



2016

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

**Implementation STAGE  
Romanian section**



**Co-financed by the European Union**  
European Energy Programme for Recovery

# EEPR-2009-INTg-RO-BG, Progress Report - TRANSGAZ

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## 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

#### Action

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.

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## 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 diameter                     | = 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).

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## STATUS

### Subaction 1:

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

*Giurgiu GMS - finalized*



*PIG launching/receiving trap*



*Metering lines*



*Gas filtering system*



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## **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*

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***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 BULGARTRANGAZ 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

**Legend**

- Scheduling points of pipeline
- International Boundary Bulgaria - Romania
- Gas interconnecting pipeline

DN - diameter of the pipeline in millimeters

**Route of Interconnection Bulgaria - Romania**

The map shows the Dniester River (Dniester) flowing through the region. The proposed gas pipeline route is marked with a red line. Key locations and coordinates are indicated:

- GIURGIU** (Bulgaria):  $E 26^{\circ} 03' 31.50''$   $N 43^{\circ} 55' 57.22''$
- RUSE** (Bulgaria):  $E 26^{\circ} 03' 31.50''$   $N 43^{\circ} 55' 57.22''$
- Nikopol** (Romania):  $E 26^{\circ} 03' 31.50''$   $N 43^{\circ} 55' 57.22''$

The pipeline route is labeled with **DN 500** at several points, indicating the diameter of the pipeline in millimeters.