CHAPTER 13

MAINTENANCE SCHEDULING AND MANAGEMENT

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13.1 INTRODUCTION

This chapter describes the procedures by which the Storage Company plans and communicates operations for maintenance, optimisation, upgrading, and development of storage facilities in order to ensure that activities are managed efficiently and safely.
In planning maintenance operations of any kind, the Storage Company seeks, as a general criterion, to minimise the impact of the performance available to Shippers. In this sense, in fact, it strives to make periodic reservoir controls coincide with those of surface systems, and concentrates these operations during the periods in which the necessary performance is minimal.
In particular, the Storage Company assumes to perform the periodic controls on systems and the stock at the end of the Injection Period and the Withdrawal Period; while the Major Maintenance Plan, as defined below in paragraph 13.2 and the relative impacts are included in the input data for defining the available storage capacities, as indicated in chapter 2.

In the subsequent paragraphs, only maintenance operations that entail more or less significant changes in performance of storage facilities will be considered.

13.2 TYPES OF MAINTENANCE OPERATIONS

The maintenance operations noted above are classified into the following categories:

1. Legal obligations;
2. Functional controls on facilities;
3. Maintenance for optimisation, upgrading, and development;
4. Maintenance for subsequent reactivations and service emergencies;
5. Interference with third-party projects;
6. Other maintenance operations.

Maintenance of types 3, 4, 5, and 6 above are in turn classified as Major or Minor Maintenance, defined as follows:

a) **Major Maintenance**, an intervention of type 3, 4, 5, or 6 that is carried out on a storage site whose performance represents at least 40% of the total system performance of the Storage Company.

b) **Minor Maintenance**, an intervention of type 3, 4, 5, or 6 that is carried out on a storage site whose performance represents less than 40% of the total system performance of the Storage Company.

13.2.1 Legal obligations

This category includes all operations that must be carried out at specific times in order to comply with regulations. For example, periodic inspections of reservoirs belong in this category: at the end of each Injection and Withdrawal phase, the Storage Company is required to check the static pressure of the bottom of the well and the possible presence of a layer of water, to verify the behaviour of the reservoir and any mining problems. These controls involve the stoppage of the site and are therefore scheduled with the objective of minimising the impact on the storage service.

13.2.2 Functional controls on facilities

The Storage Company schedules operations to control the status of facilities as well as maintenance activities that it carries out periodically. Where possible, these are scheduled in conjunction with the periodic controls of reservoirs. For example, maintenance on electrical sub-stations, which impacts the site's capacity, is performed during scheduled shutdowns of wells.
In other cases, the Storage Company seeks to minimise the impact of maintenance on operations by performing compressor maintenance, for example, during spontaneous withdrawal from wells, while for treatment plants, it is carried out during the injection semesters.

13.2.3 Maintenance for optimisation, upgrading, and development

Projects to optimise, upgrade, and develop a storage site have the objective of increasing the storage capacity in a current concession.

Purely for illustrative purposes, and not limiting, the following projects consist of:
a) Workover projects;
b) Deepening and/or recompletion of existing wells for storage operations on another level;
c) Drilling activities on new wells;
d) Construction and start-up of new surface facilities and/or their strengthening;
e) Construction and start-up of new treatment stations;
f) Construction and start-up of new compression stations and/or their strengthening;
g) Start-up of new flow lines;
h) Other upgrading projects to expand storage at other levels without modifying the concession zone;
i) Other upgrading projects to increase the maximum storage pressure;

13.2.4 Maintenance for subsequent reactivations and service emergencies

These are maintenance operations to restore the pre-existing performance in the affected reservoirs from service emergencies but that left the reservoirs affected by

the emergency with reduced performance. Reactivation maintenance following breakdowns or operational anomalies for surface facilities are included in this category.

13.2.5 Interference with third-party projects

These are maintenance operations deriving from scheduled projects that were carried out by third parties (e.g., construction/expansion of road infrastructure, motorways, railways, etc.) which are not part of the gas system, but which generate impacts on the system.

13.2.6 Other maintenance operations

This includes all maintenance that is not part of the previous categories: for example, this category includes tests on wells and any tests on the reservoirs during the withdrawal/injection cycles to verify the behaviour of the reservoirs as well as the tests and/or the stoppages requested by supervisory bodies.

13.3 MAINTENANCE SCHEDULING

The Storage Company provides Shippers with the annual schedule of maintenance operations at least annually, half-yearly and monthly, publishing the plan on its website.
This plan must contain at least the following information:

a) the reservoir on which the maintenance will be performed;
b) the summary description of scheduled activities;
c) the month of the relevant thermal year for the maintenance;
d) the start date and end date;
e) the number of unavailable days;
f) the capacity (expressed as a percentage of available capacity at the beginning of the thermal year and the assigned capacity) that will not be available due to maintenance.

13.3.1 Annual schedule of maintenance operations

No later than 28 February of each year (or, if it is a holiday, the last preceding working day), the Storage Company communicates to Shippers through its website the maintenance operations schedule for storage facilities scheduled for the following Thermal Year, which will cause unavailability or reduction of performance. This communication is solely indicative and not binding.

Where possible, the Storage Company coordinates its annual schedule of maintenance operations with the maintenance plans of the Transport Companies, in order to minimise disruptions.

13.3.2 Half-yearly revision of the Maintenance Plan

The Storage Company reserves the right to revise, every six months, the Annual schedule of maintenance operations, notifying the Shippers through its Website no later than 1 August, noting that the plan is indicative and not binding.

13.3.3 Monthly Maintenance Plan

The Storage Company indicates, on its website, the monthly plan of maintenance operations that affect daily performance (expressed in energy) available for the subsequent month no later than the tenth day (or first subsequent working day if the tenth day is a Saturday, Sunday, holiday, or non-working day) of the month preceding the one referenced in the monthly plan.

13.3.4 Unscheduled Maintenance Plan

With the exception of the cases contained in paragraph 13.2.4, the Storage Company communicates, at least 3 working days prior to the beginning of the project, any unscheduled maintenance operations described in para. 12.3.2.1 or changes to activities previously scheduled.

In the case of unscheduled maintenance operations, made necessary by emergency situations described in paragraph 18.2 of the chapter “Management of Service Emergencies”, the Storage Company will promptly notify Shippers and will work to keep at a minimum the duration of any reductions in capacity and time necessary to restore the original situation.