



## **STATEMENT OF WORK WH-8 Heat Exchangers Renovation**

June, 9<sup>th</sup> 2015

### **1. INTRODUCTION**

- 1.1 The U.S. American Embassy in Moscow has a requirement to perform the following services: dismantle and remove an obsolete domestic hot water heat exchanger, installation of brand-new heat exchangers and storage tank.
- 1.2 Contractors shall provide personnel as needed to complete the services that meet the technical requirements in this Statement of Work [SOW].
- 1.3 The area of effort is the Compound mechanical room 5.

### **2. GENERAL REQUIREMENTS**

- 2.1 The Contractor shall provide all labor, tools, materials, equipment, supervision and services, unless otherwise specified, to complete the work required herein. All the work and procedures shall be performed in conformity to the specifications and work requirements herein. All local labor standards for occupational safety and health apply to this contract.
- 2.2 All specifications and requirements are written in the statement of work and cannot be changed without the approval of the CO.
- 2.3 The Embassy will provide all drawings and specifications required for the job performance.
- 2.4 The Contractor shall visit the site at a time designated by the CO and inspect the work area in order to understand the existing conditions and work requirements.

### **3. BACKGROUND**

The Domestic water heater (WH-8) is located in mechanical room 5, near the Facility Management offices in the concourse building. WH-8 is domestic hot water supply for Marine Quarters and Day Care and consists of heat exchangers, water storage tank and pumps. Mechanical room 5 is 4190 mm in wide and 5200 mm in long. Dimensions of the doors: from mechanical room 5 – 2130x870 mm; outside door – 2080x820 mm.

### **4. PURPOSE**

The purpose of the project is to replace the obsolete shell and tube heat exchangers with new double wall frame and plate and install domestic hot water storage tank, implement a new control system for WH-8 based on direct digital control (DDC).

## 5. WORK DESCRIPTION

The contractor shall perform the following work:

- Disconnect all involved parts of system WH-8 and remove the obsolete heat exchangers and metal frames.
- Define 2 double wall frame and plate heat exchangers (must be equal to Tranter, SVEP or better) depend on calculations and install them in place. See attachment 1-A.
- Make the steel frames for the heat exchangers in order to place one on one (stack).
- Replace the existing storage tank with brand-new ACV 750 Domestic Hot Water Enameled tank 7 bar max: capacity - 750 liters, hand whole DN110 or better equivalent.
- Make connections of the brand-new heat exchangers to existing heating system and cold water system brand-new storage tank including fixtures and measurement equipment (temperature and pressure gages) Valves must be Danfoss or equal.
- All heating and cold lines must be insulated with material Thermaflex Ultra M equivalent or better.
- Install air vents on the highest line points of the primer side and secondary side.
- Replace existing CP-8a pump with brand-new WILO or equivalent.
- Entire WH-8 system must be controlled with Honeywell controller equivalent to or better and operate in automatic mode. The temperature in the storage tank must be maintained at 120 – 125 °F. CP-52 and CP-8a pump must be controlled, CP-8b pump shall work 24/7 hours.
- Heat exchangers shall work in a staged mode. The heat exchanger #1 works during normal conditions. When more heat is required the heat exchanger #2 automatically comes on line. (Both heat exchangers are online).
- Provide system with actuators, sensors and other control equipment due to proper operation of the new control system.
- The heat exchangers must be evacuated outside the Embassy and utilized in order to the state regulations and policies of the Russian Federation.
- Perform a water pressure testing and a performance check of all new equipment.
- The contractor shall remove all debris from the site on a daily basis.
- The contractor shall wash and dust all surfaces to ensure they are clean of all construction dust.
- For more information about WH-8 see diagram on Sketch A-2 and Sketch A-3.

## 6. STANDARDS

The installation work shall be performed according to requirements of the Russian Federation standards.

## 7. UTILITIES:

Electricity (220 V AC, 50 Hz, single phase) is available at the NEC site. City water is also available from the closest to work site faucet. Electricity and water are provided at no cost to the Contractor during the work period. Both utilities shall be utilized solely for the contracted work, never for other purposes. Toilet facilities will also be provided by the Embassy.

**8. GOVERNMENT FURNISHED MATERIALS:**

None

**9. INSPECTION AND ACCEPTANCE BY THE COR:**

9.1. The COR or COR's designee may reserve the right to inspect and test all the work under this contract at any time. If any of the work does not conform to the contract requirements and/or specifications, the Embassy may require the Contractor to perform the services again at no additional cost to the Embassy.

**10. SCHEDULE OF WORK:**

All work shall be done in normal working hours. No work on site shall be commenced without Facility Management approval. The Contractor shall complete the contract work within 10 days after commencement of the work.

**11. ATTACHMENTS**

Table A-1, Sketch A-2, Sketch A-3.

**END OF STATEMENT OF WORK**