



OIL & GAS

GAS NETWORK CAPACITY MANAGEMENT

Maintaining an efficient gas network

It is a continuous challenge to keep a gas network fit-for-purpose in a changing market and regulatory environment. Due to spatial and environmental impact combined with high investment costs, changes to a gas network are neither easily nor swiftly implemented. DNV GL's capacity management services support network owners and operators in meeting customer needs efficiently while ensuring compliance to changing regulations.

Why network capacity management?

Capacity management is a key element of any oil and gas business. Network capacity management enables owners and operators to effectively determine currently available capacities, and to identify and generate changes or expansions within a network and its operation. Effective capacity management ensures an efficient network that meets market needs in line with changing regulations.

As an integral part of a company's asset management process, capacity management provides a structured approach through which an organisation can create value from its assets by balancing conflicting cost/benefit interests.

Operational efficiency: a common goal

Operational efficiency is not only a concern for businesses alone: increasingly, it is also a target for authorities and regulators, driving both management and investment decisions. Today, existing and potential investors require insight into the need for, and efficiency of, proposed investment projects at the earliest stages of the planning process. Owners and operators need to prove to stakeholders (customers, regulators and investors) that they are able to facilitating the provision of resources to the market optimally, planning to invest wisely and selling capacity safely. However, these stakeholders are not always able to assess the proof provided to them, as no two networks, market situations or regulatory regimes are the same. The lack of a standard approach often leads to the need for independent support to and review of capacity development and management activities.



DNV GL: your capacity management partner

DNV GL is an independent third party, offering industry-leading services and software solutions for capacity management. Our competence is underpinned by decades of hands-on gas network management experience in developing and applying industry best practices. By understanding the impact of a technical decision on the business and the consequences of a business decision on technology requirements we enable our customers to make smart decisions in a changing market and regulatory environment. Our combined knowledge of all aspects of the gas transmission systems enables us to offer a broad range of network capacity solutions, ranging from strategy development all the way to addressing specific technical challenges at the operational level.

Our network capacity management services can be characterized into three main areas:

- Independent reviews of capacity management processes
- Capacity management implementation support
- Capacity management investigations

Independent reviews

Our global network of experts review the drivers for investments and the robustness of proposed solutions, including network expansions, and operational changes. In addition to reviews of market development analyses, network assessments and investment proposals, DNV GL also provides independent assessments of the maturity of the capacity management processes, ranging from annual fit-for-purpose check-up to new investment identification projects.

Capacity management implementation support

DNV GL supports owners and operators to fully embed structured capacity management processes into an organization, based on reviews of the (solidity of) existing processes, gap analysis of the organization's capacity management and the delivery of a roadmap setting out the proposed way forward. We promote implementation along 'plan-do-check-act' cycles, thereby linking to the organization's purpose and goals, and asset management system.

Capacity management investigations

Our specialists can execute capacity management investigation projects on behalf of our customers. Investigations usually rely heavily on one or more types of modelling such as network, market or financial modelling. As producers of the global-leading network analysis programs Synergi Gas and Synergi Pipeline Simulator, we have the tools and the technical expertise to accurately and reliably analyse network systems. Depending on customer preferences, we can also work with alternative modeling software and modeling platforms such as AIMMS and MATLAB. Where applicable, we integrate with customers' existing modelling methods. We analyse historical realization and performance data to determine key data and modelling input parameters. Projects cover a wide range of topics, including network design, spare capacity identification, line-pack and backup-facility determination, risk-based transport reliability calculations, tariff setting and scenario analysis.



Gas network model on gas network generator

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