**SCHEDULE A**

**NSF FLOW DOWNS – AGS1755088**

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# Article 1 Allowable Costs - Reserved

# Article 2 Site Visits

UCAR and/or the Government, through authorized representatives, have the right, at all reasonable times, to make site visits to review project accomplishments and management control systems and to provide such technical assistance as may be required. If any site visit is made by UCAR and/or the Government on the premises of the Subcontractor or a Lower-Tier Subcontractor, the Subcontractor shall provide and shall require its Lower-Tier Subcontractors to provide all reasonable facilities and assistance for the safety and convenience of the UCAR and/or Government representatives in the performance of their duties. All site visits and evaluations shall be performed in such a manner that will not unduly delay the Work.

# Article 3 Travel - Reserved

# Article 4 Government Furnished Equipment - Reserved

# Article 5 Audits and Records

Financial records, supporting documents, statistical records, and other records pertinent to this Subcontract shall be retained by the Subcontractor for a period of three (3) years from the Expiration Date of this Subcontract or final payment, whichever is later, except as noted in 2 CFR 200.333.

# Article 6 Clean Air and Water

The Subcontractor agrees as follows:

A. To comply with all the requirements of Section 114 of the Clean Air Act [42 U.S.C. 7414] and Section 308 of the Clean Water Act [33 U.S.C. 1318], respectively, relating to inspection, monitoring, entry, reports and information, as well as other requirements specified in Section 114 and Section 308 of the Clean Air Act and the Clean Water Act, respectively, and all regulations and guidelines issued thereunder before the Effective Date of this Subcontract.

B. That no portion of the Work required by the Subcontract will be performed in a facility listed on the Environmental Protection Agency (EPA) List of Violating Facilities on the Effective Date of this Subcontract unless and until EPA eliminates the name of such facility or facilities from such listing.

C. To use its best efforts to comply with clean air standards and clean water standards at the facility in which the Subcontract is being performed.

D. To insert the substance of the provisions of this Article into any nonexempt Lower-Tier Subcontract.

# Article 7 Byrd Anti-lobbying Amendment

Upon execution of this Subcontract, the Subcontractor certifies to the following:

The Subcontractor certifies that it, and its Lower-Tier Subcontractors will not and have not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to UCAR.

# Article 8 Non-Discrimination Statutes

A. The Subcontract is subject to the provisions of Title VI of the Civil Rights Act of 1964 [42 U.S.C. §§ 2000d et seq], Title IX of the Education Amendments of 1972 [20 USC §§ 1681 et seq.], the Rehabilitation Act of 1973 [29 U.S.C. § 794], the Age Discrimination Act of 1975 [42 U.S.C. §§ 6101 et seq], Equal Employment Opportunity [E.O. 11246], Limited English Proficiency (LEP) [E.O. 13166] and all regulations and policies issued by NSF pursuant to these statutes. Specifically, in accordance with these statutes, regulations, and policies, no person on the basis of race, color, national origin, sex, disability, or age shall be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under the Subcontract.

# Article 9 Human Research Subjects

The Subcontractor is responsible for the protection of the rights and welfare of any human subjects involved in research, development and related activities supported by this Subcontract. The Subcontractor agrees to comply with the NSF regulation, entitled, “Protection of Human Subjects [45 CFR Part 690].”

# Article 10 Acknowledgement

The Subcontractor is responsible for assuring that the UCAR Technical Representative is provided access to, either electronically or in paper form, a copy of every publication of material based on or developed under this Subcontract, clearly labeled with the Subcontract number and other appropriate identifying information, promptly after publication.

An acknowledgment of UCAR and NSF support and the following disclaimer must appear in any publication, including World Wide Web pages, of any material based on or developed under this Subcontract:

1. “This material is based upon work supported by the University Corporation for Atmospheric Research (UCAR) and the National Science Foundation (NSF) under NSF Cooperative Agreement AGS-0753581. Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the NSF or UCAR.”

The second sentence may be omitted from scientific articles or papers appearing in technical or professional journals. If Work is additionally supported by other sources, the names of those sources may be added to any acknowledgements and disclaimers.

2. A statement crediting UCAR as the source of any UCAR Intellectual Property, material or information used by the Subcontractor in its performance under this Subcontract.

3. UCAR and NSF must be orally acknowledged during all media interviews, including, but not limited to, social media, radio, television, and film.

# Article 11 Debarment and Suspension

Subcontractor shall fully comply with the requirements stipulated in Subpart C of 2 CFR Part 180, entitled “*Responsibilities of Participants Regarding Transactions*” as supplemented by NSF’s regulations at 2 CFR Part 2520. The Subcontractor is responsible for ensuring that any lower tier covered transaction, as described in Subpart B of 2 CFR Part 180, entitled “*Covered Transactions*,” includes a term or condition requiring compliance with Subpart C. The Subcontractor also is responsible for further requiring the inclusion of a similar term or condition in any subsequent Lower-Tier Subcontracts. The Subcontractor acknowledges that failing to disclose the information required under 2 CFR 180.335 may result in the termination of the Subcontract, or pursuance of other available remedies, including suspension and debarment.

# Article 12 Assignment by UCAR

UCAR reserves the right to assign the Subcontract to any third party with the Subcontractor’s concurrence, which shall not be unreasonably withheld, should a successor awardee be selected by the NSF to operate and manage the National Center for Atmospheric Research (NCAR).

# Article 13 Government Permits and Activities Abroad - Reserved

# Article 14 Participant Support Costs - Reserved

# Article 15 Information Collection - Reserved

# Article 16 Animal Welfare - Reserved

# Article 17 Research Involving Recombinant or Synthetic Nucleic Acid Molecules - Reserved

# Article 18 Contract Work Hours and Safety Standards Act - Reserved

# Article 19 Procurement of Recovered Materials - Reserved

# Article 20 Whistleblower Protection

Subcontractor is notified of the applicability of 41 U.S.C. § 4712, as amended by P.L. 112-239, providing protection for whistleblowers.

# Article 21 Cost Sharing and Cost Sharing Records - Reserved

# Article 22 State Sales and Use Taxes - Reserved

# Article 23 Liability

NSF cannot assume any liability for accidents, bodily injury, illness, breach of contract, any other damages or loss, or any claims arising out of any activities undertaken pursuant to the Subcontract, whether with respect to persons or property of the Subcontractor or third parties. The Subcontractor is advised to insure or otherwise protect itself or others, as it may deem desirable.

# Article 24 Life Sciences Dual Use Research of Concern (DURC)

This Article applies to all research, for which NSF award funds may be used, that potentially falls within the scope of the US Government Policy for Institutional Oversight of Life Sciences Dual Use Research of Concern as published September 2014, hereinafter referred to as the “Policy.” See also PAPPG Chapter XI.B.5.

Subcontractor is responsible for monitoring the research progress and for implementation of all appropriate biosafety and biosecurity risk mitigation measures including compliance with all applicable laws and regulations related to that implementation, including the Policy specified above. (See also https://osp.od.nih.gov/?s=Dual+Use+Research+of+Concern for Frequently Asked Questions, case studies and other educational materials on DURC).

# Article 25 Recipient Integrity and Performance Matters

Subcontractor shall fully comply with the requirements stipulated in Appendix XII to Part 200 of 2 CFR § 200, entitled “*Award Term and Condition for Recipient Integrity and Performance Matters,*” if applicable.

# Article 26 Breach of Personally Identifiable Information

Subcontractors that use or operate a Federal information system or create, collect, use, process, store, maintain, disseminate, disclose, or dispose of Personally Identifiable Information (PII) within the scope of this Subcontract, must have procedures in place to respond to a breach of PII. These procedures should promote cooperation and the free exchange of information with NSF, as needed to properly escalate, refer, and respond to a breach. Subcontractor will notify UCAR immediately upon learning that a breach of PII within the scope of the Subcontract has occurred.

# Article 27 Information Security

Security for all information technology (IT) systems employed in the performance of this Subcontract, including equipment and information, is the Subcontractor’s responsibility. Within a time mutually agreed upon by the Subcontractor and the UCAR Technical Representative, the Subcontractor shall provide a written summary of the policies, procedures, and practices employees by the Subcontractor as part of the Subcontractor’s IT security program, in place or planned, to protect research and education in support of the Subcontract.

The Summary shall describe the information security program appropriate for the project including, but not limited to: roles and responsibilities, risk assessment, technical safeguards, administrative safeguards, physical safeguards, policies and procedures, awareness and training and notification procedures in the event of a cyber-security breach. The Summary shall include the Subcontractor’s evaluation criteria that will measure the successful implementation of the IT Security Program. In addition, the Summary shall address appropriate security measures required of all subcontractors, researchers and others who will have access to the systems employed in support of this Subcontract.

# Article 28 Software Development

Software designs, prototypes, and all documentation for the final designs developed under this Subcontract shall be made fully transferable upon direction of UCAR. UCAR may make the software design, prototype, and documentation for the final design available to competitors for review during any anticipated recompetition of the project.

# Article 29 Rights in Data Necessary for the Operation and Management of the Facility

* 1. The Subcontractor grants to the National Science Foundation in perpetuity the right to use and reproduce data produced under this award without charge or additional expense (except for whatever reasonable costs are incurred by the awardee to reproduce the data) as necessary for the operation and management of the facility. This includes the right to make such data available to any party interested in competing for any subsequent award to operate and manage the facility, and any awardees the National Science Foundation selects as a result of these competitions.
	2. The types and kinds of data deemed necessary for the operation and management of the facility, includes, but is not limited to:
		1. Preventive maintenance guides
		2. Preventive maintenance histories
		3. Operating manuals and similar plans
		4. Facility and instrument drawings (including design, shop and as-built drawings), designs and specifications
		5. Schematics
		6. Warranty data
		7. Schedules
		8. Software and manuals developed under these award funds
		9. Inventories
		10. Document indices
		11. Subawards, contracts and vendor agreements
		12. Operations reports
		13. Memoranda with third parties pertaining to the award
		14. Safety manuals
	3. Rights acquired by NSF under this clause do not include rights in any data produced solely for scientific research purposes or studies.
	4. The Subcontractor shall ensure that the requirements of this clause flow down to all Lower-Tier Subcontractors and vendors at all tiers.

# Article 30 Notice to the Government of Labor Disputes

1. If the Subcontractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this Subcontract, the Subcontractor shall immediately give notice, including all relevant information, to the UCAR Contract Representative.
2. The Subcontractor agrees to insert the substance of this clause in any Lower-Tier Subcontract, contract, or other contractual arrangement to which a labor dispute may delay the timely performance of the Subcontract. Each contract shall provide that in the event its timely performance is delayed or threatened by delay by any actual or potential labor dispute, the Lower-Tier Subcontractor shall immediately notify the next higher tier contractor or UCAR, as the case may be of all relevant information concerning the dispute.