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Natural gas pipeline OPAL crosses the Elbe

Construction work progressing in Germany's largest natural gas infrastructure project / Elbe crossing as first highlight / State Secretary Hartmut Fiedler recognizes value of OPAL pipeline construction in Saxony

Coswig/Kassel. The natural gas pipeline OPAL is becoming a reality: on pipeline sections of around 100 kilometers each in Saxony and Mecklenburg-Western Pomerania, work on the connection pipeline for Nord Stream, the Baltic Sea pipeline, is progressing rapidly. The topsoil has been cleared on more than 125 kilometers of the OPAL pipeline route in total, almost 25 kilometers of piping have been welded and the first pipeline sections have been laid. "In crossing the Elbe, we have reached the first highlight of the construction work," explains Dr. Gerhard König, WINGAS Chairman, in Coswig on Friday. Here, the Elbe is being crossed with a reinforced-concrete pipe of 182 meters in length, weighing over 650 tonnes. Work on OPAL (*Ostsee-Pipeline-Anbindungs-Leitung* – Baltic Sea pipeline connection line), which will be over 470 kilometers long, began simultaneously in Saxony and Mecklenburg-Western Pomerania in early fall. The building permit for the section in Brandenburg is expected at the start of 2010, after which, construction work shall begin here as well. The European natural gas company is realizing the pipeline together with E.ON Ruhrgas AG. Subsequent operation will be performed on WINGAS' behalf by the subsidiary OPAL NEL Transport GmbH.

For the Elbe crossing near Coswig, a proven technique is being used: a so-called "culvert." Culvert indicates an underground crossing through a pipe. This construction method was even used by the Romans. "We are using a proven technique, but due to the size of the OPAL pipeline, we are taking it to a new dimension," explains König. With a pipeline diameter of 1.40 meters and an annual transport capacity of around 36 billion cubic meters of natural gas (as a comparison: this corresponds to more than a third of Germany's annual consumption), OPAL is the largest natural gas pipeline to be laid in Germany. "Around a billion euros are being invested in the pipeline and around 200 million euros in Saxony alone," says the WINGAS Managing Director.

Hartmut Fiedler, State Secretary in Saxony's Ministry of Economics, Labour and Transport recognizes the value of the construction of the natural gas pipeline: "Saxony has a modern, high-performance energy industry. With the pipeline project OPAL, the state can further strengthen its role as an energy hub for Germany and Europe and ultimately it can profit from the investment." The WINGAS Group already became active in Saxony in the early 1990s. In the past 20 years, more than 200 million euros have been invested in the pipeline system running through Saxony. The natural gas pipeline STEGAL (*Sachsen-Thüringen-Erdgas-Leitung* – Saxony-Thuringia natural gas pipeline), with the compressor station in Olbernhau on the German-Czech border, began operating in 1992. The pipeline JAGAL (*Jamal-Gas-Anbindungs-Leitung* – Yamal gas link) has been in place since 1999.

The culvert for OPAL's Elbe crossing was manufactured in recent weeks, directly on the banks of the Elbe at Coswig. From 14 pipeline segments, a pipeline section of 182 meters in length and weighing 650 tonnes was welded together, shaped to suit the profile of the river to be crossed and laid on several roller stations. After multiple thorough tests of the welds, conducted by appraisers from German technical inspection authority TÜV, the final stress test followed: here, the engineers exerted pressure of around 180 bar on the pipeline section in a water pressure test; later, during operation, the pressure will not exceed 100 bar. "Testing with a significantly higher pressure ensures that the pipeline will definitely withstand the loading to which it will be subjected," says Michael Muth, Chief Construction Manager at WINGAS. After this test, the pipeline section was encased in 21 centimeters of concrete, to ensure that the finished culvert, once inserted in the Elbe, will remain in position three meters below the riverbed. For the insertion of the culvert pipe, two electric hoists were installed on the opposite side. With a total traction force of 110 tonnes, the two hoists pull the pipeline section into the culvert channel. A total of 30 construction workers oversee the insertion of the culvert.

The construction work on the Elbe should be finished by Christmas. But even when the work on the pipeline section is complete, the workers will not simply pack up and go: the riverbed will be restored with the original river gravel and the areas at the banks will be renaturalized. The ground used for the construction site will be properly recultivated and loosened; trees and bushes will be planted. The meadows and arable land, as well as the areas with fruit trees and bushes, will be restored. WINGAS Managing Director, Dr. Gerhard König: "About a year after the natural gas pipeline is laid, there will be practically no trace of the construction site."

WINGAS GmbH & Co. KG is a European energy company and has natural gas trading and sales activities in Germany, Belgium, France, the United Kingdom, Austria, the Czech Republic, and Denmark. Its customers include municipal utilities, regional gas suppliers, industrial firms and power plants. Since 1990 WINGAS has invested more than 3 billion euros in the development of its own natural gas transport and storage infrastructure. The WINGAS TRANSPORT pipeline network, which is over 2,000 kilometers long, connects the major gas

reserves in Siberia and the natural gas fields in the North Sea to the growing markets in Western Europe. In Rehden in North Germany, WINGAS has the largest natural gas storage facility in Western Europe – with a working gas volume of over four billion cubic meters – and it is also a partner in the second-largest storage facility in Central Europe situated in Haidach in Austria. Furthermore, additional natural gas storage facilities are currently being built in Great Britain and Germany in order to secure the supply of natural gas in Europe.

More information at: www.wingas.de

OPAL NEL TRANSPORT GmbH will perform the tasks of network operator for the OPAL and the NEL. It is part of the WINGAS Group, which, in addition to natural gas supplier WINGAS, includes WINGAS TRANSPORT. WINGAS TRANSPORT operates a gas pipeline network which is more than 2,000 km long and covers the whole of Germany. It is planned that the two new pipelines of OPAL NEL TRANSPORT will be connected to the WINGAS TRANSPORT gas pipeline network.

More information at: **www.opal-pipeline.de**