ANNOTATION

to the project "Construction of cogeneration units for combined heat and power generation in Bukhara city".

Justification:

Resolution of the President of the Republic of Uzbekistan dated December 02, 2019 No.RP-4542 "On additional measures to improve heating supply and financial recovery of heating supply enterprises".

Project Objective:

The purpose of this project is to introduce modern resource-saving technologies in the field of combined generation of electricity and heat on the basis of cogeneration. Taking into account the existing world experience it is envisaged to reconstruct the existing scheme of thermal energy production in JSC "Bukharaenergomarkaz" and ensure higher efficiency of energy conversion in production of thermal and electric energy by using the latest models of gas turbine system, consisting of: gas turbine unit (GTU) - steam boiler utilizer (STU) - double pressure steam condensing turbine (FC).

Project description:

The project involves installation of 2 sets of gas turbines with booster compressor, utilizing boiler and 1 set of steam condensing turbine with a total capacity of 187 MW.

The project provides for:

1. Installation of 2 sets of power-generating equipment in the set. Gas turbine (GTU) with unit capacity up to 85 MW. + Steam condensate turbine with unit capacity up to 17 MW. Total power capacity (85+85+17) MW = 187 MW.

2. Erection of two-transformer 110/10(6) kV substation at JSC "Bukharaenergomarkaz". 2x85 MW.

3. Erection of two 110 kV HV lines from 220 kV TS "Bukhara" to 110 kV TS "Bukharaenergomarkaz" with installation of two 110 kV cells (with gas-insulated switches) on 110 kV switchyard. Substation "Bukhara".

4. On 110 kV substation JSC "Bukharaenergomarkaz" creation of an automated electricity metering system with issuance of information to DP JSC "Bukhara Electric Power Plants".

5. Devices RVA supply lines of parallel operation of CCGT with the power system in accordance with the requirements of PUE.

6. Arrangement of high frequency communication channels on AKST type equipment from 110 kV CCGT substation to 220 kV Bukhara substation with extension of communication channels to "Bukhara Electric Power Plants" PS.

7. Backup power supply on UPS.

8. Redundant radio communication.

9. Redundant communication via telecommunication networks of JSC "Uzbek telecom".

10. On the substation 110 kV telemechanics system "ECOM TM" with a set of digital multifunctional measuring transducers PM-130 and the transfer of teleinformation to the appropriate control rooms in the agreed protocol.

11. the software and hardware complex of telemechanics ARM-T at DP JSC "Bukhara Power Plants".

12. System of displaying the tele-information on the dispatcher console of Bokhara Power Distribution Networks, ORDO and SJC "Uzbekenergo".

Note: The list of equipment and volume of telemetry information must be specified at the following designing stages in accordance with the requirements of Uzbekenergo SJC and the guiding documents for design.

The implementation of this project will contribute to:

Total output of heat energy 150 Gkal/h,electric capacity from 2 gas turbines 187 MW,electric capacity from the 1st steam turbine 85 MW.

Project Location: The boiler house is located in the south-eastern industrial zone, 7.5 km from the city center and south of the main road "Tashkent-Bukhara". The boundaries of the site are: from the north - street Alpomish, behind it "Daewoo-textile" and JSC "Buhorotext", from the east - the inner street of the industrial zone, from the south - the railroad and then JSC "Buhorokorakul", from the west - economic base enterprise and the 3rd fire station. The nearest residential buildings are 870 m to the east.

Climatic conditions of the area are characterized by the predominance of north-eastern, south-eastern and southern directions with a recurrence of 13-31%. Ground waters occur at a depth of 2-3 m from the ground surface. Within the considered area of the boiler house and heat supply networks there are no trees to be cut down.

Project cost: The cost of the project is 260,3 mln.US dollars.

Proposed financing plan: Credit facilities of IFIs.

Period of realization of the project: 2023-2027.

Project Efficiency and Payback Period: To be determined after the development of the Feasibility Study.

Available documents: None

Contractor (initiator) of the project:

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