

Appendix 1

TECHNICAL SPECIFICATION

**For awarding the service for construction supervision for the Gas Interconnector
Greece-Bulgaria construction site**

Contents:

1.	Name of the procurement:.....	3
2.	General information on the project.....	3
3.	Description of the procurement subject.....	5
4.	Description of construction activities.....	7
4.1	Location of construction activities	8
4.2	Main technical parameters	9
4.2.1	Characteristics of the linear part of the gas pipeline, block valves and technological optic lines	9
4.2.2	GMS Stara Zagora	10
4.2.3	AGRS Dimitrovgrad	11
4.2.4	Automatic gas-regulating station – AGRS Kardzhali	11
4.2.5	Dispatching centre and operation and maintenance base.	11
4.2.6	Technological lines.....	12
4.2.7	External lines (external electricity supply networks and access roads).....	13
4.2.7.1	Electricity supply of site facilities:	13
4.2.7.2	Road access to sites.	15
5.	Description of the activities within the scope of this public procurement	16
5.1	Conformity assessment of investment projects	16
5.2.	Exercise the functions of construction supervision	19
5.3	Expert support to the Contracting entity during construction, including commissioning of the constructed site.	24
6.	Documents provided in the process of implementation of the procurement.	25
6.1	Documents and information submitted to the Contractor following signing the procurement contract.....	25
6.2	Documents delivered by the Contractor as a result of implementation of the public procurement awarded	26
7.	Procurement implementation term.....	27

1. Name of the procurement:

Construction supervision pursuant to the Spatial Development Act (SDA) for Gas Interconnector Greece-Bulgaria construction site on the territory of the Republic of Bulgaria.

This Technical specification indicates the public procurement scope as well as the conditions and requirements of the Contracting entity for implementation of the various types of activities within its scope.

2. General information on the project

The Project Gas Interconnector Greece-Bulgaria (IGB Project) is implemented by ICGB AD - an investment company registered in the Republic of Bulgaria on 5th January 2011 with shareholders BEH EAD (50%) and the Greek company IGI Poseidon S.A. (50%). IGI Poseidon S.A. is an investment company registered in the Republic of Greece with the shareholders being the Greek public gas corporation DEPA S.A (50%) and Edison International Holding N.V (50%) wholly controlled by the Italian energy group Edison SpA.

Co-financing by EU through the European Energy Program for Recovery of an amount up to EUR 45 million is approved by the European Commission, with rules for recovery of costs incurred and under the condition of a positive decision of the European Commission on the project development. The project has the status of a Project of common interest (in the meaning of Regulation EU № 347/2013).

IGB project, in the section that will be constructed on the territory of the Republic of Bulgaria, has been declared a 'site of national importance' and a 'national site' pursuant to decisions of the Council of Ministers of the Republic of Bulgaria No: 615/07.06.2009, No: 452/07.06.2012.

This project for gas Interconnector Greece-Bulgaria envisages the construction of a gas pipeline that will directly connect the national gas transmission networks of the Republic of Greece (in the region of Komotini) and the Republic of Bulgaria (in the region of Zagore village, Stara Zagora municipality) owned respectively by DESFA S.A. and Bulgartransgaz EAD. A memorandum for cooperation has been signed with the company Trans – Adriatic Pipeline AG, developing the Trans – Adriatic Pipeline (TAP), in view of interest expressed by Trans – Adriatic Pipeline AG in connecting TAP gas pipeline to IGB. The negotiations for drafting and signing of the Inteconnection Agreement for the two gas pipelines have started. The interconnection point on the route

of the Trans-Adriatic pipeline, its location and technical parameters have been agreed on.

The technical natural gas transmission capacity is up to 3 bcm/year. The option for increasing the technical capacity to up 5 bcm/year by constructing a compressor station can be implemented upon market-based grounds and subject to the development of the neighboring gas transmission networks. Compressor station construction is not subject of the approved Technical design.

The section of the gas pipeline that is to be constructed on the territory of the Republic of Bulgaria has obtained:

1. A decision on Environmental Impact Assessment № 1-1/2013 approving the implementation of an investment proposal for Gas Interconnector Greece-Bulgaria.

2. Order № РД-02-15-114/31.07.2014 of the Ministry of Regional Development and Public Works for approval of DSP-PP for the route of the gas pipeline, technological sites and elements of service technological infrastructure for site Gas Interconnector Greece-Bulgaria for part of the total length of the gas pipeline on the territory of Stara Zagora district.

3. Order № РД-02-15-116/31.07.2014 of the Ministry of Regional Development and Public Works for approval of DSP-PP for the route of the gas pipeline, technological sites and elements of service technological infrastructure for site Gas Interconnector Greece-Bulgaria for part of the total length of the gas pipeline on the territory of Haskovo district.

4. Order № РД-02-15-140/27.10.2014 and Order №РД-15-65/04.05.2015 of the Ministry of Regional Development and Public Works for approval of DSP-PP for the route of the gas pipeline, technological sites and elements of service technological infrastructure for site Gas Interconnector Greece-Bulgaria for part of the total length of the gas pipeline on the territory of Kardzhali district.

5. Order №РД-02-15-78/29.05.2015 for approval of DSP-PP for the elements of service technical infrastructure- Sewerage collection of Dispatching centre of site Gas Interconnector Greece-Bulgaria.

6. In a letter № AY-20-9/21.01.2016 the Ministry of Regional Development and Public Works informed that the technical design had been approved pursuant to art. 143 of the Territory Planning Act for site Gas Interconnector Greece –Bulgaria , line construction passing on the territory of Stara Zagora municipality- the municipalities of Stara Zagora, Radnevo, Opan; Haskovo district- the municipalities of Dimitrovgrad,

Haskovo and the district of Kardzhali- the municipalities of Dzhebel, Kardzhali, Momchilgrad and Kirkovo .

7. Construction permit, № 48 dated 12.09.2017, promulgated SG 76/2017, effective.

The total length of the gas pipeline is about 182 km, 151 km out of which are on the territory of Bulgaria. The facility goes through the districts of Haskovo, Kardzhali and Stara Zagora and on Bulgarian territory it affects the territory of 9 municipalities.

3. Description of the procurement subject

The subject of this public procurement contract is a construction supervision service during the construction of a gas-interconnection project Greece-Bulgaria in the section of the gas pipeline on the territory of the Republic of Bulgaria - from the point of crossing the Greek-Bulgarian border in the area of the pass Makaza to connection to a gas transmission pipeline of Bulgartransgaz EAD (BTG) in the region of Zagore village, Stara Zagora municipality. On the Bulgarian territory the project includes:

- a linear part of the gas pipeline,
- automatic gas-regulating station (AGRS) Kardzhali,
- AGRS Dimitrovgrad,
- the section after AGRS Dimitrovgrad to the connection with the network of Bulgartransgaz EAD in the area of Malko Asenovo village, Dimitrovgrad municipality,
- construction of a dispatch center and a base for operation and maintenance, as well as sewage for domestic and rain water to them,
- block valves along the pipeline,
- Gas measuring stations (GMS-2) in Stara Zagora and Receiving Unit for Internal Piping Systems (IPS), designed for internal pipe pigging and checks (inspection) of the pipeline, connection to the network of Bulgartransgaz EAD in the region of Zagore village, Stara Zagora municipality,
- connection to the Bulgartransgaz network in the area of Zagore village, Stara Zagora.

The Contractor of the Construction Supervision Service shall perform the following activities in a quality and timely manner, in full compliance with the applicable regulatory framework and the Contracting entity's requirements:

- Appropriate assessment of the basic requirements for the construction of all parts of the detailed design for the construction site subject to the present procurement that is to be developed by the EPC Contractor in volume and content according to the Spatial Development Act (SDA), including appropriate assessment and technical control of the Part Constructive according to Art. 142, para. 10 of the SDA and appropriate assessment regarding the achievement of the compliance of the project with the requirements for energy efficiency under Art. 169 para. 1, item 6 of the SDA pursuant to Art. 142, para. 11 of the SDA in the applicable cases, and preparation of a comprehensive report for the appropriate assessment carried out;

- Conduct appropriate assessments of the compliance with the basic requirements for the construction of all parts of the investment project prepared if amendments to the approved investment project are required within the scope of the substantial amendments under Art. 154, para. 2 of SDA during construction, for the construction site - subject of the present procurement, in volume and content according to the SDA, including appropriate assessment and technical control of part Constructive pursuant to Art. 142, paragraph 10 of the SDA and appropriate assessment regarding compliance of the project with the requirements for energy efficiency under Art. 169 para. 1, item 6 SDA pursuant to Art. 142, para. 11 of the SDA in the applicable cases, and preparation of a comprehensive report on the appropriate assessments carried out;

- Assistance to the Contracting entity in the procedure for coordination and approving the detailed investment project elaborated by the EPC contractor and supplementing the issued Construction permit for the construction site subject of the present procurement;

- Assistance to the Contracting entity in the procedure for coordination and approval of all parts of the investment project, prepared if amendments to the approved investment project are required within the scope of the substantial amendments under Art. 154, para. 2 of the SDA during construction and further completion of the issued Building Permit for the construction site - subject of the present procurement;

- Construction supervision during construction until acceptance and commissioning of the construction site - subject of the procurement within the mandatory scope regulated by the SDA, the secondary legislation for its implementation and other relevant regulatory documents;

- Control over the activities of the EPC Contractor survey photos of the construction site, preparation of documentation for issuance of a Certificate by the Office of Geodesy, Cartography and Cadaster that the obligation under Art. 54a, para. 2 of the Cadaster and Property Register Act has been complied with and provision of the Certificate under Art. 54a of the CPRA;

- Preparation of a final report on the construction, pursuant to Art. 168, para. 6 SDA and § 3 of the SP of Ordinance № 2 of 31 July 2003 on the commissioning of construction sites in the Republic of Bulgaria and minimum guarantee periods for completed construction and installation works, facilities and construction sites and Technical Passport for the construction pursuant to art. 176a SDA and Ordinance No. 5 of 2006 on the technical passports of constructions;

- Control and management of the commissioning of the construction, including single and group tests of the installations and equipment, until the issuance of the Permit for use of the construction;

- Preparation and submission to the Contracting entity of Monthly Reports for the works performed for each month of the Contract performance, Reports on the detection of an irregularity or doubt for an irregularity, Reports and opinions at the request of the Contracting entity

- Preparation and submission to the Contracting entity of a Final Report on the execution of the procurement after obtaining the Permit for use of the construction site.

The scope and responsibilities of the person carrying out the construction supervision are pursuant to the provisions of Art. 168 of the SDA. Pursuant to Art. 167, para. 7, second sentence, the responsibility under the construction supervision contract is with terms not shorter than the guarantee terms in construction.

The construction within the scope of the public procurement is I category, pursuant to art. 137 (1) (1) (b) of the SDA and Article 2 (2) (3) of Ordinance No 1 of 2003 on the Nomenclature of Construction Types.

4. Description of construction activities

The scope of construction activities envisaged by the project Gas Interconnector Greece-Bulgaria on the territory of the Republic of Bulgaria includes the following sub-sites:

- Transmission gas pipeline- linear part, block valves, technological optical communication line,

- GMS Stara Zagora, including a receiving unit of the internal pipe facilities for internal pipe pigging and checks (inspections) of the gas pipeline
- AGRS Dimitrovgrad,
- AGRS Kardzhali,
- Dispatching centre and an operation and maintenance base as well as sewage collection for them,
- Technological connections- equipment, construction and organization of connection systems,
- External connections- external electricity supply networks and access roads,
- Construction organization plan,
- Construction waste management plan.

4.1 Location of construction activities

The gas pipeline on the territory of Bulgaria starts with the crossing point of the state border Greece-Bulgaria (1.2 km to the east of border checkpoint Makaza) – starting point B0, km 0+000.00; Y=9417076.75; X=4505833.64 as far as the interconnection point with a transmission gas pipeline of Bulgartransgaz EAD in the region of Zagore village, Stara Zagora municipality. Above-ground facilities of the gas pipeline and their location along the gas pipeline in the direction of the state border Greece-Bulgaria – Zagore village, Stara Zagora municipality, are described here below:

- Block valve BV2 at km25.2 (Velikdenche village),
- AGRS Kardzhali and block valve BV 3 at km50.0,
- Block valve BV 3a at km79.2 (Mandra village),
- Block valve BV 4 at km96.8,
- Block valve BV 4a at km111.3 (Chernogorovo village),
- AGRS Dimitrovgrad - at km117.2,
- Block valve BV 5 (Golyamo Asenovo village), located on a transmission gas pipeline after AGRS Dimitrovgrad with operational pressure 5,4 MPa and DN 700 diameter and length of 370 m up to the point of hot tapping to the gas pipeline of Bulgartransgaz EAD,

- Block valve BV 6 (Trakia village) at km29.5,
- GMS-2 (Stara Zagora) at km150.5, including a receiving unit, part of the pigging station for internal pipe pigging and checks (inspections) of the gas pipeline
- Block valve BV 7 (Zagore village) at km150.9, located at transmission gas pipeline after GMS-2 Stara Zagora with operational pressure 5,4 MPa and DN 700 diameter, a length of 310 m up to the point of hot tapping to the gas pipeline of Bulgartransgaz EAD,
- All site facilities have power supply and access roads.

4.2 Main technical parameters

The gas interconnector Greece-Bulgaria (IGB) will be constructed underground and will transmit natural gas through the border between Greece and Bulgaria connecting the Greek gas transmission system near Komotini with the Bulgarian gas transmission network near Zagore village, Stara Zagore municipality. IGB will allow for the transportation of natural gas in both directions. For the main (forward) flow Komotini-Stara Zagora the design quantity is 3 bcm on an annual basis.

The gas pipeline has a maximum operational pressure (MOP) of 7,5 MPa (design pressure (DP) = 8,0 MPa) and a total length of the route of about 151 km.

4.2.1 Characteristics of the linear part of the gas pipeline, block valves and technological optic lines

The initial point of the gas pipeline - B0, km0+000.00 has the following coordinates Y=9417076.75; X=4505833.64.

The gas pipeline has a maximum operational pressure (MOP) of 7,5 MPa (design pressure (DP) = 8,0 MPa) and a total length of the route on Bulgarian territory of about 151 km.

Pipes with external diameter of 813 mm will be used and hot tapping to the existing gas transmission network will be made with pipes with external diameter of 711 mm after GMS-2 Stara Zagora and 323.9 mm after AGRS Dimitrovgrad. The pipes will have external factory anti-corrosion (DIN 30670-S-v extruded polyethylene insulation) and internal smooth coating. As per the technical design, pipes DN800, grade L450M (X65) will be used with 4 types wall thickness depending on the design percentage, respectively: 11 mm (0,72); 14,2 mm (0,6); 16 mm (0,5) и 20 mm (0,4).

The gas pipeline is built under ground and all crossings of railways (5), motorways (2), republican and municipal roads from grade I to III (47) will be crossed through

Technical specification for awarding the service for construction supervision for the Gas Interconnector Greece-Bulgaria construction site

horizontal drilling with protective casing. The crossings at Studen kladenets dam (km 48 to km 50) and the Maritsa River (km111.3 to km111.9) will be made using horizontal directional drilling method (HDD). Crossings of field roads, ravines and rivers (66) will be made using a surface/open crossing method.

Block valves are located along the whole length of the route at no more than 30 km between them (see p. **Error! Reference source not found.**). The diameter of the main valve in the main block valves corresponds to the diameter of the gas transmission pipeline (DN800), except for BV5 (DN300 respectively) and BV7 (DN700). Full bore ball valves with pneumohydraulic drive and a control unit enabling remote and local control are planned as shut-off valves in the block valves.

All pipes and all shut-off valves shall be delivered to the construction site with factory anticorrosion coating. Welding seams are insulated with heat-shrinkable sleeves. Corrosion protection of fittings of a small diameter is done through external polymer spray coating of the type „FRUCS” or heat shrink tape.

For protection of the gas pipeline against electro-chemical corrosion, the construction of three cathodic protection units (CP) at BV2, BV3A and BV6, anodic earthing (AE), testing posts (TP), drain and control cable has been planned. Corrosion protection of steel casings will be done with galvanic anodes (magnesium protectors). Protective casing is planned for crossings with specific soil resistivity lower than 20 Ω m,

In order to build the telecommunication network of the gas pipeline system the technical design provides for two main optic cable lines to be laid- main one and back-up one with 96 optic fibers. The main optic cable line will be constructed at 7m from the gas pipe axis, within the right of way of the gas pipeline, to the right of the gas flow direction. The pipe set of the main optic cable line consists of two HDPE pipes of diameter \varnothing 40. The pipes are black and one of them has yellow-orange stripes and the other is completely black. In the HDPE pipe with yellow-orange stripes an optic cable is drawn using the method of cable jet blowing under pressure.

The back-up optic cable line is built in the gas pipe trench to the right of the pipe axis in a pipe set consisting of one pipe HDPE of \varnothing 40, colored in yellow and orange stripes. The type of optic fibers of the optic cables that will be used for constructing the main telecommunication system of the gas pipeline will be Single mode in accordance with ITU-T, recommendation - G.655. This type of cable is wave optimized for using DWDM equipment with wave length 1530 nm and 1565 nm.

4.2.2 GMS Stara Zagora

GMS Stara Zagora is designed to operate in reverse flow mode.

The design parameters are design pressure $DP = 8,0$ MPa, entry pressure P_{entry} from 3,8 to 7,5 MPa, maximum flow per hour $Q_{\text{max}} = 418569$ m³ at exit, exit pressure $P_{\text{exit}} \leq 5.4$ MPa and exit temperature not lower than 5°C.

The technical design provides for three measurement lines of DN300, two operational and one back-up and for each line a double ultrasound flow indicators are provided for and the station equipment will be with full factory delivery.

On the site construction of a starting and receiving unit of the internal pipe facilities for internal pipe pigging and checks (inspections) of the gas pipeline has been planned.

After GMS Stara Zagora a transmission gas pipeline 711x10 mm in diameter and 310 m in length will be built to BV7 and a connection to a transmission gas pipeline of Bulgartransgaz EAD (Zagore village).

4.2.3 AGRS Dimitrovgrad

The design parameters are entry pressure P_{entry} from 3,8 to 7,5 MPa, maximum flow per hour $Q_{\text{max}} = 80\,000$ m³ at exit, exit pressure $P_{\text{exit}} \leq 5.4$ MPa and exit temperature not lower than 5°C.

The technical design provides for two measurement lines (DN250), an operational and a back-up one and for each line a double ultrasound flow indicator is provided for and the station equipment will be with full factory delivery and will allow for reverse flow.

After AGRS Dimitrovgrad a transmission gas pipeline 323,9x5,6 mm in diameter and 370 m in length will be built to BV5 and a connection to a transmission gas pipeline of Bulgartransgaz EAD (Golyamo Asenovo village).

4.2.4 Automatic gas-regulating station – AGRS Kardzhali

The design parameters are entry pressure P_{entry} from 3,8 to 7,5 MPa, maximum flow per hour $Q_{\text{max}} = 10\,000$ m³ at exit, exit pressure $P_{\text{exit}} = 0.5$ MPa and exit temperature not lower than 5°C. The station equipment will be with full factory delivery.

AGRS Kardzhali will supply natural gas to the local gas distribution company.

4.2.5 Dispatching centre and operation and maintenance base.

The dispatching centre and the operation and maintenance base are located to the west of BV4 at km 96+800.

The following are provided for to be constructed in the dispatching center and the operation and maintenance base:

Technical specification for awarding the service for construction supervision for the Gas Interconnector Greece-Bulgaria construction site

- Main entrance with a checkpoint,
- Internal roads,
- A parking lot with for 27 vehicles including 3 for disabled people,
- An office building with an area of 735,63 m²,
- A building with workshops with an area of 425,24 m²,
- A warehouse with an area of 413,60 m²,
- Open storage area – a shed with an area of 121,82 m²,
- A fence around the site and the parking lot,
- Mud and oil trap for the rain waters from the parking lot,
- Lift sewage station,
- A switchyard and an emergency power system (diesel generator),
- Sewage collector for domestic waste water,
- Sewage collector for rain water.

In order for technological processes to be automated, construction of an integrated automated technological processes management system (IATPMS) is provided for, which is distributed across regions, it has a lot of levels, a hierarchical system for control and management of technological and production processes for natural gas transmission. The designed system for linear telemechanics is intended to secure remote control of main technological parameters for transportation.

4.2.6 Technological lines

The communication system will operate 24 hours a day, 365 days in a year. The system will exchange different type of data among all above-ground facilities of the project (AGRS, GMS, BV, Dispatching center) including the facilities located on Greek territory (GMS-1, BV1).

The telecommunications system includes various types of systems for data exchange both technological and security, safety and surveillance. The main systems provided for in the technical design are:

- A technological information exchange system - SCADA (including fire alarm, gas alarm and data for emergency shut-down of the system),
- Geographic information system (GIS),
- Document management system (DMS),
- Enterprise resource planning system (ERP),
- Repair management system,
- Telephone services,
- Control and surveillance system (monitoring),
- Physical security system- video surveillance, fire alarm, firefighting and security,
- Connectivity and information recovery,
- Disaster Recovery Center,
- Telecommunications monitoring, management and operation system.

Along with the gas supply management information system two external lines are provided for to be organized between the Dispatching center (Haskovo) and the headquarters of ICGB AD Sofia. The two external channels are two independent optic cable lines which will provide internet connectivity and telephone services. Two 10 Mbps Metro Ethernet lines are used to connect the dispatching center with the Greek and Bulgarian operator of the gas transmission network.

The technical design provides for communication resources to be used which are owned by an external company. Using such a service from an external telecommunications operator is possible for organizing work at the stage of construction. The final decision for attracting external telecommunication operators to work on this project will be taken by the Contracting entity.

4.2.7 External lines (external electricity supply networks and access roads)

4.2.7.1 Electricity supply of site facilities:

Power supply for BV2 will be done with a cable of the type NAYY 4x50 mm². Power supply will come from an existing switchyard Velikdenche located on plot №10.53 at about 260 m to the east of the site. From the transformer station the cable goes east through agricultural lands for about 35 meters, after that it goes south through non-agricultural lands - plot 10.55 until it comes within the right of way of the gas pipeline and

continues within the right of way of the gas pipeline for about 220 m to the site of BV2 and main switchboard.

The power supply for AGRS Kardzhali and BV3 (located on one site) will be done by constructing a cable deviation at 20 kV from Studen Kladenets terminal at Sedlovina switchyard (the northern part of Sedlovina village) for power supply of MCTS 20/0,4 kV of the site.

Power supply of the site of BV3A will be done through a power supply cable of the type 3xNA2XS(F)2Y, 50 mm². It will be connected to POM₃K20/200A, fitted to an existing steel lattice tower №71/4 on the axis of 20kV Golemyani power line. The route of the cable starts from an existing power tower (lattice iron tower) located along the power line on plot №0.299 at about 110 m to the north of the site. From the tower the cable is laid in a trench 1,4/0,4 m to the south, it crosses a field road, continues for about 65 m through agricultural lands and reaches the site of BV3A and metal switchboard transformers.

Power supply of the dispatching center and BV4 will be done by laying a cable of the type 3xNA2XS(F)2Y, 50 mm². It will be connected to POM₃K20/200A, fitted to a new (replaced) steel lattice tower №51 on the axis of 20kV Bryagovo powerline. The route of the cable starts from a new power tower (Stamboliyski power tower) located along the power line on plot №23.18 at about 160 m to the north-east of the Dispatching centre and approximately the same distance to the north of BV4. From the power tower the cable goes east, diverges to the south within the right of way of the gas pipeline, crosses the longitudinal axis of field roads and major road I-8 and to the west in a field road 191.16 about 180 m, after which goes to the south through plot №31.03 as far as the site of the Dispatching center and CCTS. Power supply for BV4 is from the site of the Dispatching center.

Power supply of BV4A will be done by laying a cable of the type 3xNA2XS(F)2Y, 50 mm². It will be connected to POM₃K20/200A, fitted to a new (replaced) steel lattice tower №99 on the axis of 20kV „CXK 2“ power line. Steel lattice tower №99 is located on plot №68.4 at about 126 m to the north of the site of BV4A. From the tower the cable is laid 1,4/0,4 m to the south-east through agricultural lands about 65 meters, it crosses the design gas pipeline and continues in parallel to it, within its right of way until it reaches the site of BV4A and metal switchboard transformers.

Power supply of AGRS Dimitrovgrad and BV5 will be done by laying a cable of the type 3xNA2XS(F)2Y, 50 mm². The power supply cable will be connected to POM₃K20/200A, fitted to a new steel lattice tower №77 on the axis of 20 kV Radievo power line. A pipe Ø140 will be welded to the power tower in which 20 kV cable will be

drawn at the level of the trench. The route of a cable supplying the site of AGRS Dimitrovgrad starts from a new power tower (Golyamo Asenovo power tower) located along the line of the power line on plot №103.26 at about 80 m to the north-east of AGRS. From the power tower the cable is laid to the north-west, it changes its direction to the south in a field road №0.451 for about 55 m, after that to the south-west on plot 103.24 until it reaches AGRS Dimitrovgrad and MCTS. The route of the electric cable supplying the site of BV5 starts from MCTS of AGRS and goes completely within the right of way of the gas pipeline until it reaches BV5 and the main switchboard. The cable is laid in a trench 1,4/0.4 m.

For power supply of BV6 a cable of the type 3xNA2XS(F)2Y, 50 mm² will be laid. The route of the power supplying electric cable starts from an existing power tower (lattice iron tower) located at about 815 m to the south-west of the site of BV6. From the power tower the cable goes to the east and continues in a municipal road Trakia –Opan for about 750 m after which it changes its direction to the north-east and then after about 40 m it reaches the site of BV6. The cable is laid underground in a trench 1,4/0,4 m.

The power supply of the site for GMS Stara Zagora and BV7 will be done by a power supply cable which will be connected to POM3K20/200A, fitted to an existing power tower №78 on the axis of 20kV power line Kadievo terminal. The route of the electric cable supplying the site of BV7 and the site of GMS 2 starts from an existing power tower (lattice iron tower) located on plot №32.23 at about 340 m to the north-east of BV7. From the power tower the cable goes south-west through a field road (plot №0.166) and agricultural lands to BV7. From there to the south-south-east within the right of way of the gas pipeline after about 255 m it reaches the site of GMS 2. The cable will be laid in a trench with dimensions 1,40/0,4 m.

4.2.7.2 Road access to sites.

On the project sites where block valves are to be constructed construction of access roads is provided for with concrete pavement within the fence and macadam outside the fence. The pavement is reinforced with concrete pavement building blocks 12,5/10/8 cm, framed with 10/20/50 cm road line. The type of macadam outside the fence is run-of-mine fine grain crushed stone ($0 < D < 10$ mm) $E = 450$ MPa, 30 cm run-of-mine crushed stone ($0 < D < 75$ mm) $E = 250$ MPa and ground, $E \geq 40$ MPa. For BV2, BV3A and BV6 access is provided for to the existing asphalt road of bituminous rubble 5cm thick and an area of 30 m².

The design provides for road access to the site of AGRS Kardzhali by joining a municipal asphalt road parallel to Dimitrovgrad-Podkova railway. The road to the site is designed with a length of 80 m., dimension (D9 as per classification) - 6.0 m asphalt

lane with two lanes of diverging directions of 3.0m, one lay-by of 1,5 m to the east side which includes width of road curbs, the trench is so deep as to provide road drainage and culvert where required. The total width of right of way is set by external rims of the trenches or by bases of angles and is 12.0 m.

For servicing AGRS Dimitrovgrad a road connection is provided for starting from municipal asphalt road Radievo-Golyamo Asenovo. The Dimensions are D9 as per classification (2 lanes 3.0m each and two lay-bys of 1.5 m each). The total length of the road is 150 m. The road lane is of asphalt concrete.

The road access to the site of GMS-2 Stara Zagora will be done by constructing a 1220m road. Lining the road lane will be done with road lines 10/25/50 cm. The dimensions correspond to D8 and D6 as per classification. Curbs are designed in accordance with the ranges of small and medium-sized vehicles. Valleys and road ditches are provided for to catch surface waters where required. The road lane is of asphalt concrete.

The site road to the technological site of the Dispatching centre will be built by joining municipal road HKV 2264 (Haskovo-Stamboliyski). The total length of the road to the site is 210 m. It will have dimensions D9 as per classification. The road lane is of asphalt concrete.

5. Description of the activities within the scope of this public procurement

In addition to the activities described below, all common supporting activities should be envisaged in order to achieve the main purpose of the present procurement for exercising the Construction supervision functions under the SDA and commissioning of the construction in a quality and timely manner, fully in compliance with the current regulations.

The following main activities are included in the scope of the public procurement:

5.1 Conformity assessment of investment projects

A) Appropriate assessment of the basic requirements for the construction of all parts of the detailed design for the construction site subject to the present procurement that is to be developed by the EPC Contractor in volume and content according to the Spatial Development Act (SDA), including appropriate assessment and technical control of the Part Constructive according to Art. 142, para. 10 of the SDA and appropriate assessment regarding the achievement of the compliance of the project with the requirements for energy efficiency under Art. 169 para. 1, item 6 of the SDA pursuant to

Art. 142, para. 11 of the SDA in the applicable cases, and preparation of a comprehensive report for the appropriate assessment carried out;

B) Conduct appropriate assessments of the compliance with the basic requirements for the construction of all parts of the investment project prepared if amendments to the approved investment project are required within the scope of the substantial amendments under Art. 154, para. 2 of SDA during construction, for the construction site - subject of the present procurement, in volume and content according to the SDA, including appropriate assessment and technical control of part Constructive pursuant to Art. 142, paragraph 10 of the SDA and appropriate assessment regarding compliance of the project with the requirements for energy efficiency under Art. 169 para. 1, item 6 SDA pursuant to Art. 142, para. 11 of the SDA in the applicable cases, and preparation of a comprehensive report on the appropriate assessments carried out;

Appropriate assessment of all parts of the investment project for the construction - subject of this procurement, respectively of all parts of the investment project, prepared amendments to the approved investment project is required within the scope of the substantial amendments under Art. 154, para. 2 of the SDA during construction, for the construction - subject of the contract, with the basic requirements for the construction works, covering the check of compliance with:

- the assumptions of the detailed development plan;
- rules and regulations for spatial planning;
- the requirements under Art. 169, para. 1 and 3 of the Spatial Development Act;
- the mutual consistency between the parts of the project;
- completeness and structural conformity of engineering calculations;
- the requirements for the construction, safe operation and technical supervision of high-risk facilities;
- other specific regulatory requirements for the construction;
- the requirements of the enacted administrative acts, which are a necessary condition for the permitting of construction under the Environmental Protection Act, the Biodiversity Act, the Cultural Heritage Act and other special laws, as well as reflecting the measures and conditions of these acts in the project;

- requirements for the prevention of major accidents with dangerous substances and mitigation of their consequences for the human health and the environment under Chapter Seven, Section I of the Environmental Protection Act.

The services also include the following activities:

- Signing and stamping of all the documents - graphic and textual, of the investment project by the respective qualified specialist and by the manager of the company - which has carried out the appropriate assessment.

- Appropriate assessment of the investment project by a natural person / persons exercising technical control on part Constructive, included in a list prepared and annually updated by the Chamber of Engineers in Investment Design and promulgated in the State Gazette or in an equivalent list or register maintained by a competent authority in a Member State of the European Union or in another State party to the Agreement on the European Economic Area;

- Signing of all documents - graphic and textual, under the Constructive part of the investment project by the person exercising technical control under the Constructive part;

- Appropriate assessment pursuant to Art. 169, para. 1, item 6 of the SDA of the investment project pursuant to Art. 142, para. 11 of the SDA, in the applicable cases by an company, also entered in the register under Art. 44, para. 1 of the Energy Efficiency Act for carrying out the activities under Art. 43, para. 1 of the Energy Efficiency Act

- Control of the construction equipment and materials intended to be used to ensure the fulfillment of the basic requirements for construction works, as defined in Annex I to Regulation (EU) No 305/2011, in accordance with ORDINANCE No RD-02-20-1 of 5 February 2015 on the terms and conditions for the incorporation of construction products in the construction works of the Republic of Bulgaria.

- Preparation of a comprehensive report on the appropriate assessment of the investment project with the basic requirements for the construction, signed by the company manager and by all qualified specialists who have carried out the assessment.

C) Assistance to the Contracting entity in the procedure for coordination and approval of the detailed investment project, elaborated by the EPC Contractor and supplementing the issued Construction permit for the construction site - subject of the procurement

D) Assistance to the Contracting entity in the procedure for coordination and approval of all parts of the investment project, prepared if amendments to the approved

Technical specification for awarding the service for construction supervision for the Gas Interconnector Greece-Bulgaria construction site

investment project are required within the scope of the substantial amendments under Art. 154, para. 2 of the SDA during construction and further completion of the issued Construction permit for the construction site - subject of the procurement;

E) Preparation of opinions to the Contracting entity on the necessity of conducting co-ordination procedures with the competent authorities - central and territorial administrations concerned, specialized control bodies and operating companies, the detailed investment project, respectively the parts of the investment project during construction and the commitments of the Contracting entity resulting from this;

F) Carrying out coordination procedures with the competent authorities - central and territorial administrations concerned, specialized control bodies and operating companies, the detailed investment project or the parts of the investment project during the construction, insofar as they are in the Contractor's competence;

G) Assistance to the Contracting entity in the preparation of all the documents necessary for the approval of the investment project, respectively of the parts of the investment project developed in the course of construction before carrying out the respective construction works and for further completion of the issued building permit.

5.2. Exercise the functions of construction supervision

During construction, the Contractor shall perform the following activities:

A) Exercise of construction supervision during construction until acceptance and commissioning of the construction - subject of the procurement within the mandatory scope regulated by the SDA, the secondary legislation for its implementation and other relevant regulatory documents. The main activities to be performed in exercising the functions of construction supervision are as follows:

- Submit on behalf of the Contracting entity for approval a waste management plan and a safety and health plan in the municipalities on whose territory the construction will be carried out, for the part of the construction that is carried out within the territorial scope of the respective municipality;

- Submission of a request to the municipal administrations to draw up a protocol for the opening of the construction site and determination of the construction line and level within 7 days before the date for its drawing-up for the construction site - subject of the procurement;

- Together with the EPC Contractor, opening of the construction site and determination of the construction line and level of construction, with a valid building permit and after submission by the Contracting entity of the necessary documents and

Technical specification for awarding the service for construction supervision for the Gas Interconnector Greece-Bulgaria construction site

contracts, in the presence of employees under Art. 223, para. 2 of the SDA and drafting of the protocol required by Ordinance No. 3 of 2003 for the preparation of acts and protocols during construction, with the indication of the regulatory and level reference and the measures for ensuring occupational health and safety, safety of movement and protection of neighboring buildings, networks and facilities during and after construction;

- Compilation of a Site register (Annex 4 to Ordinance No. 3 of 31.07.2003 for the preparation of acts and protocols during construction) and provision of the Site register for certification and registration in the Directorate for National Construction Control, within three days from the preparation of Section II "Determination of building line and level of construction" of the Protocol for opening of the construction site and determination of building line and level (Annex № 2 and 2a of Ordinance № 3 of 31.07.2003);

- Verification of the compliance of the construction with the approved investment projects, the Construction permit and the protocol for determining the construction line and the level at reaching the design levels of the excavation, before overburdening the newly constructed or reconstructed underground pipelines and facilities;

- Verification of the conformity of the construction with the approved investment projects, the building permit and the protocol for the determination of the construction line and the level at reaching the design levels of the excavation, cornice and ridge of the newly built buildings, etc.;

- Reflection in the protocols for determining the construction line and level under Art. 157, para. 4 SDA of the results of the inspections carried out at the controlled levels, marking that the underground pipelines and facilities before their filling are reflected in the specialized maps and registers and sending a certified copy of the respective protocol within three days after its drawing-up in the respective municipality;

- Participation in the elaboration and signing of all required acts and protocols during the construction, necessary for the assessment of the construction, concerning the safety requirements and the lawful implementation according to the SDA and Ordinance № 3 of 31.07.2003 for drafting acts and protocols during construction, on the basis of data from construction documents, other documents required under the relevant regulation, the contracts related to the design and execution of the construction, and the findings of compulsory inspections, surveys and measurements on site, immediately after the inspections, surveys and measurements carried out on site and only when the requirements for the construction under Art. 169, para. 1 and 3 of the Spatial Development Act for the relevant construction and assembly works have been complied with;

Technical specification for awarding the service for construction supervision for the Gas Interconnector Greece-Bulgaria construction site

- Procuring the technically competent persons of his team assigned to supervise the construction of the respective design parts for the preparation of the acts and protocols regulated by Ordinance № 3 of 31.07.2003 for drawing up acts and protocols during the construction;
- Control on the completeness and correct drafting of acts and protocols during construction;
- Control over the timely drafting of the acts and protocols regulated by Ordinance No. 3 of July 31, 2003, including by a request for drafting of acts or protocols when another participant in the construction - an interested party has this obligation but has not complied with it;
- Control over the timely and complete drafting and presentation of all required declarations, reports, test reports, measurements, certificates for the materials used, etc., informing the Contracting entity in case of non-compliant, incomplete or missing documentation and assisting in the submission of the documents referred to above in accordance with their requirements;
- Participation in the elaboration of all necessary acts, protocols and other documents for control and acceptance of construction and assembly works in execution of constructions not listed in Ordinance № 3 of 31.07.2003, according to the requirements of the current legislation for control and acceptance of construction and assembly works;
- Keeping one copy of each act and protocol drawn up during construction - subject of this procurement;
- Resolving disputes arising from the drafting of acts or protocols between the participants in the construction works related to the implementation of the current design and construction regulations and compliance with the requirements under Art. 169, para. 1 and 3 of the SDA in the construction phase;
- Control regarding the lawful commencement of the construction;
- Control on compliance with the occupational health and safety requirements in the construction sector;
- Control over the non-admission of third party and property damage as a result of construction;

- Notification of the respective Regional Directorate for National Construction Control in case of violation of the technical rules and regulations, within 3 days from the establishment of the violation;

- Verification and control of the construction equipment and materials delivered and used in the construction which ensure the fulfillment of the basic requirements for construction works, as defined in Annex I of Regulation (EU) No 305/2011 and with the requirements of the ordinance under Art. 9, para. 2, item 5 of the Technical Requirements to Products Act;

- Compliance with the obligations arising for the person exercising construction supervision from the provisions of Ordinance No 1 of 16 April 2007 on the inspection of construction accidents;

- Control over drawing-up executive documentation pursuant to the requirements of art. 175, para. 2 of the SDA and responsibility for the proper completion and ensuring the signing of the executive documentation from the technically competent persons in the respective parts of the project by its team;

- Validation of the executive documentation when it meets the requirements of the SDA and the construction and assembly works completed;

- Control and participation in organizing 72-hour tests under operating conditions, incl. preparation of a proposal for the establishment of a commission, preparation of an order of the Contracting entity and signing of a protocol for a 72-hour tests under operating conditions (Annex 17 to Ordinance № 3 of 31.07.2003 for drafting of acts and protocols during construction) after successful testing;

- Upon completion of the construction, drafting, together with the participants in the construction, a reporting act certifying that the construction has been completed in accordance with the approved investment projects, the certified executive documentation, the requirements for construction works under Art. 169, para. 1 and 3 and the conditions of the concluded EPC contract (Constitutional act under Article 176, paragraph 1 of the SDA for establishing the fitness for acceptance of the construction, Model 15 of Ordinance No. 3 of 2003 for drafting acts and protocols during the construction;

- Participation in the work of the State Acceptance Commission for determining the fitness for use of the construction and its acceptance.

- The Contractor shall perform the tasks arising from its obligations as construction supervision through the authorized natural persons listed in the certified list of the team

of authorized natural persons through whom the activity is exercised - an integral part of the certificate issued to the Contractor for the exercise of the activities under Art. 166, para. 1, item 1 according to Art. 2 of the SDA

B) Control over the activities of the EPC Contractor on survey photos of the construction site, preparation of documentation for issuance of a Certificate by the Office of Geodesy, Cartography and Cadaster that the obligation under Art. 54a, para. 2 of the Cadaster and Property Register Act has been complied with and provision of the Certificate under Art. 54a of the CPRA.

- Control over the execution of cadastral surveying of the construction by the EPC Contractor and on the data and the materials from this surveying and their processing;

- Control over the preparation of the necessary documentation for the issuance of a Certificate from the Office of Geodesy, Cartography and Cadaster that the obligation under Art. 54a, para. 2 of the Cadaster and Property Register Act for the constructions pursuant to the provisions of Ordinance № RD-02-20-5 of December 15, 2016 on the content, creation and maintenance of the cadastral map and the cadastral registers, including an application under Art. 56, para. 1 of Ordinance RD-02-20-5 of 15 December 2016, a draft for amendment of the cadastral map and the cadastral registers, made in digital format in the form under Art. 12, item 5 of the Cadaster and Land Register Act, with content pursuant to Art. 75 of Ordinance RD-02-20-5 of 15 December 2016,

- Control over the provision of a Certificate by the Office of Geodesy, Cartography and Cadaster that the obligation under Art. 54a, para. 2 of the Cadaster and Land Registry Act has been complied with.

C) Preparation of a Final Report on the construction, pursuant to Art. 168, para. 6 of the SDA and SP § 3 of the Decree № 2 of 31 July 2003 for the commissioning of construction works in the Republic of Bulgaria and minimum guarantee periods for completed construction and assembly works, facilities and construction sites. The final construction report has to be drafted and sealed by the person exercising construction supervision and signed by the manager of the company within the meaning of the SDA and by all the qualified specialists designated for the supervision of the construction of the respective parts. The final construction report shall have to contain an assessment of the following conditions:

- lawful start and execution of the construction according to the approved projects and the conditions of the issued construction permit, detailed description and compliance with the construction plan envisaged by the detailed development plan;

- completeness and correct drafting of acts and protocols during construction;

Technical specification for awarding the service for construction supervision for the Gas Interconnector Greece-Bulgaria construction site

- connection of the internal installations and structures of the construction with the networks and the facilities of the technical infrastructure;
- execution of the construction according to the requirements under Art. 169, para. 1 and 3 of the Spatial Development Act;
- compliance of the construction equipment and materials with the requirements of Art. 169a, para. 1 of the SDA;
- no damage to the Contracting entity and other participants in construction caused by non-compliance with the technical rules and regulations and the approved projects;
- fitness of the construction for commissioning;
- execution of the construction in accordance with other specific requirements for certain types of construction according to a regulation if there is such;
- execution of the construction in compliance with the requirements of enacted administrative acts which, depending on the type and size of the construction, are a necessary condition for the permitting of the construction under the Environmental Protection Act, the Biological Diversity Act, the Cultural Heritage Act or another special law, as well as reflecting the measures and conditions of these acts in the project;
- performance of the construction in accordance with the requirements for selective separate collection of waste generated during construction and installation works in order to ensure their subsequent recovery, including recycling and the achievement of the relevant quantitative recovery and recycling targets.

D) Preparation of a Technical Passport for the construction which is part of the construction papers before the site is put into operation and at the same time as the final report under Art. 168, para 6 of the SDA, in scope and content and copies pursuant to the requirements of Ordinance No 5 of 2006 Technical Passports of construction sites. It is the responsibility of the Contractor to register the Technical Passport with the Competent Authority pursuant to Ordinance No. 5 of 2006 on Technical Passports of construction sites.

5.3 Expert support to the Contracting entity during construction, including commissioning of the constructed site.

A) During and after completion of the construction the Contractor shall procure that all written opinions by specialized control bodies on lawful completion of construction and its readiness for commissioning; through the specialists in their team it will provide expert assistance to the Contracting entity with respect to the specificity of the

construction- compiling the documentation pursuant to art. 4 of Ordinance № 3/2003 to National Construction Control Directorate as well as approval procedures with third parties which fall within the scope of the functions of construction supervision with a view to obtaining a Permit for use of the construction.

B) Control and management of the commissioning of the construction, including unit and group tests of the installations and equipment, until the issuance of the Permit for use of the construction and its handover for operation, including:

- Review and approval in relation to applicable regulations of the EPC Contractor's individual methods and means for performing unit and group tests of machines and systems (72 - hours tests under operating conditions)

- Presence of unit and group samples (tests) of machines and systems (72 - hour tests under operating conditions) and validation of the results achieved;

- Control of the timely and accurate execution of all unfinished works of the construction by the EPC Contractor;

- Verification of the content and completion of the executive documentation drawn-up by the EPC Contractor in accordance with the requirements of Art. 175, para. 2 of the SDA and certification of the same.

- Preparation, completion with the necessary documents and submission on behalf of the Contracting entity of a written request for appointment of a State Acceptance Commission for Construction;

- Participation in the work of the State Acceptance Commission for determining the fitness for use of the construction and its acceptance.

(C) Upon request by the Contracting entity to prepare a report or opinion from the Contractor, the Contractor shall prepare the requested report or opinion as soon as possible and submit it to the Contracting entity. The reports and opinions must be elaborate professionally, objectively, impartially and contain true, accurate and comprehensive information in full compliance with the applicable legal framework and the interests of the Contracting entity.

6. Documents provided in the process of implementation of the procurement.

6.1 Documents and information submitted to the Contractor following signing the procurement contract

The Contracting entity shall submit to the Contractor a copy of the following documents (an electronic copy):

- a construction permit,
- a copy of drafts approved for DSP-PP and DSP-DP

- a copy of the technical design approved by the Ministry of regional development and public works based on which the construction permit has been issued by the Ministry of Regional development and public works,
- operational licenses for the engineer for the engineering design and the EPC contractor (constructor of the site),
- approval letters with third parties,
- other documents that the Contracting entity has available and which are required for performing the services.

6.2 Documents delivered by the Contractor as a result of implementation of the public procurement awarded

A) Preparation and submission to the Contracting entity of Monthly Reports on the works performed for each month of the performance of the Contract, Reports on the detection of an irregularity or on doubts for such.

Preparation and submission to the Contracting entity of Monthly Reports of the works carried out for each month of performance of the Contract, within 7 days after the expiration of each month from the performance of the activities under the Contract for this procurement.

The monthly report on works performed shall have to contain information on the performance of the Contractor's contract during the reporting period, including:

- A summary of the activities performed by the Contractor;
- Key dates / activities during the reporting period and expected key dates / activities over the next period;
- Participation of experts and other experts from the Contractor's team;
- Problems in the implementation of the Contract and proposals for solving them;
- Other information at the discretion of the Contractor.

The Contractor shall have to attach to the Monthly report on works performed:

- the acts and protocols drafting during the reporting period in accordance with Ordinance No. 3 of 2003 for the preparation of acts and protocols during the construction, accompanied by an inventory;
- Copies of the contents of the Site register related to the reporting period;
- Documents, charts, tables and other information supporting the report;

- Other attachments at Contractor's discretion.

Upon detection of an irregularity or doubt for such, the Contractor shall immediately prepare and submit a report containing information on the detected irregularity or grounds for doubt. The report must be accompanied by all documents supporting the information provided by the Contractor that it has available.

B) Preparation and submission to the Contracting entity of a Final Report on the execution of the procurement after obtaining a Permit for use of the construction. The final performance report shall contain information on the performance of the Contractor's Contract, including:

- Summary of the activities performed by the Contractor in the course of performance of the procurement;

- Summary of the problems encountered in performing the Contract, the measures taken to solve them and the results and implementation of the measures taken;

- Information on opinions and reports requested by the Contracting entity and provided by the Contractor in the course of performance of the Contract;

- Summary financial information on performance of the Contract;

- Other information at the discretion of the Contractor.

The Contractor shall have to attach to the Final report:

- A copy of all documentation - documents, protocols and other documents that the Contractor has created during the execution of this procurement, accompanied by a detailed inventory;

- Other attachments at Contractor's discretion.

The submission of the Final Report by the Contractor and its acceptance by the Contracting entity is a condition for making the final payment under the Contract and releasing the Contractor's performance guarantee.

7. Procurement implementation term

The implementation term for this procurement shall start on the date the contract for implementation is signed and a letter of engagement is sent by the Contracting entity to the Contractor and shall terminate with commissioning of the construction site and it is directly correlated to the construction contract which will be concluded.

In any case the liability period of the Contractor is pursuant to the requirements of Ordinance № 2 of 31.07.2003 on commissioning construction sites in the Republic of Bulgaria and minimum warranty periods for construction and assembly works done, as of the date a commissioning permit/ a permit for use is issued pursuant to SDA.

The Contractor shall perform the functions of Construction supervision for the construction site in the period from signing a protocol for opening a construction site and setting a construction line and level until a permit for use is issued.