

Assessment of Gas Supply Security Risks and Gas System Safeguard Procedure Setting Methodology.

Natural Gas Storage Regulation and the Effects to Consumers

Roundtable Discussion input by ***Algeria***

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Demand satisfaction

- Algeria is a natural gas producer and exporter.
- The indigenous production satisfies the national demand.
- The national oil and gas company (Sonatrach) is in charge of the natural gas and LNG export.
- According to the regulatory framework of the energy sector (Art 121 of the law related to hydrocarbons), the satisfaction of the gas national market is a priority.
- Gas production and export activity aren't within CREG's area of regulation.

Domestic gas demand management

TSO

Establishes annually a ten-years development plan of the gas transmission system

Collaborate with operators and network users to set annually the short-term demand and transmission system operation forecast

Evaluate annually the available gas capacities on the gas transmission system

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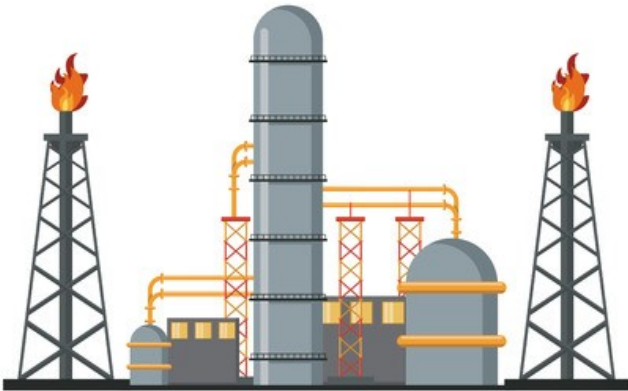
CREG is legally responsible for forecasting national market gas demand for a ten-year period

This document is updated annually and submitted to the Minister of Energy and Mining for approval.

It is a reference for the assessment of the gas production capacity for national and international gas markets.

Security of supply and domestic gas demand assessing (1/3)

Gas production



Gas storage



Domestic transmission system



Gas production/supply/storage aren't within CREG's area of regulation

Security of supply and domestic gas demand assessing (2/3)

TSO

Sets and monitors the reliability parameters of the gas system

Provides forecasts on available gas transmission capacities for the next (N+1) year

Evaluates the effective use of capacity

Identifies the lack of gas transmission capacity and the capacity available for the users.



- Entry point
- Transmission system
- End users



Security of supply and domestic gas demand assessing (3/3)



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The Algerian legislation on electricity and gas provides inclusion of incentives in the transmission and distribution gas remuneration formula to reduce costs and improve the quality of supply.

The gas transmission and distribution remuneration is set by CREG on the basis of a methodology and parameters defined by regulation. It includes investment costs, facilities operation and maintenance, depreciation, taxes and charges, and a fair return on invested capital.

TSO ensures smooth system operating, system integrity and flows balance. It must guarantee:

- Continuity of gas supply, except during periods of maintenance or force majeure
- Coordination with other operators to ensure the safety, reliability and efficiency of the gas transmission system, in particular in emergency situations.
- Setting and monitoring gas transmission system reliability parameters
- Monitoring the safety of gas transmission system operations to ensure gas supply (safety, reliability and efficiency)
- Carry out short and medium term forecasting studies on gas transmission system operations

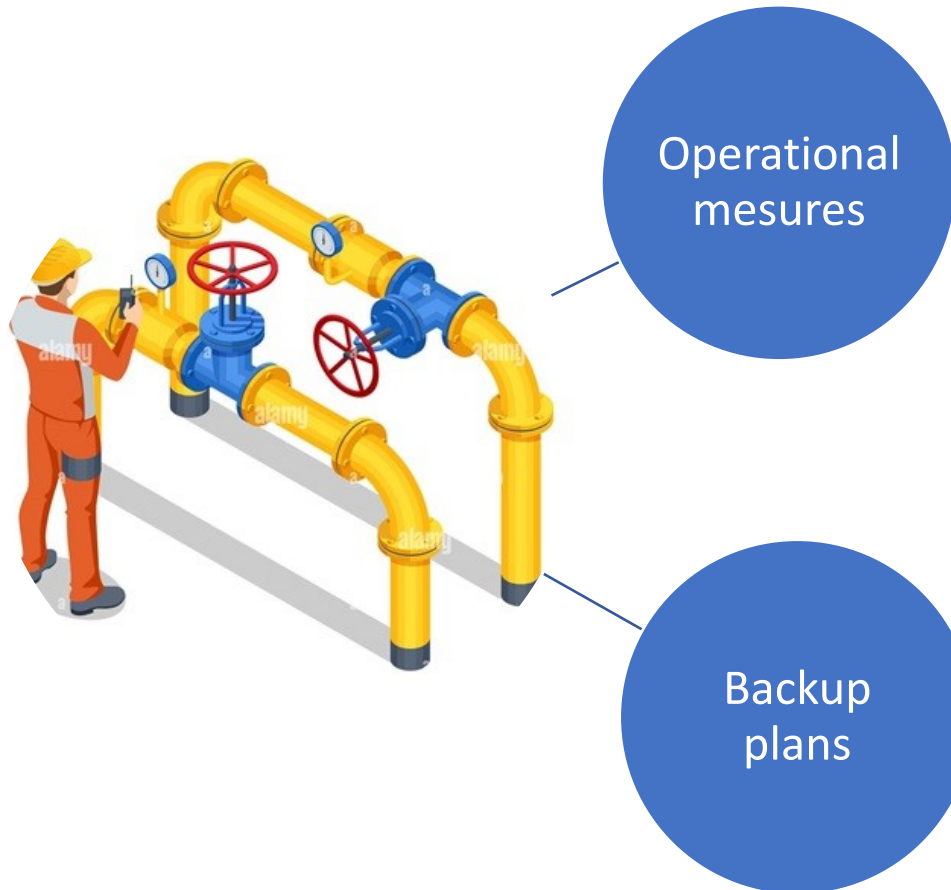
Emergency situation

- Natural disasters;
- Temporary or permanent technical impossibility of transporting gas due to disturbances on the transmission system;
- Unavailability of transmission facilities (incidents on main gas transmission pipeline or supply disruption from intermediate pressure reduction station PPD);
- Operational constraints on the upstream system (capacity reduction following a significant pressure drop in the supplier's upstream system or supply shortage);
- Strong increase in gas demand due to exceptional weather conditions;

National gas system safeguard

Safeguard of the national gas transmission system

Gas transmission system operator is required to take all necessary measures to ensure the safety, reliability and efficiency of the system, in coordination with other network operators and/or users;

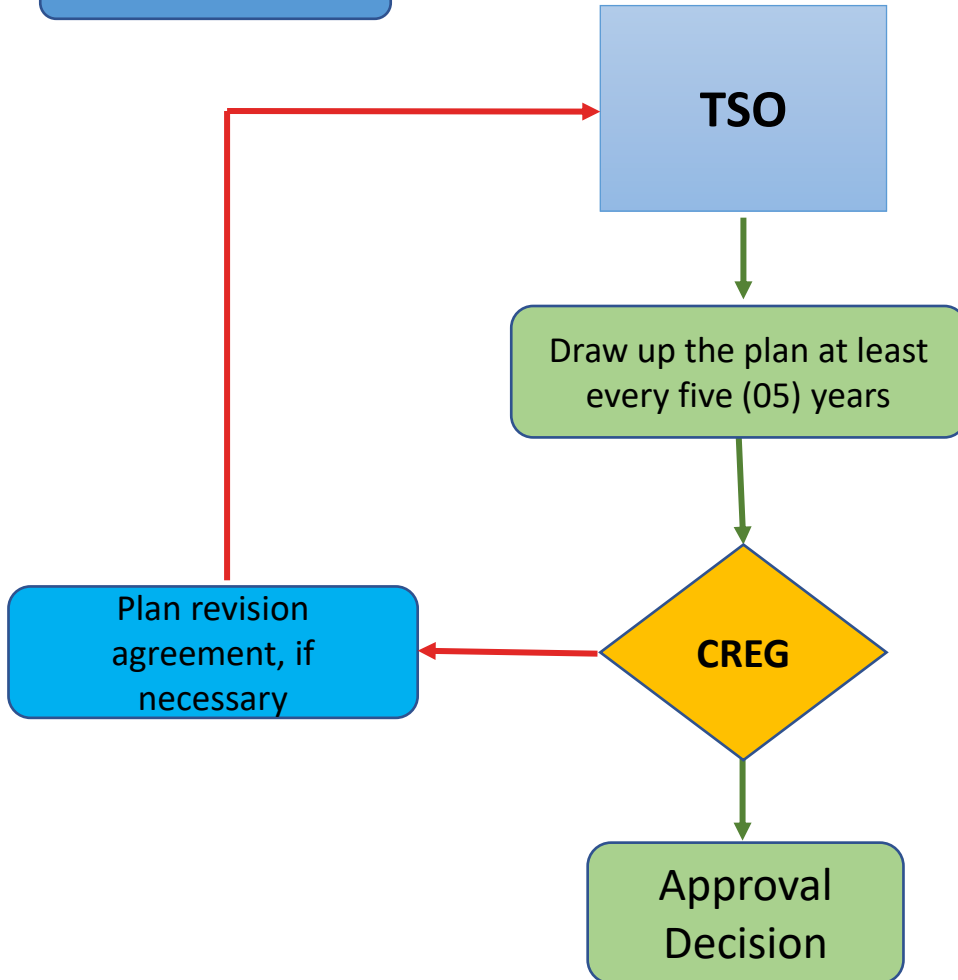


- ❖ Adjustment in the operation scheme,
- ❖ Reduction and limitation of user capacities,
- ❖ Postponed the maintenance program;
- ❖ Interruption of supply to network users according to the backup plan priority order as a last resort.

Define and implement gas transmission system defence and back-up plans together with power producers, gas distributors and eligible customers.

National gas system safeguard

Backup-plan



Backup description

- Operational document ;
- Drawn up with all stakeholders;
- Drawn up and implemented for each gas transmission region;
- Means of meeting the gas system safeguard obligations ;
- Aims to prevent the occurrence of major incidents;
- Sets out the preventive and corrective measures to be taken to control disturbances;
- Sets out in particular the priority order for interrupting or reducing gas flows to users,

National gas system safeguard

backup-plan setting



- ❖ **Peak hourly flows recorded** for each system user in the winter period (year N-1)
- ❖ **Shedding plan** (interruption or reduction of gas flows) for industrial customers connected to the distribution system
- ❖ **List of power plants, industrial customers** (HP and MP) fitted with back-up fuels
- ❖ **Power plant start-up plan/schedule** for the next five year.
- ❖ **List of users to be connected** to the gas transmission network within five next years.
- ❖ **Gas reserve** in the facilities concerned by disruptions.

Gas transmission system description for the next 05 years

Draw up forecast demand (flow)

Simulation of exceptional situations

Calculation of gas reserve

Analysis of simulation results

Drawing up shedding plan

- CREG is in charge for approving the rules and procedures of the gas transmission system operator (TSO).
- Within safeguard plan exam, CREG wants to introduce backup plan setting procedure to refine plan developing methodology and improve its operational nature, so that it can be implemented in any emergency situation. In particular, this procedure should provide:
 - Description of the setting methodology of the plan
 - Data used to set the plan
 - Organization of the measures provided by the plan



**THANK YOU
FOR YOUR ATTENTION!**

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