance applies in this situation, the Site is required to communicate its new Profile from Hour H-1, inclusive.



Initially, NaTran determines the Flexibility Indicators applicable to the new Profile sent by the Customer as follows:

For Hour H-1, the current Hour H and the upcoming 5 (five) full hours, the new Profile is compared to the last Profile confirmed as feasible by NaTran.

- If, for at least one Hour of the new Profile, the hourly rate is strictly higher than that of the last Profile confirmed as feasible by NaTran, the Flexibility Indicator Q -> Q+ and the Partial Flexibility Indicator shall apply.
- If, for at least one Hour of the new Profile, the hourly rate is strictly lower than that of the last Profile confirmed as feasible by NaTran, the Flexibility Indicator Q -> Q- shall apply.

Since the indicators published at Hour H-8 minutes only apply from Hour H+15 minutes, the previous indicators are used for the following checks. However, if an indicator published at Hour H-8 minutes is more favourable for the site (change from red to green) this is the one that will be used for the following checks.

For the same new Profile, the applicable indicators may cumulatively be the Flexibility Indicator Q -> Q+, the Partial Flexibility Indicator and the Flexibility Indicator Q -> Q-.

Secondly, for each of the Flexibility Indicators sent by the Customer that are applicable to the new Profile, NaTran determines whether the new Profile is compliant based on the colour of each of the applicable Flexibility Indicators:

- If the applicable Flexibility Indicator Q -> Q- is
  - Green: for all Hours from Hour H-1 to Hour H+5 (five) hours, inclusive (i.e. a total of 7 checked time slots), where the hourly flow rate of the new Profile is less than or equal to that of the last Profile confirmed as feasible by NaTran, the new Profile is considered compliant with the Flexibility Indicator.
  - Red: if, for at least one of the Hours between Hour H-1 and Hour H+5 (five) hours, inclusive (i.e. a total of 7 checked time slots), the hourly flow rate of the new Profile is strictly lower than that of the last Profile confirmed as feasible by NaTran, then the new Profile is considered non-compliant with the Flexibility Indicator.
- If the applicable Flexibility Indicator Q -> Q+ is
  - Green: for all Hours from Hour H-1 to Hour H+5 (five) hours, inclusive (i.e. a total of 7 checked time slots), where the hourly flow rate of the new Profile is greater than or equal to that of the last Profile confirmed as feasible by NaTran, the new Profile is considered compliant with the Flexibility Indicator.
  - Red:
    - The applicable Partial Flexibility Indicator is Green: then the new Profile is considered compliant with the Flexibility Indicator if the total hourly flow rates from Hours H-1 to Hour H+5 (five) hours, inclusive (i.e. a total



of 7 checked time slots), of the new Profile is less than or equal to that of the last Profile confirmed as feasible by NaTran before the start of Hour H-1 plus 0.8 GWh/plant. Otherwise, the new Profile is considered non-compliant with the Flexibility Indicator.

- The Partial Flexibility Indicator is applicable Red or absent (see: paragraph on the transitional period of the General Terms and Conditions): if, for at least one of the Hours between Hour H-1 and Hour H+5 (five) hours, inclusive (i.e. a total of 7 time slots checked), the hourly flow rate of the new Profile is strictly higher than that of the last Profile confirmed as feasible by NaTran, then the new Profile is considered non-compliant with the Flexibility Indicator.

If the Profile is considered non-compliant by at least one of the above checks, then it is not confirmed as feasible by NaTran. Otherwise, it is confirmed as feasible by NaTran.

The Flexibility Indicators (Q -> Q+, Q -> Q-, and partial flexibility) will be made available to the Customer by NaTran via the Information System every hour at Hour H-8 minutes. They are applicable at Hour H+15 minutes.

### 3.3.2.2 Profile received after the first quarter of Hour H

In this situation, the Site is only likely to modify its Profile from Hour H onwards.

Initially, NaTran determines the Flexibility Indicators applicable to the new Profile sent by the Customer as follows:

For the current Hour H and the upcoming 5 (five) full hours, the new Profile is compared to the last Profile confirmed as feasible by NaTran.

- If, for at least one Hour of the new Profile, the hourly rate is strictly higher than that of the last Profile confirmed as feasible by NaTran, the Flexibility Indicator Q -> Q+ and the Partial Flexibility Indicator shall apply.
- If, for at least one Hour of the new Profile, the hourly rate is strictly lower than that of the last Profile confirmed as feasible by NaTran, the Flexibility Indicator Q -> Q- shall apply.

For the same new Profile, the applicable indicators may cumulatively be the Flexibility Indicator Q -> Q+, the Partial Flexibility Indicator and the Flexibility Indicator Q -> Q- .

Secondly, for each of the Flexibility Indicators sent by the Customer that are applicable to the new Profile, NaTran determines whether the new Profile is compliant based on the colour of each of the applicable Flexibility Indicators:

- If the applicable Flexibility Indicator Q -> Q- is
  - Green: for all Hours from Hour H to Hour H+5 (five) hours included (i.e. a total of 6 check time slots), where the hourly flow rate of the new Profile is less than or equal to that of the last Profile confirmed as feasible by NaTran, the new Profile is considered compliant with the Flexibility Indicator.
  - Red: if, for at least one of the Hours between time H and time H+5 (five) hours included (i.e. a total of 6 time slots checked), the hourly flow rate



of the new Profile is strictly lower than that of the last Profile confirmed as feasible by NaTran, then the new Profile is considered non-compliant with the Flexibility Indicator.

- If the applicable Flexibility Indicator  $Q \rightarrow Q+$  is
  - Green: for all Hours, from time H to time H+5 (five) hours, inclusive (i.e. a total of 6 checked time slots), where the hourly flow rate of the new Profile is greater than or equal to that of the last Profile confirmed as feasible by NaTran, the new Profile is considered compliant with the Flexibility Indicator.
  - Red:
    - The applicable Partial Flexibility Indicator is Green: then the new Profile is considered compliant with the Flexibility Indicator if the total hourly flow rates from Hours H to Hour H+5 (five) hours, inclusive (i.e. a total of 6 checked time slots), of the new Profile is less than or equal to that of the last Profile confirmed as feasible by NaTran before the start of Hour H, plus 0.8 GWh/plant. Otherwise, the new Profile is considered non-compliant with the Flexibility Indicator.
    - The applicable Partial Flexibility Indicator is Red or absent: if, for at least one of the Hours between time H and time H+5 (five) hours, inclusive (i.e. a total of 6 checked time slots controlled), the hourly flow rate of the new Profile is strictly higher than that of the last Profile confirmed as feasible by NaTran, the new Profile is considered non-compliant with the Flexibility Indicator.

If the Profile is considered non-compliant by at least one of the above checks, then it is not confirmed as feasible by NaTran. Otherwise, it is confirmed as feasible by NaTran.

The Flexibility Indicators ( $Q \rightarrow Q+$ ,  $Q \rightarrow Q-$ , and partial flexibility) will be made available to the Customer by NaTran via the Information System every hour at Hour H-8 minutes. They are applicable at Hour H+15 minutes.



## Article 4 - Specific procedures for electricity producers

### **4.1 Specific provisions following a safety measure for an electricity-generating customer**

On receipt of an order issued by the manager of the French public electricity grid operator via the latter's Alert and Safety System or an equivalent telephone order and during the validity of the order, the Customer is temporarily exempt from the provisions set out in Article 3 in order to implement the safety measure ("Ordre de sauvegarde").

Following the end of the order issued by the Alert and Safety System or by the French public electricity grid operator, the Customer and NaTran will phone each other to agree on the arrangements for reverting to the initial Profile or to achieve, if necessary in compliance with the provisions specified in Article 3 and in particular the feasibility of the Profiles, a modified Profile as required by the French public electricity grid operator. The Customer then undertakes to declare to NaTran, as soon as possible, the Profile agreed upon by the Parties. It is nevertheless understood that the priority for the Customer is to follow the instructions given by the French public electricity grid operator.

### **4.2 Specific provisions for the use of the flexibility tolerance by an electricity producer**

The Flexibility Tolerance is not deemed to cover all variations related to the System Services, even if it offers versatility for participation in these System Services. It is the Customers' responsibility to ensure that their participation in these System Services complies with the commitments made under the Contract.

## CHAPTER 2 METHODS OF DETERMINATION BY NATRAN

### Article 5 - Methodology for determining flexibility indicators

Flexibility Indicators are intraday. They are calculated by Mesh and are updated every hour on the basis of the elements available at NaTran at Hour H-10 minutes.

These Flexibility Indicators are used provide information on the capacity of a Mesh to absorb changes in the consumption of the Mesh's Highly Modulated Sites.

These indicators are published to inform customers about the gas demand constraints.

These Flexibility Indicators are calculated from the following data sources:

- The linepack available in the NaTran network
- Projected linepack, as calculated by NaTran
- Consumption forecasts
- Highly Modulated Site Profiles
- Network supervision terminals
- Awareness information about capacity limits in the NaTran network

#### 5.1 Flexibility indicator Q -> Q+

This indicator reflects the linepack availability in the NaTran network required for the consumption of Highly Modulated Sites. This required linepack availability is determined by the condition that all Highly Modulated Sites in the Mesh switch their consumption from Q to Qmax.

Initially, the additional linepack required to allow all of the Mesh's Highly Modulated Sites to transition to Qmax consumption is determined and compared to the linepack available in the Mesh, as well as that transferable from adjacent Meshes, over the coming 6 (six) full hours.

If the required linepack is greater than the sum of the available linepack available in the Mesh and transferable from adjacent Meshes, the Flexibility Indicator Q-> Q+ is red. Otherwise, the Flexibility Indicator Q-> Q+ is green. The linepack available in the Mesh over the next 6 (six) full hours is calculated by making a projection of the actual measured linepack over the coming hours. To do this, the linepack measured at time T is added to the Mesh consumption



modulations. These modulations are obtained via the consumption forecasts made by NaTran.

The transferable linepack from adjacent Meshes over the next 6 (six) full hours is the volume of gas that can be mobilised and transferred by NaTran from adjacent Meshes to the Mesh in question. If the flexibility indicator of an adjacent Mesh is red, then the linepack that can be transferred from this Mesh to the Mesh in question is zero.

The transfer of gas between Meshes is determined in particular from information relating to the Network boundary. It is only possible if the distance to the boundary allows the necessary linepack to be transferred to the Mesh in question.

## 5.2 Partial flexibility indicator

The Partial Flexibility Indicator indicates the possibility for all Highly Modulated Sites of the Mesh in question to make an upwards adjustment, over the coming 6 (six) full hours, of their last Profile confirmed as feasible by NaTran, up to a limit of 800 (eight hundred) MWh per production unit per Highly Modulated Site<sup>2</sup>.

If the projection of available and transferable linepack in the Mesh does not cover the upward adjustment of 800 (eight hundred) MWh, the Partial Flexibility Indicator is red. Otherwise, the Partial Flexibility Indicator is green.

## 5.3 Flexibility indicator Q -> Q-

The Flexibility Indicator Q -> Q- reflects a Mesh's capacity to absorb a drop in consumption from Highly Modulated Sites. This indicator is determined by the condition that all of the Mesh's Highly Modulated Sites reduce their consumption to 0 (zero) over the next 6 (six) full hours.

Initially, the additional linepack required to allow all of the Mesh's Highly Modulated Sites to transition to 0 (zero) consumption is determined and compared to the linepack available in the Mesh, as well as that transferable from Meshes over the coming 6 (six) full hours.

If the required linepack is greater than the sum of the available linepack available in the Mesh and transferable from adjacent Meshes, the Flexibility Indicator Q-> Q- is red. Otherwise, the Flexibility Indicator Q-> Q- is green.

The linepack available in the Mesh over the next 6 (six) full hours is calculated by making a projection of the actual measured linepack over the coming Hours. For this, the difference is calculated between the measured and projected linepack over the coming 6 (six) full hours and the maximum acceptable linepack on the Mesh.

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<sup>2</sup> For example, the Martigues site has two production units. In the event of a partial flexibility indicator, each of them will have the option of increasing its Schedule by 800 (eight hundred) MWh.



The linepack transferable from one Mesh to the other over the next 6 (six) full hours is the volume of gas that can be mobilised and transferred by NaTran from adjacent Meshes to the Mesh in question.

If the Flexibility Indicator  $Q \rightarrow Q^-$  of an adjacent Mesh is red, then the linepack that can be transferred from this Mesh to the Mesh in question is zero.

The transfer of gas between Meshes is determined in particular from information relating to the Network boundary. It is only possible if the distance to the boundary allows the necessary linepack to be transferred to the Mesh in question.

## Article 6 - Feasibility of the Profile declared on Day D-1 by the Customer for Day D

### 6.1 Applying the flexibility tolerance

Every Day D-1, the Customer notifies NaTran of the Profile for Day D for the Highly Modulated Site.

From all the Profiles declared by customers for Day D, NaTran deducts:

- The quantity of energy for a given Hour H on Day D for all the aggregated Profiles declared by customers [ $Q_{TOTAL}(H)$ ];
- The hourly average operation of all the aggregated Profiles declared by customers for Day D (MOY);

In order to calculate the feasibility of the Profiles declared by customers for their Highly Modulated Sites, NaTran uses the scenario of applying the Flexibility Tolerance that maximises the Network's demand constraint, i.e.:

- If  $Q_{TOTAL}(H) > MOY$  then NaTran adds the Flexibility Tolerance to the Customer's Profile for Hour H;
- If  $Q_{TOTAL}(H) < MOY$  then NaTran withdraws the Flexibility Tolerance from the Customer's Profile for Hour H;
- If  $Q_{TOTAL}(H) = MOY$  then NaTran does not modify the Customer's Profile for the Hour H;

In any case, the quantity of energy in the Highly Modulated Site's Profile for a given Hour H on Day D used by NaTran to carry out simulations, is greater than or equal to the Minimum Technical Hourly Flow Rate and less than or equal to the Maximum Technical Hourly Flow Rate declared on Day D-1 for Day D by the Customer for the Highly Modulated Site.

### 6.2 Assessing the feasibility of the Profiles

On Day D-1, NaTran uses the following input parameters to assess and confirm or not, before 8:30 p.m. (twenty-thirty Hours), the feasibility of the Profiles declared by the customers for their Highly Modulated Sites for Day D:

- The Profiles declared no later than 4:30 p.m. (sixteen-thirty Hours) by customers for their Highly Modulated Sites, including the Flexibility Tolerance;



- The nominations of Shippers at the Network's "entry points and exit points" (in the sense of the Transmission Contract) made between 4 p.m. (sixteen hundred Hours) and 8 p.m. (twenty hundred Hours);
- The hourly consumption forecasts for all NaTran customers established at 3 p.m. (fifteen hundred Hours);
- Internal intraday flexibility (useful linepack ["Stock en Conduite", subsequently referred to as "SEC"]) available to customers on the Network;
- The hourly possibilities of External Sources of intraday flexibility defined at 7 p.m. (nineteen hundred Hours);

Once these input data have been set, NaTran establishes the hourly Profile on the Network for Day D and from this deduces whether or not the Profiles are feasible.

On Day D-1, as all intraday flexibility resources are pooled together for use by the whole Network, the feasibility of the Profiles declared by the customers is calculated for the whole Network.

### 6.3 Operational procedures for quantifying overall shortage and allocation per Customer

When the Profiles are shown to be unfeasible in accordance with the procedures of paragraph 6.2, NaTran quantifies the shortage of intraday flexibility and sends customers the Profile modification criterion before 8:30 p.m. (twenty thirty Hours) on Day D-1 for Day D.

The shortage is quantified by modelling the Profiles declared by customers for their Highly Modulated Sites. From all the Profiles declared for Day D, NaTran deducts:

- the average hourly operation of all the aggregated Profiles ( $MOY$ );
- the minimum operating flow rate of all the aggregated Profiles ( $Q_{min}$ );
- the Daily Modulated Volume of all the aggregated Profiles [ $V(J)$ ].

From these characteristic Profile parameters, NaTran calculates the following modelling parameters:

- The number of hours of modulation  $M$  where  $M = 24 - \frac{V(J)}{MOY - Q_{min}}$
- The operating amplitude  $A$  where  $A = 24 \times \frac{V(J)}{M \times (24 - M)}$

NaTran deducts the contribution of the internal flexibility (SEC) available on the Network from the Daily Modulated Volume to obtain the residual Daily Modulated Volume which, in the form of rising ( $F_h$ ) and falling ( $F_b$ ) amplitudes, must then be covered by External Sources of intraday flexibility, with on the one hand:

$$MOY = \frac{A * M}{24} + Q_{min}$$

And on the other hand:

$$F_h = A - \frac{SEC}{M} - MOY - Q_{min} \text{ and } F_b = MOY - \frac{SEC}{24 - M} - Q_{min}$$

The resources of the External Sources of intraday flexibility are also expressed in rising ( $A_h$ ) and falling ( $A_b$ ) amplitudes.



NaTran then makes a comparison comprising a double inequality which can be adjusted to the amplitude  $A$  where:

$$F_h = \frac{24-M}{24} \times A - \frac{SEC}{M} \leq A_h \quad \text{and} \quad F_b = \frac{M}{24} \times A - \frac{SEC}{24-M} \leq A_b$$

There is an Amplitude  $A'$  which verifies this double inequality. The overall constraint on the Amplitude  $A$  is finally expressed by a percentage of the Amplitude  $A$ , called the reduction factor of  $X\%$ , which is applicable to all Highly Modulated Sites, such that  $X\% = 1 - \frac{A'}{A}$ .