Statement of Work
BMF Thermo-Chillers

1. Background Information:

a. NIST-Boulder has a state-of-the-art research laboratory (the Katharine Blodgett Gebbie Building) to support the most sensitive research done at NIST. Included in this building is a Class 100 microelectronics fabrication facility, called the Boulder Micro-Fabrication Facility (BMF). The BMF has many microfabrication tools that require cooling water in order to operate. These tools are cooled using thermos-chillers. To allow for a stable of spare units, parts, and drop-in replacements, the BMF has standardized to SMC thermos-chillers to minimize tool down time and required inventory control. The BMF requires additional SMC thermos-chiller units in order to keep the facility operational.

2. Scope of Work:

a. **Objectives:**

   i. The goal of this contract is to provide the Government with the required thermo-chillers and accessories necessary for facility operations.

b. **General**:

   i. The contractor shall:
      1. Provide all factory new items.

c. **Specific Requirements:**

   i. The contractor shall supply the Government with:

      1. **CLIN 0001: CHIPS SMC HRSF024-AN-20 Chillers:** Quantity two (2): SMC HRSF024-AN-20 thermo-chiller units or equivalent, that meet the following:
         a. The unit must be drop incompatible with the Government's existing SMC HRSF024-AN-20 units. This includes all hardware, software, electrical, and plumbing connections. It must also be able to be repaired with the Government's existing spare parts for a SMC HRSF024-AN-20 model thermo-chiller.
         b. Circulating fluid: water
         c. Temperature range setting: 5 to 40 C
         d. Cooling Capacity: 2400 W
         e. Circulating water flow rate: 7 L/min

f. Temperature Stability: +/- 0.1 C
g. Power supply: 208 V 60 Hz single phase
h. Air Cooled

2. **CLIN 0002: BMF SMC HRSF024-AN-20 Chillers:** Quantity three (3): SMC HRSF024-AN-20 thermo-chiller units or equivalent, that meet the following:
    a. The unit must be drop incompatible with the Government's existing SMC HRS024-AN-20 units. This includes all hardware, software, electrical, and plumbing connections. It must also be able to be repaired with the Government's existing spare parts for a SMC HRS024-AN-20 model thermo-chiller.
    b. Circulating fluid: water
    c. Temperature range setting: 5 to 40 C
    d. Cooling Capacity: 2400 W
    e. Circulating water flow rate: 7 L/min
    f. Temperature Stability: +/- 0.1 C
    g. Power supply: 208 V 60 Hz single phase
    h. Air Cooled

3. **CLIN 0003: CHIPS SMC HRSF060-WN-20 Chillers:** Quantity three (3) SMC HRSF060-WN-20 thermo-chiller units or equivalent, that meet the following:
    a. The unit must be drop incompatible with the Government's existing SMC HRSF060-WN-20 units. This includes all hardware, software, electrical, and plumbing connections. It must also be able to be repaired with the Government's existing spare parts for a SMC HRSF060-WN-20 model thermo-chiller.
    b. Circulating fluid: water
    c. Temperature range setting: 5 to 40 C
    d. Cooling Capacity: 5900 W
    e. Circulating water flow rate: 28 L/min
    f. Temperature Stability: +/- 0.1 C
    g. Power supply: 208 V 60 Hz single phase
    h. Water Cooled

4. **CLIN 0004: BMF SMC HRSF060-WN-20 Chillers:** Quantity six (6) SMC HRSF060-WN-20 thermo-chiller units or equivalent, that meet the following:

a. The unit must be drop incompatible with the Government's existing SMC HRSF060-WN-20 units. This includes all hardware, software, electrical, and plumbing connections. It must also be able to be repaired with the Government's existing spare parts for a SMC HRSF060-WN-20 model thermo-chiller.
b. Circulating fluid: water
c. Temperature range setting: 5 to 40 C
d. Cooling Capacity: 5900 W
e. Circulating water flow rate: 28 L/min
f. Temperature Stability: +/- 0.1 C
g. Power supply: 208 V 60 Hz single phase
h. Water Cooled

5. All units shall have a 1 year factory warranty.

3. Period of Performance:

a. 6 months ARO

4. Place of Performance:

a. 325 Broadway, Boulder, Colorado, Building 81, room 1B100.

5. Schedule of Deliverables:

Deliverable Number	*Description*	*Quantity*	*Due Date*	*Place of Delivery*
1	**SMC HRSF024-AN-20 Chillers**	**2**	**No later than 6 Months after receipt of order.**	**NIST (Boulder)**
2	**SMC HRSF024-AN-20 Chillers**	**3**	**No later than 6 Months after receipt of order.**	**NIST (Boulder)**
	SMC HRSF060-WN-20 thermo-chiller units	**3**	**No later than 6 Months after receipt of order.**	**NIST (Boulder)**

	SMC HRSF060-WN-20 thermo-chiller units	**6**	**No later than 6 Months after receipt of order.**	**NIST (Boulder)**

6. Delivery Terms

Delivery shall be F.O.B Destination and shall occur in accordance with the delivery due dates provided in the below table.

FOB Destination means: The contractor shall pack and mark the shipment in conformance with carrier requirements, deliver the shipment in good order and condition to the point of delivery specified in the purchase order, be responsible for any loss of and/or damage to the goods occurring before receipt and acceptance of the shipment by the consignee at the delivery point specified in the purchase order; and pay all charges to the specified point of delivery.

The contractor shall deliver all Line Items to:
National Institute of Standards and Technology
325 Broadway, Boulder, Colorado, Building 81, room 1B100
COR Peter Lowell

7. Inspection and Acceptance:

In addition to the inspection and acceptance terms articulated in the specific FAR clause that allows the Government reserves the right to perform such performance tests and evaluations as defined below to verify specified system performance. Such tests and evaluations, if performed, shall be conducted within the environment that the system is to be operated. The Contractor has the right to be present during the tests and evaluations, if performed, at the Contractor's expense.

NIST may choose at its discretion to forego this part of acceptance testing.
A visual inspection of the equipment will be performed by the NIST POC to identify surface defects or any form of indication that any equipment was damaged during transport to NIST. The Government shall have sole discretion to require repair or replacement of damaged and/or nonconforming supplies at no cost to the Government. The Government at any time prior to acceptance shall reject the equipment due to defects and/or nonconformance. The vendor is responsible for latent defects discovered any time after final inspection. However, the extent of its liability shall be prorated over the useful life of the equipment.

Ownership of the equipment shall transfer to NIST upon acceptance by the Government.

The Government will test, inspect, and accept or reject the equipment within (10 working days) of the receipt of the equipment unless otherwise indicated above. The Government reserves the right to conduct quality assurance testing to confirm that a given instrument(s) meets the manufacturer's and/or the Government's performance specifications. It is anticipated that the equipment will meet all manufacturer's specifications and/or the Government's performance specifications identified in the most recent operations and maintenance manual for each piece of equipment and/or in this document.

8. Warranty:

The contractor shall warranty the entire system for a period of a minimum of one (1) year after receipt of the equipment and shall be in accordance with terms in FAR 52.212-4. Warranty shall commence upon acceptance of the system by the Government.

9. Travel:

a. The contractor shall be responsible for all travel and shipping expenses.

10. Payment Schedule:

The Contractor will be paid, in accordance with the payments clause in the contract and as otherwise noted in this document, upon receipt of a proper invoice.

1. 100% after receipt and acceptance by the POC of all delivered systems, AND
2. After the successful completion of the testing requirements set forth in this document under section set forth in this document, AND
3. After successful demonstration by the instrumentation that it performs in accordance with the requirements set forth in this document.

NOTE: Partial shipments and partial invoices will not be accepted, unless otherwise requested and accepted by the Contracting Officer prior to award offer. Proposed payment schedules shall be submitted with vendor's response to the RFQ for consideration.

11. Contractor's Minimum Qualifications

a. The contractor shall be licensed to sell SMC chillers.

COR: Peter Lowell