

Procedure of negotiating with announcement for awarding of Public Procurement with title: Modernization of the automation control systems of GCUs (Gas Compressor Units) and the overall station control systems of CS (compressor station) Valchi Dol and CS Polski Senovets.

Purpose of the Procurement:

The purpose of the current Public Procurement is engineering execution (turn key project) of the modernization to all existing Gas Compressor Units, situated and operated at CS Valchi Dol and CS Polski Senovets, as well as the modernization of the Compressor Stations by replacing their automation control and protection systems with new ones (Units and Station), based on latest technologies and elements.

The modernized automation control systems shall be able to provide control of the Gas Compressor Units and Compressor Station from the dispatch room, which shall bring to the least possible extent the presence of human personnel at the machinery premises of the compressor workshop. For that purpose shall be constructed new standard and independent unit control systems for control and protection of the GCUs at the Compressor Stations and new station control systems for control of the Compressor Stations.

Scope of the Procurement:

The Procurement includes two constructions (projects) under the terms of the Spatial Development Act (SDA), and namely:

1. Construction (project) CS Valchi Dol – Modernization of the automation control systems of 6 (six) GCUs and the overall station control system.
2. Construction (project) CS Polski Senovets – Modernization of the automation control systems of 4 (four) GCUs and the overall station control system.

For each of the two Constructions in the scope of the engineering execution shall be included the following general activities:

- Study of the existing situation and the available technical documentation.
- Elaboration of investment design – stage Technical design.
- Co-ordination and approval of the technical design from the Employer, The Consultant under par. 166 from SDA, the specialized state authorities and receiving permit for construction.
- Elaboration of investment design – stage Detailed design.
- Co-ordination and approval of the detailed designs from the Employer, Consultant under par.166 from SDA.
- Supply of the necessary materials and equipment.
- Temporary construction and preparation works (including renting the land for temporary construction).
- Organization and execution of the Construction and Assembly works for the construction.
- Construction and Assembly works.
- Single, complex and hand over tests for site construction and works on its connection to the equipments and installations of the existing systems.
- Exercising of design supervision during the construction period.
- Elaboration of construction documents, preparation of executive documentation, executive drawings and cadastral survey (of the outer cable lines to the station control systems), operational documentation and co-coordinating activities on the hand over and commissioning of the construction.

- Training to the Contracting authority's personnel.
- Warranty responsibility.

General functions of the Automation Control Systems of the Gas Compressor Unit on both constructions (projects) are:

Automatic control of the GCU in its entire modes of operation (at start and at operation, stop and emergency shut down with and without releasing natural gas through the collector) according to the described algorithms.

Tracking all the parameters of GCU operation and ensuring reaction from the Unit control system according the algorithms.

Providing the protection of GCU by immediate halt in case one or more of the controlled technological parameters exceeds the described limits and setting GCU out to safe condition.

The operation of GCU shall be controlled from the station system for visualization and it shall be in subjection to the station control system.

The record of the technological parameters of GCU shall be organized in the station system for visualization.

General information for the Gas Compressor Units, subject to modernization:

Gas Compressor Unit ГКА 4M25-76/35-56 is manufactured in "SUMI manufacturing plant for heavy equipment" - Ukraine. It consist of 4 cylinder piston compressor, driven by electrical engine with nominal power of 2,5 MW. The feeding electrical current of electrical engine is 6 kV. GCU has its own main valves set for interconnection with the collectors at the compressor workshop and independent lubrication system. At the time being GCU is controlled by original automatic instrumentation, which is developed based on the relay logic.

CS Valchi Dol is equipped with 6 (six) Gas Compressor Units ГКА 4M25-76/35-56, and CS Polski Senovets – with 4 (four) Gas Compressor Units ГКА 4M25- 76/35-56.

Detail description of the Gas Compressor Units ГКА 4M25-76/35-56 and the overall stations equipment, as well as the general technical description of the specific technical activities and types of works for the separate systems and sub-systems, included in the scope of the system modernization to GCU and the overall station systems for each of the two compressor stations subject to this procurement are described in the **Terms of Reference**, part of the Tender Documentation which is available in Bulgarian language only.