**DESCRIPTION OF THE SUBJECT OF THE CONTRACT (DSC)**

Long-term Service Contract for Gas Turbine-driven Compressor Units

**Table of Contents**

[**1.1** **Subject of the Contract** 3](#_Toc180581067)

[**1.2** **Location of the Contract performance** 3](#_Toc180581068)

[**1.3** **Description of the Subject of the Contract** 3](#_Toc180581069)

[1.3.1 Parameters of the Compressor Units 3](#_Toc180581070)

[1.3.2 Rules for the Compressor Unit handover for the Works performance 4](#_Toc180581071)

[1.3.3 Spare parts and consumables used in the Works performance 4](#_Toc180581072)

[**1.4** **Scope of work to be performed under the primary contract** 5](#_Toc180581073)

[1.4.1 Scheduled Works/Maintenance 5](#_Toc180581074)

[**1.5** **Scope of work to be performed under the Option Right** 11](#_Toc180581075)

[1.5.1 Rules for the preparation of cost estimate and settlement of Additional / Unscheduled Works 11](#_Toc180581076)

[1.5.2 Performance of Additional Works 12](#_Toc180581077)

[1.5.3 Execution of Unscheduled Works – identified by the Contractor during Works execution 13](#_Toc180581078)

[1.5.4 Execution of Unscheduled Works – identified by the Contracting Entity during Compressor Units’ operation 14](#_Toc180581079)

[1.5.5 Helpdesk services 15](#_Toc180581080)

[1.5.6 Kędzierzyn-Koźle Compressor Station – update of S7-400 family controller firmware including the replacement of HMI Station Hardware for 3 (three) Compressor Units 15](#_Toc180581081)

[**1.6** **Manner of execution of the Subject of the Contract and agreeing documentation** 16](#_Toc180581082)

[1.6.1 Requirements/recommendations concerning times of the Works performance 16](#_Toc180581083)

[1.6.2 Preparation for execution of the Contract 16](#_Toc180581084)

[1.6.3 Nature of the Works comprising the Subject of the Contract 17](#_Toc180581085)

[**1.7** **Description of the course of the Contract performance** 17](#_Toc180581086)

[1.7.1 Organisation and execution of the Scheduled Works 17](#_Toc180581087)

[1.7.2 Works acceptance – principles and procedure 17](#_Toc180581088)

[**1.8** **Additional information** 18](#_Toc180581089)

[1.8.1 Information on the Contracting Entity's internal regulations 18](#_Toc180581090)

[1.8.2 Requirements for the Contractor's employees 18](#_Toc180581091)

[1.8.3 Pedestrian / vehicle traffic and delivery of materials 20](#_Toc180581092)

[**1.9** **Appendices:** 20](#_Toc180581093)

## **Subject of the Contract**

The Subject of the Contract is the performance of:

* under the Primary Contract:
  + Scheduled Works: 9 (nine) type ‘A’ services and 3 (three) type ‘B’ services of Siemens Compressor Units for natural gas in accordance with **section 1.4**.**1 below**,
* under the Option Right:
  + performance of Unscheduled Works and Additional Works on the Compressor Units in accordance with **section1.5 below**,
  + Kędzierzyn-Koźle Compressor Station (Kędzierzyn-Koźle CS) – upgrade of S7-400 family controller firmware including the replacement of HMI Station Hardware for 3 (three) Compressor Units in accordance with section 1.5.6.

The Subject of the Contract covers Compressor Units operating in ATEX Zone 2 explosion hazard, located at the Kędzierzyn-Koźle Gas Compressor Station, Świerklany Branch of Gas Transmission System Operator GAZ-SYSTEM S.A., at locations indicated in **section 1.2 below**.

## **Location of the Contract performance**

The Contract shall be performed at GAZ-SYSTEM’s gas compressor station located at the following address:

**Republic of Poland**

**Kędzierzyn-Koźle**

**47-232**

**ul. Biały Ług**

## **Description of the Subject of the Contract**

### Parameters of the Compressor Units

SGT-200-2S turbine driven Siemens STC-SV (08) centrifugal compressors

Technical specification of the 3 (three) Compressor Units:

|  |  |
| --- | --- |
| Gas turbine types and serial numbers | 1. SGT-200 / RT529  2. SGT-200 / RT530  3. SGT-200 / RT531 |
| Centrifugal compressor types and serial numbers | 1. STC-SV (08-5-A) / CP101394  2. STC-SV (08-5-A) / CP101395  3. STC-SV (08-5-A) / CP101396 |
| Nominal power of the compressors | 7680kW |
| Combustion system type | DLE |

The scope of the service of each Compressor Unit includes: gas turbine, centrifugal compressor with gas seal system, technical enclosure, ventilation system, air intakes and exhaust gas system, lube oil system with oil cooler, starting system, compressor cleaning system, gas fuel system, battery pack with rectifier, Unit Control System (UCS), I&C equipment, control devices, power supply and control system.

### Rules for the Compressor Unit handover for the Works performance

The Contracting Entity shall consider the date of signing the Handover Report, documenting the hand-over of the Compressor Unit to the Contractor (the template of which is attached as **Appendix 3 to the DSC**), by both parties as the date of the Works commencement.

The Works related to the Contract performance are classified as Non-standard Hot Works in Atex Zones (Hazardous Gas Works). Therefore, prior to commencement of each Work, the Contractor shall prepare, in cooperation with the Contracting Entity and no later than 10 days prior to the commencement of the Work, a Work Order for Non-standard Hot Works in Atex Zone. For the avoidance of doubt, the Parties have agreed that the Contracting Entity shall train and assist the Contractor in the proper preparation of the Work Order for Hot Works in Atex Zone (hazardous gas work).

The agreed and completed Work Order for hazardous gas work is a necessary condition for allowing the Contractor's employees to perform the Work.

In the case of the execution of Unscheduled Work, the Parties shall make every effort to agree the Work Order for Hazardous Gas Works within a time frame that does not affect the execution of the relevant Unscheduled Work.

The Contracting Entity's O&M services shall, prior to handing over the Compressor Unit to the Contractor for the Works performance, prepare the Compressor Unit for the Work by gas venting, closing the shut-off valves, disconnecting the power supply and applicable tagging. At the Contractor's request and upon prior notification, it will also be possible to conduct a test run prior to the commencement of the Works. However, it should be noted that the process of gas filling/venting and installation of blind plugs on the gas piping will take 1 working day and may affect the Works commencement date.

Prior to handing over the Compressor Unit for the Works performance, the Contractor must familiarise himself with its technical condition, request a test run if necessary, take any necessary software downloads and screen shots that may indicate any anomalies.

### Spare parts and consumables used in the Works performance

#### **Replacement of worn parts for new**

During the execution of the Works, the Contractor shall be obliged to check the technical condition of the Compressor Units and the condition of all parts removed from the Compressor Unit in accordance with the Contractor's internal standards provided for the specific Scheduled Work performed.

In the event that the technical condition of the inspected parts or components indicates that they are defective, the Contractor shall notify the Contracting Entity of the fact by means of photo documentation and/or documentation from measurements and visual inspections and a Report on the identified defect ), the template of which is attached as **Appendix 1 to the DSC**.

In the situation that the Contracting Entity has new or refurbished spare parts at its disposal, the Contracting Entity shall make them available to the Contractor for installation in the Compressor Unit to replace the worn or damaged parts. In the event that the Contracting Entity does not have new or refurbished spare parts available to complete the Works, the Contracting Entity may instruct the Contractor to purchase the spare parts as part of the completion of the Unscheduled Works in accordance with **section 1.5 below**.

Where the disassembly/installation of the relevant spare part to be replaced has been included within the scope of the Scheduled Work in accordance with **section 1.4.1 below**, then the Contracting Entity shall not incur additional costs for the labour involved in replacing such a part. If the disassembly/installation of a particular part to be replaced has not been included in the scope of the Scheduled Work in accordance with **section 1.4.1 below** or the replacement of the part involves the performance of Unscheduled Works or Additional Works then the Contracting Entity shall bear the cost of labour for the replacement of such a part.

#### **Requirements for the materials and spare parts**

Original consumables and spare parts or their equivalents, new or refurbished, with technical parameters not inferior to the original ones, shall be used for the execution of the Works. Quality certificates and approvals shall be provided to the Contracting Entity and shall form part of the As-Built Documentation.

All fasteners, washers, pins and gaskets which, due to the scope and method of execution of the individual Works cannot be reused during the reassembly of the Compressor Unit after the Works’ completion, shall be delivered and replaced with new ones under the remuneration agreed for the respective Work.

## **Scope of work to be performed under the primary contract**

### Scheduled Works/Maintenance

Under the primary contract the Contractor shall perform: 12 maintenance services on the Compressor Units, one service of each of the 3 (three) Compressor Units in each of the 4 (four) years of the Contract term.

The following is the schedule and scope of maintenance required to be performed during the term of the Contract on each Compressor Unit:

* **Gas turbine**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| YEAR  SCOPE OF WORK | 1 | 2 | 3 | 4 |
| Core engine (gas generator) | A | A | A | A |
| Combustion system | A | A | B | A |
| Power turbine | A | A | A | A |
| Gearbox | A | A | B | A |
| Lube oil system | A | A | B | A |
| Fuel system | A | A | B | A |
| Starting system | A | A | A | A |
| Acoustic enclosure and vent system | A | A | B | A |
| Air intake and exhaust systems | A | A | A | A |
| Compressor cleaning and seal air systems | A | A | B | A |
| Fire and gas detection system | A | A | A | A |
| Control equipment and panels | A | A | A | A |

The detailed scope of work required for each service of the gas turbine is described in the Operations and Maintenance Manual (6060-R02-001) in Volume II – Turbine Unit Maintenance Manual, Chapter 1 – Maintenance Directives;

* **Centrifugal Compressor**

For detailed information necessary to properly perform work on a centrifugal compressor, please refer to Compressor Train – Original Operating Instructions No. IDSN – 00005797, Part 5 – Maintenance.

The works required to be performed on the centrifugal compressor include in particular:

|  |  |  |
| --- | --- | --- |
| Bearing temperature measuring devices | Temperature transmitter:  TE-3011401  TE-3011402  TE-3011405  TE-3011406  TE-3011409  TE-3011410  TE-3011411  TE-3011412 | Check the measurement devices, Check the measurement values, Check continuity of wiring. Correct any measurement errors. |
| Shaft vibration measurement devices | Vibration transmitter:  VXE-3011416  VYE-3011416  VXE-3011417  VYE-3011417 | Check the measurement devices, Check the measurement values, Check continuity of wiring. Correct any measurement errors. |
| Shaft vibration measurement devices | Eddy current transducers | Check the correctness of readings. If errors are out of class – calibrate |
| Shaft position measurement devices | Shaft position transmitter:  VZE-3011415  VZE-3011418 | Check the measurement devices, Check the measurement values, Check continuity of wiring. Correct any measurement errors. |
| Shaft position measurement devices | Eddy current transducers | Check the correctness of readings. If errors are out of class – calibrate |
| Keyphasor | VE-3011418 | Check the measurement devices, Check the measurement values, Check continuity of wiring. Correct any measurement errors. |
| Keyphasor | Eddy current transducer | Check the correctness of readings. If errors are out of class – calibrate |
| Coupling | Between the compressor and gas turbine | Check in accordance with IDSN – 00005797  Check the axial and radial alignment to ensure that they are still within the permissible range.  Check coupling hub, align the elements if necessary.  Check that all bolts and nuts are correctly torqued |
| Surge limit adjustment  FCV32022A7 | Surge valve | Check in accordance with IDSN – 00005797 |
| Seal gas filter / connection fitting / differential pressure transmitter | F-3012812A  F-3012812B  F-3012811A  F-3012811B  PDIT-  900251 A  PDIT-  900284 A | Check in accordance with IDSN – 00005797 |
| Pressure control valve | PCV-3012006  PCV-3012311  PCV-3012314  PVC-3012315 | Check in accordance with IDSN – 00005797 |
| Measurement devices | Pressure gauge PG-3012001 | Check the measuring device and the correctness of readings |
| Measurement devices | Pressure indicating transmitter  PIT-3012302  PIT-3012304  PIT-3012305  PIT-3012306  PIT-3012307  PIT-3012311  PIT-3012201  PIT-3012214  PIT-3012215 | Check the correctness of readings. If errors are out of class – calibrate |
| Measurement devices | Temperature transmitter TE-3012804 | Check the continuity of cables and the correctness of readings. |
| Measurement devices | Temperature transducer TT-3012804 | Check the correctness of readings. If errors are out of class – calibrate |
| Pressure safety valve | PSV-3012315 | Check in accordance with IDSN – 00005797 |
| Temperature measuring equipment (oil feed system) | temperature transmitter) TE-3015514 | Check the measurement devices, Check the measurement values, Check continuity of wiring. Correct any measurement errors. |
| Temperature measuring equipment (oil feed system) | Temperature transducer TT-3015514 | Check the correctness of readings. If errors are out of class – calibrate |
| Flow gauge (oil return)  FG-3015524  FG-3015525  FG-3015526 | Sight glass | Check oil flow and level on the sight glass |
| Acoustic enclosure – air inlet | Filter, strainer, differential pressure transmitter, heating, temperature measurements, solenoid valve, limit indicator, fire damper | Check in accordance with IDSN – 00005797 |
| Enclosure | differential pressure transducer, temperature measurement, switch, lamps, acoustic signal, infrared fire and gas detectors   |  | | --- | |  | | Check in accordance with IDSN – 00005797 |
| Air outlet | Fan, motor, solenoid valve, limit switch, fire damper, screen | Check in accordance with IDSN – 00005797 |

**NOTE:**

1. **For the avoidance of doubt, the Parties have agreed that the indicated work on the centrifugal compressor should be performed during each "A" level service of the gas turbine.**
2. **As part of the remuneration for the Scheduled Works, the Contractor shall establish and maintain, throughout the term of the Contract, a dedicated e-mail address to handle the requests referred to in section 1.5.5 below.**

After each service, the Contractor shall, within 30 working days, submit the post-service As-Built Documentation to the Contracting Entity.

**The As-Built Documentation shall contain:**

* a report from the performed works prepared in accordance with the Report template provided in Appendix 5 to the DSC.
* a list of the Compressor Unit replaced parts,
* reports from the visual inspections, calibrations, tests and measurements (required for all activities included in the scope of work whenever there is instruction to measure, check the correctness of readings, check continuity of wires, calibrate or record),
* conclusions and recommendations for future operation,
* calibration certificates for the measuring instruments used,
* copies of formal documents i.e. cost estimates, Work Order for Non-standard Hazardous Gas Work, reports, etc.
* declarations of conformity for spare parts supplied by the Contractor,
* video recordings of the borescope inspections made with the device used,
* Report on the identified defects, if any is identified by the Contractor during the maintenance, drawn up by the Contractor in accordance with **section 1.5.3 below** and as per **Appendix 1 to the DSC**. The Report must indicate the defect cause and recommendations for its prevention in the future.

The As-Built Documentation must be prepared as an electronic file in Polish or English language.

At the beginning of each calendar year (by the end of January) during the term of the Contract, the Parties shall jointly agree on the **probable** date for the Scheduled Works in that calendar year.

The Parties agree that the maintenance shall be performed on the Compressor Units in sequence (‘one after another’), i.e. the necessary condition for starting the servicing of the next Compressor Unit is the completion of the works on the previous one (signing by the Parties of the Acceptance Report without Comments).

Each time, a minimum of 60 calendar days prior to the service commencement, the Contracting Entity shall send to the Contractor by e-mail to the address specified in **§18 of the Contract** a Service Request (hereinafter: the ‘**Request**’).

The Request will contain the following information: the number of the Compressor Unit and the expected start date of the service.

Within a maximum of 10 working days, the Contractor shall confirm by e-mail to the Contracting Entity's address specified in **§18 of the Contract** the date for commencement of servicing or propose the closest possible date for commencement of servicing, which shall not be later than 90 calendar days from the date of sending the Request.

In justified cases, it is possible for the Parties to agree on the service dates to be later than 90 calendar days, but no longer than 120 calendar days from the sending of the Request.

Based on the Request and on the Contractor's response, the Contracting Entity will send, within 5 working days, a confirmation of the service commencement date to the Contractor's e-mail address indicated in **§18 of the Contract**.

The handover of the Compressor Unit for the Scheduled Work will take place in accordance with the terms described in **section 1.3.2 above**.

## **Scope of work to be performed under the Option Right**

### Rules for the preparation of cost estimate and settlement of Additional / Unscheduled Works

In the event that Additional Works or Unscheduled Works are required, the Contractor shall prepare a cost estimate in accordance with the template provided in Appendix 6 to the DSC (hereinafter: ‘Cost Estimate’).

In the event that the execution of the Unscheduled Work involves the need to eliminate a defect limiting further operation of the Compressor Unit, the Contractor shall, if possible, use the Contractor's strategic stock of spare parts, in which case the Contracting Entity shall allow for the situation in which the price of the spare parts is higher than the market price offered by the Contractor under comparable conditions.

**The detailed Cost Estimate for the elimination of a defect shall not adopt indices for the costing of repairs higher than those specified in Appendix 8 to the Contract.**

In the event that, for the purpose of preparing the Cost Estimate, it is necessary to undertake a site visit (hereinafter: **Visit**) at the Compressor Station site, the Contractor shall be entitled to reimbursement of the costs incurred for the Visit, the value of the reimbursement to which the Contractor shall be entitled shall be estimated as follows on the basis of the unit rates provided by the Contractor in the Tender constituting **Appendix 8 to the Contract** at the bidding stage:

Z = L \* M + L \*D \*H + I2\*S2

where:

Z – reimbursement due to the Contractor [EUR net],

L – number of Contractor's employees participating in the Visit (max. 2 persons);

M – mobilisation and demobilisation fee (combined) of one employee [EUR net],

D – number of hotel nights;

H – hotel rate [EUR net],

I2 - number of man-hours of employees from qualification Group 2 – Specialist;

S2 – man-hour rate [EUR/h net] as provided by the Contractor in the Tender at the bidding stage for personnel with Specialist qualifications (Group 2);

Upon completion of Additional Work or Unscheduled Work, the Contractor shall be entitled to remuneration based on the Cost Estimate prepared by the Contractor and approved by the Contracting Entity on the basis of the following principles and the unit rates provided by the Contractor at the bidding stage in the Tender constituting **Appendix 8 to the Contract**:

for the labour of the Contractor's employees, the Contractor will receive a remuneration calculated as follows:

W = l1 \* Sr (qualification Group 1) + l2 \* Sr (qualification Group 2) + l3 \* Sr (qualification Group 3)

where:

W – Contractor’s remuneration [EUR net],

I1 – number of man-hours of employees from qualification Group 1 – Mechanic;

I2 – number of man-hours of employees from qualification Group 2 – Specialist;

I3 – number of man-hours of employees from qualification Group 3 – Engineer;

Sr – man-hour rate [EUR/h net] as stated by the Contractor in the Tender at the bidding stage for personnel with Mechanic qualifications (Group 1), Specialist qualifications (Group 2) and Engineer qualifications (Group 3);

1. for the employee mobilisation and accommodation, the Contractor shall receive remuneration calculated as follows:

Z = L \* M + L \* D \* H

where:

Z – reimbursement of mobilisation and accommodation costs [EUR net],

L – number of Contractor's employees participating in the Additional Work or Unscheduled Work (according to the Cost Estimate);

M – mobilisation and demobilisation fee (combined) of one employee [EUR net];

D – number of hotel nights;

H – hotel rate [EUR net]

1. for used spare parts and/or materials according to the Contractor's Cost Estimate,
2. for services rendered by subcontractors in accordance with the Contractor's Cost Estimate.

Each time after completion of Unscheduled Works or Additional Works, the Contractor shall, within 30 working days, prepare the As-Built Documentation of the completed works as described for the Scheduled Works in **section 1.4.1 above**.

For the Helpdesk service (in accordance with section 1.5.5 of the DSC), the Contractor shall be entitled to remuneration based on the Helpdesk Report prepared by the Contractor and approved by the Contracting Entity pursuant to the rules described in section 1.5.5 and the unit rates provided by the Contractor at the bidding stage in the Tender constituting **Appendix 8 to the Contract**:

where:

H = I3 \* Sr

I3 – number of man-hours of employees from qualification Group 3 – Engineer;

Sr – man-hour rate [EUR/h net] for Engineer (qualification Group 3);

### Performance of Additional Works

Should Additional Work be required, the Contracting Entity shall notify the Contractor at the e-mail address specified in **§18 of the Contract** of the need to perform the Additional Work. Such request shall include the preliminary scope and manner of performing the Additional Work. The Contractor shall, within the time agreed with the Contracting Entity, but not longer than 30 working days, prepare a detailed Cost Estimate for performing the Additional Work on the basis of the Contracting Entity's description and, if necessary, a site Visit at the Compressor Station.

The Contracting Entity shall, within 10 working days and to the e-mail address indicated in **§18 of the Contract**: approve/reject the Cost Estimate or ask the Contractor for clarification.

If the Cost Estimate is approved, the Contracting Entity shall send the Contractor an order for Additional Work generated from the SAP system, to the e-mail address indicated in **§18 of the Contract** (work related to the order should be performed subject to **section 1.6.3 below**).

On the basis of the Cost Estimate, if it is approved by the Contracting Entity, the Parties shall jointly determine the dates for the execution of the Additional Works, taking into account the Contracting Entity's needs and the Contractor's technical and organisational capacity.

The handover of the Compressor Unit for the specific Additional Work shall take place in accordance with the terms described in **section 1.3.2 above**.

### Execution of Unscheduled Works – identified by the Contractor during Works execution

In the event that the Contractor detects a defect in the course of service performance (Scheduled Works) or during Unscheduled Works or Additional Works, the Contractor shall immediately notify the Contracting Entity by communication to the contact person indicated by the Contracting Entity in the Contract, together with information as to whether the defect is of a limiting nature – meaning that the Compressor Unit cannot continue operation, or of a non-limiting nature – meaning that the Compressor Unit can continue operation.

For non-limiting defect:

* The Contractor will complete all the service activities.
* The Contracting Entity shall pay the Contractor 100% of the Contractor's remuneration subject to **§6(2) and (3) of the Contract**.
* The Contractor shall, within 10 working days, prepare and send by e-mail (to the address specified in the Contract) a Report on the identified defect on the form, the template of which is attached as **Appendix 1 to the DSC**.
* The Contractor shall, within a further 20 working days, prepare and send by e-mail (to the address specified in **§18 of the Contract**) a Cost Estimate for the defect repair.
* The Contracting Entity shall, within 5 working days, by e-mail: approve/reject the Cost Estimate or ask the Contractor for clarification.
* After the Cost Estimate’s approval, the Contracting Entity shall e-mail the Contractor an order for the defect repair generated from the SAP system (work related to the order should be performed subject to **section 1.6.3 below**).
* On the basis of the Cost Estimate, if it is approved by the Contracting Entity, the Parties shall jointly determine the dates for the execution of the Unscheduled Works, taking into account the Contracting Entity's needs and the Contractor's technical and organisational capacity, with the Contractor making every effort to repair the defect as soon as possible.
* Following the defect repair, the Contracting Entity shall pay the Contractor the remuneration resulting from the approved Cost Estimate.

For defects limiting further Compressor Unit operation:

* The Contractor will complete all the service activities.
* The Contractor shall, within 3 working days, prepare and send by e-mail (to the address specified in the Contract) a Report on the identified defect on the form, the template of which is attached as **Appendix 1 to the DSC**.
* The Contractor shall, within a further 10 working days, prepare and send by e-mail (to the address specified in the Contract) a Cost Estimate for the defect repair.
* The Contracting Entity shall, within 3 working days, by e-mail: approve/reject the Cost Estimate or ask the Contractor for clarification.
* After the Cost Estimate’s approval, the Contracting Entity shall e-mail the Contractor, to the address specified in **§ 18** **of the Contract** an order for the defect repair generated from the SAP system (work related to the order should be performed subject to **section 1.6.3 below**).
* If the Contracting Entity accepts the Cost Estimate, the Contracting Entity shall pay the Contractor 90% of the remuneration due to the Contractor for the completed Works, in which case the Parties shall sign the Acceptance Report detailing the need for Unscheduled Works.
* On the basis of the Cost Estimate, if it is approved by the Contracting Entity, the Parties shall jointly determine the dates for the execution of the Unscheduled Works, taking into account the Contracting Entity's needs and the Contractor's technical and organisational capacity, with the Contractor making every effort to repair the defect as soon as possible.
* Further, following the defect repair and successful test run ), the Contracting Entity shall pay the Contractor a remuneration of 10% of the remuneration for the completed Works and 100% of the remuneration based on the approved Cost Estimate, subject to **§ 6(2) and (3) of the Contract**.
* In the event that the Cost Estimate is not approved, the Contracting Entity shall pay the Contractor 100% of the remuneration for the completed Works subject to signing of the Acceptance Report and the acceptance report for the As-Built Documentation by the Parties, in which case the test run shall not be carried out and shall not prejudice payment.

The handover of the Compressor Unit for the Unscheduled Work will take place in accordance with the terms described in **section 1.3.2 above**.

### Execution of Unscheduled Works – identified by the Contracting Entity during Compressor Units’ operation

In the event that the Contracting Entity identifies a defect during the operation of the Compressor Units, the Contracting Entity shall immediately notify the Contractor by telephone and to the e-mail address specified in **§18 of the Contract,** providing the description of the observed defect on the form, the template of which is attached as Appendix 1 to the DSC. If the defect is beyond the Contracting Entity's capacity to repair on site by the O&M personnel, the Contractor shall, within 5 working days of receiving the Report on the identified defect and agreeing that the Contractor's on-site support is necessary, send its employees to the compressor station to repair the defect.

In the event that the deployed workers repair the defect, the Contractor shall, within 10 working days, prepare an as-built Cost Estimate for the completion of the Unscheduled Works. For the avoidance of doubt, the Parties have agreed that in such a case the Parties shall jointly agree on the necessity for a test run and the Acceptance Report shall constitute the basis for payment of 100% of the remuneration unless it is necessary to prepare the As-Built Documentation.

In the event that it proves impossible for the deployed employees to repair the defect, the Contractor shall, within the period agreed with the Contracting Entity but not exceeding 10 calendar days, prepare a detailed Cost Estimate for the Unscheduled Works (including the work of the deployed employees in accordance with paragraph 1).

The Contracting Entity shall, within 3 working days and to the e-mail address indicated in the Contract: approve/reject the Cost Estimate or ask the Contractor for clarification.

If the Cost Estimate is approved, the Contracting Entity shall send the Contractor an order for Unscheduled Work generated from the SAP system, to the e-mail address indicated in **§18 of the Contract** (work related to the order should be performed subject to **section 1.6.3 below**).

In the event that the deployed employees fail to repair the defect and the Contracting Entity does not approve the Cost Estimate for the execution of the Unscheduled Works, the Contractor shall be entitled to remuneration for the work of the deployed employees referred to in the first paragraph. In such a case, the Parties shall sign the Acceptance Report with the information that the work of the Contractor's deployed employees should be settled.

On the basis of the Cost Estimate, if it is approved by the Contracting Entity, the Parties shall jointly determine the dates for the execution of the Unscheduled Works, taking into account the Contracting Entity's needs and the Contractor's technical and organisational capacity, with the Contractor making every effort to repair the defect as soon as possible.

The handover of the Compressor Unit for the relevant Unscheduled Work shall take place in accordance with the terms described in section 1.3.2 above.

### Helpdesk services

As part of the Unscheduled Works, the Contractor shall provide a Helpdesk support service in Polish or English. The service shall be available to the Contracting Entity 24/7 throughout the Contract term. In the event of any doubt regarding the operation of the Compressor Units, the Contracting Entity shall be able to request the Contractor for: guidance, information, guidelines in order to be able to achieve high availability of the Compressor Units. In the event that the Contracting Entity makes use of the Helpdesk support, the Contractor shall submit a Helpdesk Report at the end of a given calendar month, summarising the number of man-hours spent by the Contractor's Engineers .

### Kędzierzyn-Koźle Compressor Station – update of S7-400 family controller firmware including the replacement of HMI Station Hardware for 3 (three) Compressor Units

As part of the Unscheduled Works, the Contractor shall be ready to upgrade the firmware version of the S7-400 family controller modules to V6.0.10 or higher.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Name** |  | **Type** | **OLD firmware** |
| 1. | CPU 417-5H PN/DP | CPU | 417-5HT06-0AB0 | v6.0.4 |
| 2. | CP 443-1 | Communications processor profinet | 443-1EX30-0XE0 | V3.1 |
| 3. | CP 441-2 | Communications processor modbus | 441-2AA05-0AE0 | V2.0.1 |
| 4. | CP 443-1 | Communications processor profinet | 443-1EX30-0XE0 | V3.1 |
| 5. | CP 443-1 | Communications processor profinet | 443-1EX30-0XE0 | V3.1 |
| 6. | SIMATIC HMI IPC677C | HMI Process Automation PCS7 | IPC677C | V8.0 SP2 |
| 7. | SIMATIC S7-300 (Pro Safe) | Digital Outputs | 63S7 326-2BF10-0AB0 |  |

TabIe 1 Complete set of controllers for one Compressor Unit

The software upgrade applies to complete sets of controller modules installed in Siemens SGT-200 Compressor Units comprising the Unit Control System (hereafter: UCS).

The upgrade should consist of:

1. Replacement of the legacy Operating System:
   * Supply of new HMI panels with Windows 10 Enterprise 2019 LTSC, 64 bit Operating System, installed in the existing UCS cabinet.
   * Upgrade of the present PCS7 to v9.1
   * Installation of anti-virus software agreed with the Contracting Entity
   * Determination of the ‘White List’ of application software that must be used for the correct operation of the Compressor Unit control system
   * Supply of the engineer station licence – 1pc.
2. The activities at the Compressor Station must allow the application of safe change management procedures and a possible return to the previous version (downgrade).
3. Following the installation of the new controller software, functional tests should be performed to confirm the correct functioning of the new software in a reasonably broad range of states of the controlled facility. In the event that the firmware is only upgraded without uploading the new software (importing the program from the HMI to the PLC), the Contracting Entity will require testing 10% of random measurements and their verification for compliance with the actual measurements.
4. In each case, the correctness of operation of control loops, sequences and other key automation control algorithms should be tested.

NOTE:

The Contractor performing a task in the OT/SCADA Environment may not use tools such as service laptops not approved for use in the OT/SCADA Environment by GAZ-SYSTEM S.A. In all cases, approval for the use of the specific equipment must be obtained before starting work at the facility. Furthermore, the Contractor will be instructed where and using which protocol/port the Contractor will be allowed to connect with the equipment indicated above. GAZ-SYSTEM S.A. does not agree that the Contractor connects to the ETH network using his computer. The existing HMI Panels may be used.

The upgrade shall be performed ‘one by one’, i.e. after successful verification and testing of a given Compressor Unit, the operation can be performed on the next one.

## **Manner of execution of the Subject of the Contract and agreeing documentation**

### Requirements/recommendations concerning times of the Works performance

Works at the Contracting Entity's gas compressor stations shall be carried out from Monday to Saturday between 8:00 am and 6:00 pm.

The Contracting Entity shall conduct acceptance of the completed Works between 7:00 a.m. and 3:00 p.m.

### Preparation for execution of the Contract

The Contractor is required to familiarise himself with the PE-EK-W01 Guidelines including in particular the ‘Information Brochure for Contractors’ constituting Appendix 1 to the Guidelines. The PE-EK-W01 Guidelines with appendices constitute **Appendix 4 to the Contract**, and address the hazards present on the premises of Operator Gazociągów Przesyłowych GAZ-SYSTEM S.A.

The Contractor's employees, prior to being permitted to work at a given facility, shall confirm with their signature that they have familiarised themselves with the hazards present at that facility, in accordance with the attached Statement template (**Appendix 2 to the DSC**).

### Nature of the Works comprising the Subject of the Contract

The Works comprising the Contract performance at the Contracting Entity's gas compressor stations shall are classified as Non-standard Hot Works in Atex Zones (Hazardous Gas Works). Hence, prior to each service or pre-agreed Work, the Contractor is required to prepare and agree with the Contracting Entity a Work Order for non-standard hazardous gas work. The agreed and completed Work Order for hazardous gas work is a necessary condition for allowing the Contractor's employees to perform the Work.

## **Description of the course of the Contract performance**

### Organisation and execution of the Scheduled Works

The Works shall be carried out in compliance with the guidelines contained herein.

The Contracting Entity requires that the duration of service of a single Compressor Unit without the test run does not exceed: **10 working days for ‘A’ service and 15 working days for ‘B’ service, provided that there is no need for Unscheduled Work performance (in which case the time limit will result from the approved Cost Estimate)**.

The Contractor shall ensure that it has at its disposal all the necessary hand tools and materials, consumables and disposable parts listed in section 1.3.3 above that need to be replaced during the service.

The Contractor shall take care of the proper technical condition and appearance of the Compressor Units, in particular by performing the following during/after each Work:

cleaning up the work area after completion of the Works,

paint touch-ups if the coating has been damaged through the Contractor's actions,

replacing fasteners and seals damaged through the Contractor's actions,

applying protective preparations wherever they have been removed through the Contractor's actions.

The Contractor may not claim any additional remuneration from the Contracting Entity for performing these activities.

All organisational details related to the execution of the Works shall be agreed with the Contracting Entity on an ongoing basis.

### Works acceptance – principles and procedure

Following completion of the Works and cleaning up of the worksite (the Contractor is obliged to sort the generated waste), the Contractor shall report the completion of the Works to the Contracting Entity and submit the original copy of the report of the Compressor Unit’s handover for the test run, the template of which is attached as **Appendix 6 to the DSC**. The Contractor's submission to the Contracting Entity of the aforementioned reports shall constitute the basis for the commencement of the start-up and subsequent test run of the Compressor Unit.

Upon completion of the Works, a test run will be conducted with the participation of the Contractor and the Contracting Entity's services, subject to the provisions of the DSC explicitly indicating that a test run is not necessary for a given Work. The duration of the test run following completion of the Works shall be determined on a case-by-case basis depending on the nature and scope of the Works but shall not exceed 24 hours. The duration of the test run shall not be included in the duration of the Works, **however, for Unscheduled Works this does not preclude the Contractor's right to calculate the cost of the personnel supervising the test run at the Contracting Entity's facility**. The test run may only be started and completed on working days between 7:30 am and 2:30 pm.

As soon as the test run has been successfully completed without reservations, the Parties shall perform acceptance under the terms described in **§ 3 of the Contract**.

## **Additional information**

### Information on the Contracting Entity's internal regulations

The Contracting Entity has a Transmission Network Operation and Maintenance System (SESP) in place, which is a set of instructions and procedures ensuring standardised, planned and coordinated activities resulting in safe operation and use of the transmission network in compliance with applicable regulations, thereby affecting the quality of the O&M activities.

### Requirements for the Contractor's employees

The Contractor shall have at its disposal qualified personnel for the performance of the Subject of the Contract:

1. **a minimum of 1 person holding Group 3 qualification certificates** authorising the operation of gas equipment, installations and networks generating, processing, transporting, storing and consuming gas fuels in a **supervisory position and in an operation position**.These certificates should meet one of the following three requirements:
   1. shall be issued by the Qualification Committee pursuant to the Regulation of the Minister of Economy, Labour and Social Policy of 28 April 2003 on detailed rules for ascertaining qualifications of persons involved in the operation of equipment, systems and networks (Journal of Laws of 2003, No. 89, item 828, as amended) for the scope described in *Attachment 1* to the above-mentioned Regulation for Group 3, **item 5)** gas distribution networks with pressure exceeding 0.5 MPa (gas pipelines, gas facilities, gas compressor stations), **item 7)** gas equipment and installations with pressure exceeding 5kPa, and **item 10)** control and metering apparatus, control equipment for networks, equipment and installations listed in items 5) and 7) of this subsection,
   2. shall be issued by the Qualification Committee pursuant to the Regulation of the Minister of Climate and Environment of 01 July 2022 on detailed rules for ascertaining qualifications of persons involved in the operation of equipment, installations and networks (Journal of Laws of 2022, item 1392) for the scope described in *Attachment 1* to the above-mentioned Regulation for Group 3, **item 5)** gas networks with pressure exceeding 0.5 MPa (gas pipelines, gas facilities, gas assemblies at connection points, gas compressor stations), **item 7)** gas equipment and installations with pressure exceeding 5kPa, and **item 10)** control and metering apparatus, control equipment for the equipment, installations and networks listed in items 5) and 7) of this subsection,
   3. shall be issued by the Qualification Committee pursuant to the Regulation of the Minister of Climate and Environment of 01 July 2022 on detailed rules for ascertaining qualifications of persons involved in the operation of equipment, installations and networks (Journal of Laws of 2022, item 1392) for the scope described in *Attachment 2* to the above-mentioned Regulation for Group 3, **item 5)** gas distribution networks with pressure exceeding 0.5 MPa (gas pipelines, gas facilities, gas compressor stations), **item 7)** gas equipment and installations with pressure exceeding 5kPa, and **item 10)** control and metering apparatus, control equipment for networks, equipment and installations listed in items 5) and 7) of this subsection.

1. **a minimum of 1 person holding Group 3 qualification certificates** authorising the operation of gas equipment, installations and networks generating, processing, transporting, storing and consuming gas fuels in a **supervisory position**.The certificate should meet one of the following three requirements:
   1. shall be issued by the Qualification Committee pursuant to the Regulation of the Minister of Economy, Labour and Social Policy of 28 April 2003 on detailed rules for ascertaining qualifications of persons involved in the operation of equipment, systems and networks (Journal of Laws of 2003, No. 89, item 828, as amended) for the scope described in *Attachment 1* to the above-mentioned Regulation for Group 3, **item 5)** gas distribution networks with pressure exceeding 0.5 MPa (gas pipelines, gas facilities, gas compressor stations), **item 7)** gas equipment and installations with pressure exceeding 5kPa, and **item 10)** control and metering apparatus, control equipment for networks, equipment and installations listed in items 5) and 7) of this subsection,
   2. shall be issued by the Qualification Committee pursuant to the Regulation of the Minister of Climate and Environment of 01 July 2022 on detailed rules for ascertaining qualifications of persons involved in the operation of equipment, installations and networks (Journal of Laws of 2022, item 1392) for the scope described in *Attachment 1* to the above-mentioned Regulation for Group 3, **item 5)** gas networks with pressure exceeding 0.5 MPa (gas pipelines, gas facilities, gas assemblies at connection points, gas compressor stations), **item 7)** gas equipment and installations with pressure exceeding 5kPa, and **item 10)** control and metering apparatus, control equipment for the equipment, installations and networks listed in items 5) and 7) of this subsection,
   3. shall be issued by the Qualification Committee pursuant to the Regulation of the Minister of Climate and Environment of 01 July 2022 on detailed rules for ascertaining qualifications of persons involved in the operation of equipment, installations and networks (Journal of Laws of 2022, item 1392) for the scope described in *Attachment 2* to the above-mentioned Regulation for Group 3, **item 5)** gas distribution networks with pressure exceeding 0.5 MPa (gas pipelines, gas facilities, gas compressor stations), **item 7)** gas equipment and installations with pressure exceeding 5kPa, and **item 10)** control and metering apparatus, control equipment for networks, equipment and installations listed in items 5) and 7) of this subsection.

1. **a minimum of 1 person holding Group 3 qualification certificate** authorising the operation of gas equipment, installations and networks generating, processing, transporting, storing and consuming gas fuels in an **operation position**.The certificate should meet one of the following three requirements:
   1. shall be issued by the Qualification Committee pursuant to the Regulation of the Minister of Economy, Labour and Social Policy of 28 April 2003 on detailed rules for ascertaining qualifications of persons involved in the operation of equipment, systems and networks (Journal of Laws of 2003, No. 89, item 828, as amended) for the scope described in *Attachment 1* to the above-mentioned Regulation for Group 3, **item 5)** gas distribution networks with pressure exceeding 0.5 MPa (gas pipelines, gas facilities, gas compressor stations), **item 7)** gas equipment and installations with pressure exceeding 5kPa, and **item 10)** control and metering apparatus, control equipment for networks, equipment and installations listed in items 5) and 7) of this subsection,
   2. shall be issued by the Qualification Committee pursuant to the Regulation of the Minister of Climate and Environment of 01 July 2022 on detailed rules for ascertaining qualifications of persons involved in the operation of equipment, installations and networks (Journal of Laws of 2022, item 1392) for the scope described in *Attachment 1* to the above-mentioned Regulation for Group 3, **item 5)** gas networks with pressure exceeding 0.5 MPa (gas pipelines, gas facilities, gas assemblies at connection points, gas compressor stations), **item 7)** gas equipment and installations with pressure exceeding 5kPa, and **item 10)** control and metering apparatus, control equipment for the equipment, installations and networks listed in items 5) and 7) of this subsection,
   3. shall be issued by the Qualification Committee pursuant to the Regulation of the Minister of Climate and Environment of 01 July 2022 on detailed rules for ascertaining qualifications of persons involved in the operation of equipment, installations and networks (Journal of Laws of 2022, item 1392) for the scope described in *Attachment 2* to the above-mentioned Regulation for Group 3, **item 5)** gas distribution networks with pressure exceeding 0.5 MPa (gas pipelines, gas facilities, gas compressor stations), **item 7)** gas equipment and installations with pressure exceeding 5kPa, and **item 10)** control and metering apparatus, control equipment for networks, equipment and installations listed in items 5) and 7) of this subsection.

Note:

In the Contract performance process, each person with the qualifications listed in items 1, 2 and 3 shall perform a function specified in the SESP and the Contracting Entity does not permit having at the disposal of one or two persons with the combined qualifications listed in items 2 and 3 above to be considered the fulfilment of the conditions for participation in the procedure.

The Contractor shall provide all employees performing work at Kędzierzyn-Koźle Compressor Station with protective anti-static and flame-retardant clothing fully covering their limbs, in accordance with occupational health and safety requirements for Hazardous Gas Works.

### Pedestrian / vehicle traffic and delivery of materials

Prior to commencing the Works, the Contractor, through the contact person indicated in the Contract by the Contracting Entity, shall obtain the permit from the person designated by the Head of the Security Division of Operator Gazociągów Przesyłowych GAZ-SYSTEM S.A. at Świerklany Branch for the entry of vehicles and personnel onto the premises of the gas compressor station where the works will be performed. To this end, no later than 2 working days before the commencement of the Works (service/repair), the Contractor shall e-mail the Contracting Entity (the contact person indicated in the Contract) with the following information:

* a list of the persons, including their ID card numbers, who will be performing the works at the relevant compressor station, distinguishing the persons supervising the works,
* a list of vehicles (make and registration number, if available) and equipment to be used during the Works performance,
* the dates when the work will be performed (start and completion date and time),
* telephone numbers for persons supervising the work.

Entry to/exit from the compressor station premises in the vehicle is possible for the driver only. Vehicle driving within the compressor station area shall be kept to a minimum.

The Contractor's employees are allowed to be present on their own only in those areas of the compressor station where they perform activities related to the Contract performance.

In the event that it is necessary to deliver parts or tools before the arrival of the Contractor's employees, the Contractor shall notify the Contracting Entity of the planned delivery at least 1 working day prior to delivery, stating the consignment number, dimensions and weight. The Contracting Entity informs that it has no equipment for unloading and transporting shipments other than a manual forklift (the services of carriers using vehicles fitted with equipment for unloading should be used). The Contractor is responsible for ensuring proper protection of its items for shipment.

## **Appendices:**

Appendix 1 – Report on the identified defect – template

Appendix 2 – Contractor's Statement confirming the Contractor's personnel’s familiarity with hazards at the facility – template

Appendix 3 – Report of the handover of the Compressor Unit to the Contractor – template

Appendix 4 – Report of the handover of the Compressor Unit for the test run – template

Appendix 5 – Report from Scheduled Service – template

Appendix 6 – Cost Estimate – template