**Schedule B**

**STATEMENT OF WORK**

This Schedule summarizes the key technical provisions (i.e. “Work”) of UCAR Subcontract SUBCON000000 between the Subcontractor and UCAR.

The Work included in this Subcontract is itemized in this Schedule and further described in Schedule D, “Subcontractor Proposal”, Schedule E, “Deliverable Requirements”, Schedule F, “Acceptance Criteria and Testing”, Schedule G, “Project Management Requirements”, Schedule H, “Request for Proposal Technical Documents” and any additional Schedules added via amendment, subject to the order of precedence specified in Article 41 of the Subcontract’s Terms and Conditions.

The following are the primary Subcontractor responsibilities:

1. In consultation with UCAR, the Subcontractor shall develop and deliver to the UCAR Project Director a **Project Plan,** and updates thereto, in accordance with Schedule G.
2. The Subcontractor shall conduct Project Planning meetings with UCAR in accordance with Schedule G.
3. The Subcontractor shall deliver to the UCAR Project Director the **Risk Management Plan**, **Risk Register** and **Risk Assessment Report** and updates thereto in accordance with Schedule G.
4. The Subcontractor shall deliver to the UCAR Project Director the Subcontractor’s Problem Severity Classification and Response document in accordance with Schedule G.
5. The Subcontractor shall deliver to the UCAR Project Director a complete inventory of hardware, software, firmware, on-site spare parts, assembly diagrams and/or documentation for all systems and equipment provided to UCAR under this Subcontract no later than thirty (30) days prior to the scheduled delivery of the subject system(s) or equipment.
6. The Subcontractor shall provide the UCAR Project Director with timely, advance notice of all shipments of equipment, software or other receivables to UCAR and for any Subcontractor personnel traveling to a UCAR facility.
7. The Subcontractor shall provide facilities engineering and system configuration support, consultation, and training of UCAR staff, including:
	1. Consultation with UCAR on the configuration of the system(s)’ cabinet layout within the NWSC facility and necessary facilities engineering and infrastructure requirements (electrical, cooling) to accommodate said system.
	2. Consultation with UCAR on system component (e.g. cabinets, nodes, switches, cables) naming and labeling conventions, software configuration, and system monitoring and tuning.
	3. Provision of any system administration, operation and monitoring training as described in Schedules D and H.
	4. Provision of any system software and usage training as described in Schedules D and H.
	5. Provision of procedures and training for use of the Subcontractor’s problem reporting system(s).
	6. Provision of Customer Replaceable Unit (CRU) field training of NWSC staff to either perform or assist with hardware maintenance activities.
	7. Provision of procedures for ordering, handling and return shipping of replacement parts, and the management of on-site spare parts inventory.
8. The Subcontractor shall maintain and support the system(s), equipment and software provided under this Subcontract in accordance with Schedules D, G, and H until the Subcontract Expiration Date.
9. [Specific provisions, deliverables, acceptance criteria thresholds, and services and timeframes shall be added during Subcontract negotiations per the RFP’s technical requirements, Subcontractor’s proposal and the final negotiated agreement. Example provisions follow.]
10. The Subcontractor shall provision an **on-site spare parts cache** at the NWSC with sufficient CRU quantities to meet or exceed the system(s)’ target reliability metrics in accordance with Schedules D, G, and H until the Subcontract Expiration Date.
11. The Subcontractor shall, in cooperation with UCAR, conduct the designated Pre-Delivery Test and Factory Trial of the **NWSC-3 Production PFS System** in accordance with Schedule F by [day, date].
12. The Subcontractor shall, in cooperation with UCAR, conduct the designated Pre-Delivery Test and Factory Trial of the **NWSC-3 Production HPC System** in accordance with Schedule F by [day, date].
13. The Subcontractor shall deliver, install and conduct the Subcontractor’s Post-Delivery Test of the **NWSC-3 Test PFS System** in accordance with Schedules D, E, F, G, and H. The NWSC-3 test system shall successfully pass Acceptance Testing, in accordance with Schedule F, by [day, date].
14. The Subcontractor shall deliver, install and conduct the Subcontractor’s Post-Delivery Test of the **NWSC-3 Test HPC System** in accordance with Schedules D, E, F, G, and H. The NWSC-3 test system shall successfully pass Acceptance Testing, in accordance with Schedule F, by [day, date].
15. The Subcontractor shall deliver, install and conduct the Subcontractor’s Post-Delivery Test of the **NWSC-3 Production PFS System** in accordance with Schedules D, E, F, G, and H. The **NWSC-3 Production PFS System** shall demonstrate an aggregate sustained bandwidth in excess of [TBD] gigabytes/second and usable file system capacity in excess of [TBD] petabytes. Failure to demonstrate this will require Subcontractor remediation by the provision and integration of additional equipment sufficient to demonstrate 110% of the specified aggregate sustained bandwidth and usable file system capacity within ninety (90) calendar days.
16. The **NWSC-3 Production PFS System** shall successfully pass Acceptance Testing, in accordance with Schedule F, by [day, date]. Failure to successfully complete the testing of the **NWSC-3 Production PFS System** within sixty (60) calendar days after this date shall require Liquidated Damages payments by the Subcontractor to UCAR in the amount of [TBD] per day until Acceptance occurs.
17. The Subcontractor shall deliver, install and conduct the Subcontractor’s Post-Delivery Test of the **NWSC-3 Production HPC System** in accordance with Schedules D, E, F, G, and H. The **NWSC-3 Production HPC System** shall demonstrate a Cheyenne Sustained Equivalent Performance (CSEP) equal to or exceeding [TBD] with the Heterogeneous Node portion of the system contributing at least 19.5% of the total CSEP. Failure to demonstrate this will require Subcontractor remediation by the provision and integration of additional equipment sufficient to demonstrate 110% of the specified CSEP within ninety (90) calendar days.
18. The **NWSC-3 Production HPC System** shall successfully pass Acceptance Testing, in accordance with Schedule F, by [day, date]. Failure to successfully complete the testing of the **NWSC-3 Production HPC System** within sixty (60) calendar days after this date shall require Liquidated Damages payments by the Subcontractor to UCAR in the amount of [TBD] per day until Acceptance occurs.
19. During the life of the Subcontract, UCAR will periodically measure the aggregate sustained bandwidth of the **NWSC-3 Production PFS system**. The aggregate sustained bandwidth shall always exceed 98% of the value measured during Acceptance testing. Should the aggregate sustained bandwidth at any time fall short of the target, the Subcontractor will cooperate with UCAR to remediate the shortfall, to the extent the Subcontractor is responsible for the shortfall.
20. During the life of the Subcontract, UCAR will periodically measure the CSEP of the **NWSC-3 Production HPC system**. The CSEP value shall always exceed 98% of the value measured during Acceptance testing for each of the Homogeneous and Heterogeneous Node partitions of the system. Should the CSEP at any time fall short of the target, the Subcontractor will cooperate with UCAR to remediate the shortfall, to the extent the Subcontractor is responsible for the shortfall.
21. Once the **NWSC-3 Production PFS System** has been accepted, the Subcontractor shall assure that the lifetime average File System Availability of the system exceeds 99%. If at any time during the duration of the base Subcontract, the lifetime average File System Availability of the system falls below that threshold, the Subcontractor shall provide a remediation plan to UCAR to bring that resource’s File System Availability back above the threshold in the subsequent six (6) months. Should, at the end of the base Subcontract, the lifetime average File System Availability of the system be below that threshold, the Subcontractor will continue to provide hardware maintenance and software support for the system, at no additional cost to UCAR, for N days; where N is defined as ( ( 99% – measured File System Availability ) \* Y \* 365 \* 4 ), where Y is the system’s maintenance lifetime in years. In the event there is a dispute regarding the applicability of the calculation, the parties agree to meet in good faith to reach a mutually acceptable conclusion.
22. Once the **NWSC-3 Production HPC System** has been accepted, the Subcontractor shall assure that the lifetime average System Availability of the **computational component** of the system exceeds 98% and that of the **system services component** of the system exceeds 99%. If at any time during the duration of the base Subcontract, the lifetime average System Availability of either component of the system falls below its respective threshold, the Subcontractor shall provide a remediation plan to UCAR to bring that component’s System Availability back above the threshold in the subsequent six (6) months. Should, at the end of the base Subcontract, the lifetime average System Availability of either component of the system be below its respective threshold, the Subcontractor will continue to provide hardware maintenance and software support for the entire system, at no additional cost to UCAR, for N days; where N is defined as

MAX( ( ( 98% – measured **computational component** System Availability ) \* Y \* 365 \* 4 ),

( ( 99% – measured **system services component** System Availability ) \* Y \* 365 \* 4 ) )

where Y is the system’s maintenance lifetime in years. In the event there is a dispute regarding the applicability of the calculation, the parties agree to meet in good faith to reach a mutually acceptable conclusion.