PART III – SECTION J, ATTACHMENT F-4

INTERAGENCY AGREEMENT BETWEEN
THE NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION
AND THE IDAHO OPERATIONS OFFICE
(DE-NE0000584)

Effective December 31, 2017 – September 30, 2018

NOAA/INL METEOROLOGICAL RESEARCH PARTNERSHIP
INTERAGENCY AGREEMENT STATEMENT OF WORK
1/1/2018-9/30/2018

This SOW covers the period of January 2018 through September 2018. It is based on recent discussions with DOE-ID and INL contractor Emergency Management personnel, the DOE Meteorological Coordinating Council's 2010 INL Meteorological Program Follow-up Assist Visit report, and the 1989 guidance document entitled "Modernization of the INEL Meteorological Monitoring and Emergency Response Capability: A General Design." The regulatory guidance and DOE orders followed in preparing this SOW include: 1) the Clean Air Act, 2) DOE Order 458.1, 2) DOE Order 151.1D and associated Guides, 3) DOE Guide EH-0173T, 4) ANSI/ANS-3.11 (2015), and other general industry practices and standards.

NOAA's Air Resources Laboratory Field Research Division (ARLFRD) will support the NOAA/INL Meteorological Program through five tasks that are given in bullet form below. These tasks include: 1) management and reporting of the program, 2) operation of the NOAA/INL Mesonet (including data quality assurance), 3) NOAA/INL Mesonet data dissemination, 4) INL weather forecasting and EOC support, and 5) modeling and research in support of INL activities. The task list is not all-inclusive, but provides most of the details for the proposed effort.

Support of the Partnership, based on the aforementioned discussions and documents, requires the annual effort of approximately 6 NOAA full-time equivalents (FTEs). However, this effort is spread over all ARLFRD employees, so specific employees are not matched by name to each of the tasks in this SOW. Instead, the effort has been divided according to the occupational categories required to complete the various tasks. A given task might require the skills mix of several employees. The ARLFRD Director, at his discretion, will assign the work load and ensure the accomplishment of the various tasks. In addition to the labor effort, full support of the Partnership requires additional monies for equipment and supplies.

It is envisioned that the major tasks of this SOW will remain constant during the life of the IAG, but that some subtasks will become obsolete while new subtasks will, of necessity, be created. This process will occur under the direction of the ARLFRD Director, who will adjust manpower loads to maintain the current FTE level of effort in consultation with DOE-ID. Should new requirements arise that are not within this framework, an analysis will be performed to identify the impacts of complying with the new requirements and, if needed based on the results of the analysis, a new level of effort and compensation would be negotiated. As examples, new requirements could include regulatory compliance; creation or modification of existing DOE Orders; and INL Site-specific operational requirements. NOAA and DOE-ID will discuss and negotiate contraction or expansion of the specific scope contained within the five tasks of this IAG and mutually agree to the associated necessary modifications to the level of effort and compensation as appropriate.

TASK LIST

1. **Partnership Oversight and Reporting**
   - Provide planning, management, and oversight of ARLFRD personnel in support of the NOAA/INL Meteorological Research Partnership.
   - Maintain and oversee ARLFRD's portion of the NOAA/INL Meteorological Research Partnership budget.
   - Prepare and submit quarterly progress reports to designated DOE-ID personnel.
   - Ensure that ARLFRD activities comply with all applicable Occupational Safety and Health Administration, U.S. Department of Commerce, and NOAA safety regulations.
   - Respond to DOE-ID management requests for meteorological expertise and advice.
   - Participate as requested in DOE-ID public outreach programs and meetings.
   - Participate as a member of the INL Monitoring and Surveillance Committee, the INL Emergency Management Workgroup, and other appropriate INL environmental and emergency management organizations.
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2. **NOAA/INL Mesonet Operation**
   - Operate and maintain the existing 36-station NOAA/INL Mesonet, including radio repeaters and associated meteorological, telemetry, and data recording systems.
   - Ensure that the NOAA/INL Mesonet data recovery equals or exceeds the required 90% minimum.
   - As part of the NOAA/INL Mesonet, operate and maintain the 6 Idaho Environmental Monitoring Program (IEMP) meteorological towers. Coordinate data collection and dissemination with the other IEMP participants.
   - Operate and maintain the NOAA/INL remote sensing systems that provide vertical profiles of wind, temperature, and turbulence above the INL. Currently, this includes a radar wind profiler with radio acoustic sounding system (RASS) and a high-resolution minisodar.
   - Operate and maintain the meteorological flux station at Grid 3 for direct measurement of atmospheric turbulence and stability near the surface.
   - Provide on/off control at ARLFRD for collocated high-volume air samplers installed and maintained by INL contractor at various NOAA/INL Mesonet towers.
   - Acquire appropriate supporting meteorological and nuclear radiation data (without additional cost to DOE-ID) to enhance the NOAA/INL Mesonet database, such as pressurized ionization chamber data from the state of Idaho, the INL contractor, and the Environmental Surveillance, Education, and Research (ESER) Program.
   - Archive all NOAA/INL Mesonet data and maintain archive redundancy.
   - Establish and periodically contribute to a NOAA/INL Mesonet data archive in the INL EDMS.
   - Provide continuous automated quality control of NOAA/INL Mesonet data. In

addition, provide timely manual review and quality control of NOAA/INL Mesonet data to ensure compliance with best practices.
- Provide 2-deep quality assurance capability within the ARL FRD staff.
- Perform semiannual calibrations on all meteorological equipment.
- Perform periodic system accuracy calculations as needed.
- Conduct physical and safety audits at tower locations according to the NOAA/INL Mesonet quality assurance plan. Perform maintenance as needed.
- Annually review and update the NOAA/INL Mesonet quality assurance plan and procedures.
- Collect additional meteorological data of interest to INL to enhance forecasting and other efforts, such as weather radar data and images, meteorological satellite images, lightning detection data, fire weather observations, and the NOAA National Centers for Environmental Prediction forecast model numerical and visual output.

3. NOAA/INL Mesonet Data Distribution

- Distribute real-time NOAA/INL Mesonet data to INL clients through various Internet services such as HTTP. This includes observations from the towers and the remote sensors.
- Maintain and improve the browser-based NOAA/INL Mesonet display client as the primary distribution method for Mesonet data.
- Provide training to DOE-ID and contractor personnel on an as-needed basis for the browser-based NOAA/INL Mesonet display client.
- Distribute real-time NOAA/INL Mesonet data to non-INL clients to foster good public relations and to assist with the creation of severe weather watches and warnings. These clients include, but are not limited to, the local National Weather Service Weather Forecast Office in Pocatello, the University of Utah MesoWest, and NOAA's Meteorological Assimilation Data Ingest System (MADIS).
- Maintain the telephone teller system to provide 24/7/365 telephone access to real-time NOAA/INL Mesonet data.
- Provide support during normal working hours for live NOAA/INL Mesonet data telephone requests.
- Provide targeted monthly and annual NOAA/INL Mesonet climatological statistics to DOE-ID, INL, and outside agency personnel.
- In response to one-time requests, provide specialized data sets from archived climatological data to DOE-ID and INL users. If the generation of a specialized data set will require more than 4 man-hours of effort, additional funding will be requested from the requester.
- Provide the climatological data required to develop dose assessments in the annual National Emission Standards for Hazardous Air Pollutants (NESHAP) report.

4. INL Weather Forecasts and EOC Support

- Maintain and improve the current INL forecast system for the three different local climate zones at INL.
- Provide support during normal working hours for specialized INL weather forecast requests, as requested.
- Maintain and improve the NOAA/INL Weather Center web page to provide a central access point for all INL forecast and data products generated by ARLFRD.
- Issue notices of significant weather events such as thunderstorms, lightning danger, blizzards, and high winds to WCC and other designated INL entities during normal ARLFRD business hours. These notices will also be posted on the NOAA/INL Weather Center web page.
- Provide specialized forecasts to DOE-ID contractors in support of seasonal construction activities and other special needs, as requested.
- Provide an on-call 24/7 emergency response meteorologist to staff the EOC who will operate the INL transport and dispersion model and provide interpretations of the model output, and who will provide weather nowcasts and short-term forecasts.
- Provide meteorological expertise to the EOC emergency response organization.
- Ensure proper operation of EOC computers operated by NOAA personnel.
- Participate in all suggested EOC drills, exercises, and training sessions.
- Provide custom meteorological data sets for EOC drills and exercises when requested.
- Coordinate all EOC plans and activities with the INL emergency management organization.
- Review and update NOAA EOC checklist procedures annually.

5. Modeling and Research in Support of INL Activities

- Operate and update, as appropriate, a mesoscale numerical forecast model to provide high-resolution weather simulations utilizing NOAA/INL Mesonet data for the region around INL.
- Maintain and operate the NOAA EOC HYSPLIT dispersion modeling system to provide emergency dispersion nowcasts based on NOAA/INL Mesonet data and dispersion forecasts based on the simulated winds from the mesoscale model.
- Provide ARLFRD dispersion model training to DOE-ID and contractor personnel on an as-needed basis.
- Provide atmospheric dispersion model output for the annual INL Site Environmental Report.
- When applicable, conduct applied research activities of common interest to NOAA and INL to improve understanding of boundary layer processes. These may include dispersion studies for improved dispersion modeling products or surface flux studies to improve estimates of the contribution of the sagebrush steppe ecosystem to the global CO_2 balance.
- Test, characterize, and evaluate new weather instruments, data loggers, radio transmitters, measurement methods, etc., as appropriate to improve or replace outdated methodologies and instruments.

MANPOWER AND BUDGET

The manpower matrix for the tasks outlined above is shown below. The values in the table represent FTEs or portions thereof. The project will require the skills of a supervisory meteorologist, an administrative officer, meteorologists, computer scientists, and electronic technicians. The total manpower requirement equals 5.90 FTE annually for each year of the agreement. For purposes of the nine-month extension, 75% of this manpower will be employed to perform the scope.

Task	Supervisory Meteorologist	Administrative Officer	Meteorologist	Computer Scientist	Electronic Technician	Total
1	0.25	0.38	0.05			0.68
2			0.10	0.40	1.60	2.10
3			0.30	0.50		0.80
4			0.65	0.50		1.15
5	0.17		0.75	0.25		1.17
Total	0.42	0.38	1.85	1.65	1.60	5.90

The electronic technicians have long been contract employees, whereas the other skills categories are primarily federal employees with limited contractor involvement. Overhead costs include leave, benefits, and other NOAA indirect costs that apply to federal employee labor at the average rate of 1.302 in FY18.

Overhead rates vary from year to year and there has been a slight upward trend. Any leave and benefits for contract staff are built into the existing agreement with ERT Inc., the company currently providing such staff at ARLFRD. ERT includes annual cost escalation estimates in its GSA schedule.

The 9-month extension is scheduled to cost approximately $992,692. Since NOAA is a federal government agency, it must comply with all laws and executive orders pertaining to federal salary increases and inflationary project costs. DOE-ID will take necessary steps and use their best efforts to obtain timely funding to meet the commitments under this IAG.

The cost breakdown for the extension is as follows:

$ 761,245.00	Federal Labor
$ 146,322.00	Contract Labor
$ 60,525.00	Building rent, leases, general administration
$ 12,150.00	Transportation
$ 12,450.00	Office Supplies and Services
$ 992,692.00	Total

It is understood that requests for large meteorological data sets that require extensive effort to construct, modeling efforts in excess of those described above, or other services that require extensive labor are not included in this statement of work. These costs are to be paid for separately by the requesting agency or group. Extensive effort is considered to involve employee time greater than four hours. However, this limit can be waived or adjusted at the discretion of the local NOAA Director in order to accomplish the spirit and intent of this statement of work.

OTHER DIRECT AND INDIRECT EXPENSES

Activities, services, and supplies in addition to the labor costs listed above are utilized and required by NOAA in support of the IAG. As required by federal regulations, expenses incurred by NOAA for these services will be fully reimbursed by DOE-ID. DOE-ID provides for these services through additional indirect funding. Services and supplies may be purchased from or through the INL contractor or from another commercial source. NOAA will determine each supplier on a case-by-case basis using economic and technical criteria to ensure the Government receives the best value available. In FY16, NOAA assumed responsibility for procuring electronic technician support through a direct contract instead of subcontracting this support through the INL contractor. As a result, the support account was reduced from $200,000 to $75,000, with the remaining $125,000 added as direct funding to the interagency agreement to cover the electronic technician contract. The support account is expected to increase at the rate of the increase in the Consumer Price Index (CPI).

NOAA operates 34 meteorological towers, a radio repeater, and additional equipment sites in support of the IAG. Land leases and electrical power costs for many of these stations are additional expenses paid for by indirect funding. Thirteen of the meteorological towers and most of the additional equipment (wind profilers and flux station) are on the INL Site. Therefore, NOAA bears no direct or indirect lease or electricity costs for those locations.

Responsibilities for leases and electricity for the stations located off site are listed in Appendix 1 (by lessee) and Appendix 2 (by location). Of the 21 off-site towers and the Jumpoff Peak radio repeater, land for 9 of them is leased directly by NOAA through the leasing authority of NOAA Real Estate. Six of these 9 stations are no-cost leases, while three require periodic payments. Copies of NOAA lease documents are attached in Appendix 3. Electricity for two of the 9 NOAA-leased stations is paid from indirect funding. Copies of electric bills for these stations are also attached in Appendix 3. Electricity for the remaining seven stations is either paid by the landlord (3), participating partners (3), or for one station is off-grid solar power.

Seven additional meteorological station land leases are provided by and maintained through the INL contractor. The rent for these stations is paid from indirect funding. Copies of INL contractor lease documents are attached in Appendix 4. Electricity to power five of these 7 stations is paid from indirect funding. Copies of electric bills for these five stations are also attached in Appendix 4. Electricity to power the remaining two stations is paid by a participating partner (ESER Program contractor).

DOE-ID maintains an access and license agreement with the City of Idaho Falls for the meteorological station in Idaho Falls (Appendix 5). Electricity for this station is paid by the City. DOE-ID also maintains a no-cost access agreement with the Bureau of Land Management for the Cox's Well station. Electricity for this station is provided by solar power.

The ESER Program Contractor, currently Wastren Advantage Inc., maintains leases for the meteorological stations located at Blackfoot and Blue Dome. The host school in Blackfoot pays for the electricity at that location, whereas the ESER contractor pays the electricity at Blue Dome. Documentation for the leases and electricity are on file with Wastren Advantage.

Land and electricity for the station in Fort Hall is provided by the Shoshone Bannock Tribes. Land for the solar-powered station at Craters of the Moon National Monument is provided by the National Park Service.

An Interconnection Service Agreement (ISA) between NOAA and DOE-ID, dated June 21, 2016, specifies that DOE-ID through the INL contractor will provide ARLFRD with a connection to the Internet (Appendix 6). This connection will assist ARLFRD in accomplishing the purposes of this statement of work, such as NOAA/INL Mesonet data distribution. In addition, the ISA provides for management of the ARLFRD firewall by the INL contractor. The ISA further states that "adequate funding has been allocated by (DOE-ID) means of this contract to support the necessary work required for implementation and ongoing maintenance and operation (M&O) supporting the NOAA firewall, remote access/registration, and Internet connectivity." DOE-ID provides funding to the INL contractor to perform the services identified in the ISA, which are estimated to cost approximately $15,000 per year. This will be a recurring annual cost for the duration of the IAG and is funded and tracked separately from the other services provided by the INL contractor.

Access to the ARLFRD building has been managed by the INL contractor for over 30 years. This service has been provided entirely without cost to NOAA and includes: 1) building key control, 2) after-hours door alarms monitored by WCC, and 3) occasional patrols of the parking lot by INL security. This service helps to secure sensitive NOAA equipment that is critical for the execution of this agreement. Furthermore, this security posture has been approved in regular building security audits and site visits required and provided by the NOAA Office of Security (OSY). This statement of work formalizes and continues NOAA building access as described for the life of the interagency agreement.