IPLOCA Regional Meeting For Europe North-West
Heinz Watzka, Member of the Board of Management
Enschede, 15-03-2012
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1. Open Grid Europe at a glance

2. Overview of the German Net Development Plan

3. Safety 1st – safety concept within pipeline projects
Open Grid Europe at a glance

- Germany's 1st ITO and leading **natural gas transmission company**
- Sole responsibility for the operation, control, expansion and marketing of the gas pipeline network
- About 1,800 employees, Head office: Kallenbergstrasse 5, D-45141 Essen, Germany
- Operates **longest pipeline transmission system in Germany**
- Customers: more than 450 national and international gas transmission companies, regional distribution companies, municipal utilities, industrial customers, gas traders
- Established in 2004 as E.ON Gastransport, change of name on September 1st, 2010 to Open Grid Europe; a 100% subsidiary of E.ON Ruhrgas AG
Shareholder Structure

E.ON
100%

E.ON Ruhrgas
100%

Open Grid Europe

Pipeline companies

<table>
<thead>
<tr>
<th>Company</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEUDAN</td>
<td>24.99%</td>
</tr>
<tr>
<td>MEGAL</td>
<td>51%</td>
</tr>
<tr>
<td>METG</td>
<td>100%</td>
</tr>
<tr>
<td>TENP</td>
<td>51%</td>
</tr>
<tr>
<td>NETRA</td>
<td>40.55%</td>
</tr>
<tr>
<td>NETG</td>
<td>50%</td>
</tr>
</tbody>
</table>

Other affiliated companies

<table>
<thead>
<tr>
<th>Company</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>NetConnect Germany</td>
<td>44%</td>
</tr>
<tr>
<td>E.ON Gas Grid</td>
<td>100%</td>
</tr>
<tr>
<td>PLE.doc</td>
<td>100%</td>
</tr>
<tr>
<td>Open Grid Service</td>
<td>100%</td>
</tr>
<tr>
<td>Caplog-x</td>
<td>25%</td>
</tr>
<tr>
<td>TRAC-X</td>
<td>9.1%</td>
</tr>
<tr>
<td>Liwacom</td>
<td>33.3%</td>
</tr>
</tbody>
</table>
## Open Grid Europe value chain

<table>
<thead>
<tr>
<th>Capacity demand determination</th>
<th>Project-management &amp; Engineering</th>
<th>Capacity marketing</th>
<th>Transportation scheduling and control</th>
<th>Technical and contractual quantity determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant demand determination</td>
<td>Operation and Maintenance</td>
<td>Contract conclusion</td>
<td>Network interconnection contracts</td>
<td>Invoicing</td>
</tr>
<tr>
<td>Central maintenance of network topology master data</td>
<td>Standby for Disturbance Suppression, 24h Alarming Service</td>
<td>Contract-management</td>
<td>VTP operation</td>
<td>Exchange of data with other network operators</td>
</tr>
<tr>
<td>Setting of standards for gas industry</td>
<td>Gas measurement/Gas quality, HSEQ</td>
<td>Provision and maintenance of online platform</td>
<td>Online reporting of just-in-time data</td>
<td>Balancing group contract billing</td>
</tr>
</tbody>
</table>
Open Grid Europe: The pipeline system

Length of the gas pipeline system
- ~12,000 km

Compressor stations, operated and monitored
- 29 stations
  - 105 units
  - ≈ 1000 MW installed power

Underground Storages, provision of services
- 9 storage locations
  - ~5.2 billion m³ process gas
# Open Grid Europe – The Technical Department

<table>
<thead>
<tr>
<th>Department</th>
<th>FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operation And Field Service</strong></td>
<td>~680</td>
</tr>
<tr>
<td>Pipeline Technics</td>
<td>~150</td>
</tr>
<tr>
<td>Process &amp; Surface Facilities</td>
<td>~110</td>
</tr>
<tr>
<td>General Technical Functions</td>
<td>~80</td>
</tr>
</tbody>
</table>

**Plant Management Storage, Pipeline, Plant & Telecommunication Engineering**

- Pipeline Technology
- Pipeline Services

**Gas Plant Technology**

- Gas Measurement & Metrological Services

**General Technical Functions**

- 24h Alarming Service
- HSEQ
- Simulations
- Quality Control
Focus of our Technical Action

**Plant Safety**
High technological & operational standards guarantee safety for man and the environment

**Reliability**
Innovative technologies ensure supply security

**Efficiency**
Competitive service provides efficient transmission conditions
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German Net Development Plan - 2022 (Scenario II)
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Safety within pipeline projects – status in 2010

- Big new projects in 2011 and 2012 with together 265 km
  
  (NEL: 130 km; SDW: 70 km and LSR: 65 km)

- Large nominal sizes and predominantly hauling in parallel lines

- New teams that are working on these projects

- Identification of an accumulation of behavioural mistakes

- Many isolated measures as a consequence of „Lessons Learnt“
  
  (distance within parallel lines, ROPS, own health and safety officer etc.)
Initiative and objective for the new health and safety concept

- Following a number of past accidents with serious consequences, steps have been taken to improve health & safety at pipeline construction sites.

- Discussions were held with leading construction companies with a view to pooling ideas for improving occupational safety and implementing them in practical situations.

- Based on our requirements and drawing on the companies’ collective experience, we succeeded in developing a new HSE concept.

- A consistent, uniform and practical standard was established.

- In this way, project owners and construction companies can actively work together to improve safety.
Planning

- An HSE manager will be deployed on an ongoing basis from the beginning to the end of each project
- Safety-relevant aspects will be taken into account for the construction and operation of pipelines
  - Routing and working areas
  - Crossings will be positioned at suitable places
  - Hillside locations will be avoided
  - Attention will be paid to special geological features
- Plans will be examined and analyses of higher-risk construction sections be carried out with the individuals responsible for carrying out the construction work
- Standardised and central safety documentation (HSE document) for all documentation will be kept on location at the construction site
Tendering and awarding contracts

- HSE aspects play a very important role in the pre-qualification stage

- Expenditure relating to safety will be reimbursed on presentation of evidence:
  - Safety briefings and toolbox meetings
  - Sheet piling
  - Groundwater control
  - Site roads and Emergency points
  - Crossings with pipelines and traffic routes

- In addition to the technical and commercial elements contained in the tenders, HSE aspects are of great importance
Preparing for construction work

- Before construction activity commences, an analysis of the higher-risk construction sections will be carried out together with the construction company
- A plan for the construction workflow (e.g. equipment, manpower, construction procedures) will be drawn up
- Risk assessment/measures based on the construction workflow
- Finalisation of safety briefings
- Inspection of subcontractors
- Construction machinery, qualifications and other documentation relevant to safety will be inspected
Construction work (1/4)

- Organising construction sites
  - As well as supervising the individual types of work, Open Grid Europe will appoint an health and safety specialist for each lot to ensure that all safety requirements are adhered to

  - A health and safety officer from the project owner’s company and a health and safety officer from the construction company will be present on an ongoing basis

- Application of a HSE briefing concept
  - Initial briefing for those involved in the construction work with testing to ensure that all points have been understood
  - Briefing of all suppliers and visitors
  - Specific briefings for dangerous tasks or construction sections
  - Daily toolbox meetings for all work groups and teams
Construction work (2/4)

- The PPE concept (helmet, full-length clothing, S3 safety boots, high-visibility vest, safety glasses, ear protection) will be adhered to strictly

- Emergency points (handover points agreed on with local fire brigade)
  - The emergency points will be positioned where the route intersects with principal traffic routes
  - The emergency points will be agreed with the local rescue forces (e.g. fire brigade, police)
  - The emergency points will be equipped with alarms and warning signs and paved surfaces for emergency vehicles
  - Signs will be placed along the route indicating the direction of and distance to the next emergency point
Construction work (3/4)

- Minimum number of first aiders per team:
  At least one first aider per team
  and at least one first aider for every 10 employees

- Safety-relevant measures such as site roads, sheet piling or groundwater control will be agreed upon by the project owner and the construction company on the construction site

- Reporting and analysing near-miss incidents:
  Employees will be encouraged to report near-miss incidents;
  Near-miss incidents will be evaluated and analysed by occupational safety experts;
  Determination and specification of measures
Construction work (4/4)

- Reporting and analysing accidents:
  All accidents will be reported and documented; Accidents will be evaluated and analysed by occupational safety experts and supervisors; Determination, briefing and implementation of measures for avoiding unsafe circumstances/conduct

- Reviews will be carried out jointly by the project owner and the construction companies with a view to further developing the HSE concept
And what comes after?
Summary

- Open Grid Europe as Germany's leading natural gas transmission company ensures security and efficiency within the transport of gas.

- Safety 1st: The topic security is not to be affected by cost pressure:
  An advanced HSE-concept within pipeline projects cares in all project phases for even more security, with goals like guarantee of a consistent security management, information and documentation at a central location, choice of qualified contractors.

- Via the new tendering procedure security-relevant positions can be accessed individually and reimbursed fairly – security is a criterion for the contracting.
We would like to thank you for your attention!