

US Department of Agriculture (USDA)



Performance Work Statement

Tucson Plant Material Center Desiccant Dehumidifier System Replacement Project

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Project

Tucson Plant Material Center Desiccant Dehumidifier System Replacement Project

General Information

1.0 Background and Purpose

1.1 As a mission critical function, the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Tucson Plant Material Center in Tucson, Arizona, maintains a seed barn containing a Bally Scientific 18' wide x 26' long x 8' tall walk-in cooler with temperature (constant 35°F) and humidity-controlled environment (25 – 40% relative humidity) installed to support the maintenance of mission critical germplasm and seed supplies. The germplasm and seed supply must be preserved by the continuous stable operation of the existing air conditioning condenser unit and a separate desiccant dehumidifier system unit. The current dehumidifier system is inoperable and must be replaced as soon as possible.

1.2 The Tucson PMC is located at 3241 N. Romero Road, Tucson, AZ, 85705. NRCS normal work hours are 7:00am to 3:30pm, Monday through Friday, except US Federal Holidays. NRCS employees typically work eight (8) hours per day, 40 hours per week. Contracted personnel are to coordinate schedules with PMC personnel to perform all work during normal working hours. This work needs to be performed during normal working hours, with no overtime labor included. Access to seed barn building, seed cooler, utilities, potable water, and restrooms will be provided to the contracted personnel during regular business hours. Weather and security closures by their nature usually arise without advance notice. As such, the Government will notify the Vendor as soon as possible once any closures have been announced. The Vendor shall be responsible for any damage or loss of Government or private property which may attribute to them due to negligence while executing the provisions of the contract. The Government will not be responsible for any injury, damage, or loss to the Vendor's equipment, personnel, materials or supplies.

2.0 Definitions

N/A

3.0 Technical Requirements / Tasks

3.1 Vendor shall provide the product and installation of a new energy efficient, highly reliable, easy to maintain, cost effective Desiccant Dehumidifier System which may include all parts and sub-components

needed parts to ensure proper operation of the system for the existing Bally Scientific 18' wide x 26' long x 8' tall walk-in cooler, with the following performance requirements:

3.1.1 Unit shall be a desiccant dehumidifier, meeting equivalent operating and functional standards of a Munters HC-150 or better, with at least 150 cfm air-flow processing to ensure removal of humidity inside the walk-in cooler under normal operating and environmental conditions, with capability of handling occasional short term extreme external weather conditions (20°F to 160°F and rising humidity environments). The dehumidifier system must be able to maintain constant relative humidity of 25% to 40% throughout the cooler at all times of the year with a cooler full of germplasm and seed supplies. The vendor may propose alternative systems and installation configurations based on analysis of the cooler's configuration, environmental considerations, and other factors to ensure the system operates efficiently and effectively as designed and manufactured with minimal maintenance and operational management. Remote system monitoring and management capability (Bluetooth capable) is desired but not required.

3.1.2 The installation configuration for the new dehumidifier system's main desiccant dehumidifier unit may be placed in current workspace above the cooler (currently an attic space with poor ventilation and access), requiring the unit's maximum size and weight dimensions of the unit not exceed 30 inches in length, 25 inches in width, 25 inches in height, and 80 pounds in weight. However, vendors may propose alternative installation configurations with minimal obstructions, for improvements to the system's operational efficiency, ease of system maintenance, and minimal changes to the current cooler's casing.

3.1.3 The vendor shall ensure all full-face contact pressure seals separate the dehumidification process and reactivation air streams and eliminate detrimental leakage of air or moisture with static pressure differentials of up to 3" of water gauge. If necessary, the Vendor may propose a suitable alternative to this requirement for government approval.

3.1.4 As per proposal, Vendor shall provide and install all new control wiring, new humidistat, necessary controllers, and four (4) each portable hygrometers with operating temperatures that withstand the inside walk in cooler conditions to test inside humidity correct readings. Vendor shall provide, mount and connect humidistat controller, and remove old humidistat with associated parts.

3.1.5 Vendor shall ensure new humidistat is properly calibrated to ensure accurate reading of inside relative humidity levels.

3.1.6 Vendor shall provide and install necessary electrical conduit parts using existing electrical panel with 240V available for new dehumidifier unit.

3.2 The vendor shall completely disassemble and disposed of the existing inoperable dehumidifier system and associated materials within standards of local, state, and federal laws, and industry best practices. The current dehumidifier system is an Ebac Industrial desiccant dehumidifier Model DD400 (Figure 3).

3.3 Unless otherwise approved by the contracting officer or the contracting officer's representative, the Vendor shall replace all necessary air lines to and from the cooler and vent to the outside. The Vendor shall ensure new and old duct openings are evaluated and replaced as necessary. The Vendor shall ensure all necessary wall penetrations have proper seals for reactivation air exchange along with ducting and grilles as required by the installation configuration. Vendor shall ensure all mounting brackets are secured using thru-bolt fastening without losing cooler casing integrity.

3.4 Acceptance Testing – After installation, the Vendor shall conduct a complete end-to-end systems inspection by a certified expert, operationally test and demonstrate all primary functions of the installed system for a period of no less 10 business days of operations with frequent condition measurements and testing parameters to demonstrate operational suitability and effectiveness of the system as installed. The vendor shall be responsible for any repairs or changes required due to negative findings during the acceptance test. Follow-on testing shall be initiated if changes are made to permanently fix issues found during the acceptance test.

3.5 The vendor shall minimize trash and disruption to the TPMC operations during the project. Vendor shall return project workspace to a condition equal to or better than initially started.

4.0 Deliverable / Schedule

4.1 The vendors shall provide a high-level schedule in their proposal including, but not limited to, the expected delivery dates for the system components, deinstallation and disposal of current system, installation and testing of the new system. The vendor shall provide the government a project plan with a detailed schedule and timeline within five days of the award at the project kick off meeting.

4.3 The vendor shall provide initial instructions for systems operations and organization level maintenance to select government employees prior to government acceptance of the system.

4.5 The vendor shall provide all physical and digital form operating manuals and systems documentation available to the government for file.

5.0 Government Furnished Equipment and Information

None

6.0 Travel

Travel costs and expenses are not covered by this performance work statement. Vendors are expected to cover all travel and transportation costs associated with this project.

7.0 Vendor's Key Personnel

The Vendor shall designate a construction site lead to manage and control all contractor activities, resources, and personnel onsite. Any change to the construction site lead must be coordinated with the Contracting Officer's Representative and TPMC Government Project team prior to the change. The Contractor site lead shall maintain a list of all Vendor personnel onsite to be shared with the Government upon request.

8.0 Security Requirements

The contractor shall follow all TPMC access and security protocols while on TPMC compound.

9.0 Data Rights

Not Applicable

10.0 Section 508 - Electronic and Information Technology Standards

Not Applicable

11.0 Performance Requirement Measures

<i>Performance Objective</i>	<i>Required Task or Deliverable</i>	<i>Performance Standard</i>	<i>Method of Surveillance</i>	<i>Positive/Negative Incentive % for NOT meeting the Task</i>
<i>New Dehumidifier system installed and demonstrated to be operationally suitable and effective</i>	<i>Install and operationally test new system</i>	<i>System must meet all operational parameters for a minimum of 10 working days of installation without interruption or errors prior to acceptance.</i>	<i>Government to observe operational acceptance test and review all data collected for the test</i>	<i>Vendor shall be responsible for modifications, changes, repairs or replacements for all systems errors or deficiencies identified before government acceptance</i>
PWS Item 3.1 <i>Vendor will deliver and install a fully functional and operationally suitable and effective dehumidification system</i>	<i>System must operate efficiently and continuously 24/7/365 in Arizona climate and with the current cooler system configuration</i>	<i>Once accepted, system must operate effectively with a 99% availability rate over a six-month period and support a mean time to repair of less than 48 hours</i>	<i>Inspect maintenance and inspection records for trouble calls</i>	<i>Exercise warranty as issued</i> <i>After warranty expires, system maintenance procedures may be a combination of organizational maintenance and on-call support</i>

Attachment
Attachment A



Figure 1: Map of site. The building where the walk-in cooler is located is marked with a red star.



Figure 2: Only entrance door to the Bally scientific walk-in seed cooler.



Figure 3: Old dehumidifier equipment on top of walk-in cooler, ducts, and electrical connection in the back wall – to be removed.



Figure 4: 240V electrical outlet available.



Figure 5: Inside of the cooler where vent and old humidistat are located.