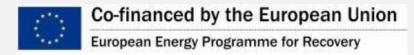


2016

Interconnection between the ROMANIAN and the BULGARIAN Gas Transmission Systems Project implemented by TRANSGAZ – Romania & BULGARTRANSGAZ - Bulgaria

Implementation STAGE Romanian section





THE INTERCONNECTION OF THE ROMANIAN AND THE BULGARIAN GAS TRANSMISSION SYSTEMS, RUSE-GIURGIU DIRECTION

Action EEPR-2009-INTg-RO-BG Subactions SI2.569565, SI2.569582

SCOPE

<u>Action</u>

To ensure the interconnection between the Romanian and the Bulgarian gas transmission systems.

Sub-action 1 - (SI2.569565):

Construction and commissioning of the bi-directional Gas Metering Stations (GMSs) - Giurgiu (Romania) and Ruse (Bulgaria).

Sub-action 2 - (SI2.569582):

Construction and commissioning of the pipeline interconnecting the gas metering stations. Ruse and Giurgiu together with the related facilities.



TECHNICAL DATA:

Maximum transmission capacity	= 1.5 bcm/y
Operating capacity	= 1.5 bcm/y
Minimum transmission capacity	= 0.5 bcm/y
Maximum design pressure	= 40 bar
> Operating pressure	= 21 - 40 bar
Minimum border delivery pressure	= 21 bar
Pipeline nominal diametre	= DN 500
> Total length between Giurgiu GMS and Ruse GMS	= approx. 25 km

➤ The length of the Romanian pipeline section is approximately 8 km, out of which: the land section – approx. 5 km + 2 Danube undecrossing pipelines (main and the back-up – approx. 1.5 km each Romanian section).



STATUS

Subaction 1:

Construction of Giurgiu GMS (Romania) and Ruse GMS (Bulgaria)

Giurgiu GMS - finalized



PIG launching/receiving trap



Metering lines



Gas filtering system



Subaction 2:

Construction of the pipeline interconnecting Ruse GMS and Giurgiu GMS

LAND SECTION

between GMS Giurgiu and the valve assembly on the Romanian Danube bank - approx. 5 km

Land pipeline section + fiber optics + valve assembly = FINALIZED



Land pipeline section



Fiber optics towed in protection pipe



Valve assembly



DANUBE UNDERCROSSING

Main pipeline to under-cross the Danube through the drilling hole = FINALIZED

MAIN PIPELINE

Length: 2,100 m

- Butt welded and coated in full line
- Supported on the rolling track
- Prepared to be towed into the Danube bottom



The main pipeline on the Romanian territory – prepared to be pulled into the Danube bottom



Danube undercrossing FIBER OPTICS into the protection pipe = FINALIZED



Fiber optics into DN150 protection pipe undercrossing the Danube between the two banks

Length: 2,080 m

Horizontal Directional Drilling equipment - drilling for fiber optics pipe towing



DANUBE UNDERCROSSING BY HORIZONTAL DIRECTIONAL DRILLING

IN DELAY

- > DN 500 Danube undercrossing pipelines (main and back-up)
- ➤ The initial deadline for works completion, i.e. 31.12.2013 was missed, because of unpredictable occurrences.



Drilling bit (500 enlarger) – drilling works to tow the main pipeline



SUMMARY OF THE REASONS FOR DELAY

DN 500 - Main and Back-up Pipelines

- The complicated geological structure, mainly on the Danube bottom section to be crossed by Horizontal Directional Drilling (see slide 9), produced significant delays as a result of unpredictable factors, precisely:
 - Considerable loss of drilling mud (up to approx. 100%) through the cavities to be crossed
 - Stuck drilling equipment on account of the rough limestone beds
 - Caving-in of the drilling hole because of the decayed soil and sand
- The project's budget
 - All such unpredictable factors generated considerable costs for the Constructor
 - As costs were not budgeted, the Constructor ran into financial difficulties

TRANSGAZ and BULGARTRANSGAZ terminated the contracts with the Constructor Association for the Danube undercrossing works, as of 01.02.2015;



MAIN ACTIONS TAKEN FOR PROJECT COMPLETION

- The estimated value for the construction of the Main and Back-up pipelines for undercrossing the Danube river, was re-assessed;
- TRANSGAZ and BULGARTRANSGAZ successfully finalized new public procurement procedures for the construction of the Danube undercrossing pipelines;
- Works for the Danube undercrossing with the two pipelines (Main and Backup) are underway;
- According to the provisions of the Commission Decision C(2010) 5962 final dated 06.09.2010, the European Commission accepted a new extension of the period covering the eligibility of the costs related to the project "Interconnection Bulgaria-Romania" until 31.12.2016



