EXHIBIT B
STATEMENT OF WORK

Title: Well Testing, Cleaning and Rehabilitation Services

Requisition Number: REQ-0006513

SOW Revision Number: 3

Prepared By: Eric Pane

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List of Acronyms

Acronym	Definition
ATV	Acoustic Televiewer
AWWA	American Water Works Association
CSM	Certified Safety Manager
CM	Construction Manager
DOE	U.S. Department of Energy
EPP	Environmentally Preferable Products
ES&H	Environmental Safety and Health
FT	Foot/feet
FWS	Field Work Supervisor
GPM	Gallons Per Minute
GFP	Government-Furnished Property
JHA	Job Hazard Analyses
LAO	Los Alamos Operations at Los Alamos, NM
LO	Livermore Operations at Livermore, CA
NDEP	Nevada Division of Environmental Protection
NLT	No later than
NLV	North Las Vegas Facility
NNSA	National Nuclear Security Administration
NNSS	Nevada National Security Site
OSHA	Occupational Safety and Health Administration
PMP	Project Management Professional
QA	Quality Assurance
QC	Quality Control
QP	Quality Assurance Plan
RSLA	Remote Sensing Lab at Andrews AFB, Maryland
RSLN	Remote Sensing Lab at Nellis AFB, North Las Vegas, NV
SHMP	Sodium Hexametaphosphate

Acronym	Definition
STL	Special Technologies Lab at Santa Barbara, CA
STR	Subcontract Technical Representative
STP	Sodium Tripolyphosphate
SAPP	Sodium Acid Pyrophosphate
TSPP	Tetrasodium Pyrophosphate

B-1 Introduction and Background

1. Introduction

The Nevada National Security Sites (NNSS) is a U.S. Department of Energy, National Nuclear Security Administration (NNSA) installation, operated by Mission Support and Test Services, LLC (MSTS or CONTRACTOR), comprising approximately 3,561 square kilometers (1,375 square miles) of federally owned land located in southeastern Nye County, Nevada. Located approximately 105 kilometers (65 miles) northwest of Las Vegas, Nevada, the NNSS is accessed from U.S. Highway 95, which roughly forms the southern boundary of the site.

The MSTS also operates the North Las Vegas Facility (NLV); the Remote Sensing Lab at Nellis AFB, North Las Vegas, NV (RSLN); the Remote Sensing Lab at Andrews AFB, Maryland (RSLA); Special Technologies Lab at Santa Barbara, CA (STL); Livermore Operations at Livermore, CA (LO); and Los Alamos Operations at Los Alamos, NM (LAO).

2. Background

The NNSS has production wells that have been in service from 1951 to 1990. A well rehabilitation program is required to preserve the life span of these wells and ensure a reliable water supply for NNSS customers in the future

B-2 Objective

MSTS requires the services of an experienced SUBCONTRACTOR to provide well rehabilitation in accordance with industry best practices, state requirements, and federal standards

B-3 Description of Work

The SUBCONTRACTOR shall provide technically qualified resources that work as a part of a team under the direct oversight of MSTS. SUBCONTRACTOR resources shall be responsible for independently planning, organizing, and performing a wide variety of non-hazardous specialized administrative/technical duties in support of the successful completion of goals and deliverables. Additionally, the SUBCONTRACTOR shall furnish all necessary labor, technical and professional services, supervision, materials, tools, equipment, consumables, and payment of any applicable taxes to perform all operations necessary and required to perform the scope as directed by MSTS.

Unless otherwise approved, the SUBCONTRACTOR shall work in accordance with MSTS subcontract requirements.

The work scope for this activity includes the resources, material and/or equipment necessary to accomplish the following MSTS activities:

- Well rehabilitation in accordance with industry best practices, state requirements and federal standards. Work elements may include but may not be limited to mobilization, pre- and post- well rehabilitation video inspections, brushing well, well rehabilitation with chemicals, sand testing, demobilization.
- Well rehabilitation operations shall be coordinated with the CONTRACTOR to minimize disruption and disturbance of existing operations at NNSS.
- The SUBCONTRACTOR shall take appropriate measures to prevent damage to on-site structures or utilities and shall bear the sole responsibility for all costs to repair or replace any damaged structures caused by the SUBCONTRACTOR as deemed applicable by CONTRACTOR.
- If applicable, the SUBCONTRACTOR shall assure that all permitting, demolition, and debris removal will comply with applicable city, state and federal regulations and procedures covering maintenance and inspection of municipal water supply wells
- The SUBCONTRACTOR shall be fully responsible for the protection of all existing surface and underground utilities during all phases of the work
- As applicable, SUBCONTRACTOR shall perform work in accordance with the minimum requirements stated in the American Water Works Association (AWWA) Standard C654-03. All components of the well, including the well casing and slotted or perforated casing shall be thoroughly disinfected prior to completion.
- SUBCONTRACTOR shall perform all work in strict accordance with all Federal, State, and local regulations, including those applying to the handling, transportation, and disposal of chemicals used or produced on the project. SUBCONTRACTOR shall also obtain all permits, if any, required for the performance of the work outlined in these specifications
- The wells to be rehabilitated under this contract are located at the NNSS and are listed in Table 1. Each well has good access for a workover crane and other SUBCONTRACTOR vehicles. The well characteristics and as-built construction details are included in Appendix B and summarized in Table 1 below. Precise location of the wells can be found in the United States Geological Services online mapping application located here: https://nevada.usgs.gov/doe_nv/

Table 1 - NNSS Water Supply Wells for Rehabilitation

Well ID	NNSS Location	Depth (feet (ft))	Well Inside Diameter and Slot/Perforation Detail	Year Installed	Average Flow Rate (gallons per minute (gpm))
Well 4	Area 06	1,479	12.6 inch (in) ID, slotted casing (494 ft)	1981	475
Well 4A	Area 06	1,516	12.615in ID, two slotted sections (92ft and 215ft)	1990	450
Well 5B	Area 05	900	10in ID, slotted casing (200ft)	1951	240
Well 8	Area 18	2,946	11.0in ID, gun perforated sections (50ft, 50ft, 150ft) and two 7.025in ID slotted sections (32ft, 33ft)	1962	200
Well J-12	Area 25	1,139	12.125 in ID, slotted casing (75ft) and 11.75in open borehole below the slotted section (300ft)	1957, deepened 1968	600

Well ID	NNSS Location	Depth (feet (ft))	Well Inside Diameter and Slot/Perforation Detail	Year Installed	Average Flow Rate (gallons per minute (gpm))
Well 16D	Area 16	2117	7.0 in ID, perforated casing (165ft), 7in casing below perforated section (807ft)	1977	140

1. Task(s)

Task 1 - MOBILIZATION TO NNSS

SUBCONTACTOR shall mobilize all materials, equipment, and personnel to perform the work specified on a single well or multiple wells as defined in the task order. Mobilization shall include but not limited to, transportation of personnel, equipment, and supplies to the work site from the SUBCONTRACTOR's place of business, including maintenance and protection of personnel and equipment, incidental expenses, and security.

The work is currently planned to take place over 5 years, with one well rehabilitation each year for the first 4 years and two wells rehabilitated in year 5. If more than one well is rehabilitated under a single SUBCONTRACTOR mobilization to NNSS, the SUBCONTRACTOR shall move and set up their rig and equipment at another well as authorized by the CONTRACTOR.

Task 2 - EQUIPMENT SET-UP

The SUBCONTRACTOR shall provide all necessary equipment, tools, and appurtenances for the timely completion of the work. SUBCONTRACTOR's equipment shall be in complete and safe operating condition and shall be appropriately maintained and operated during the project. A description of the proposed equipment shall be provided with the SUBCONTRACTOR's proposal. SUBCONTRACTOR's workover rig shall be configured with a pullback rating that exceeds 50% more than the maximum load. The workover rig shall have the capacity to produce automatic reciprocating action with a stoke length of 5 feet or greater. The SUBCONTRACTOR shall be solely responsible for the condition of their equipment and shall maintain an inventory of necessary spare parts for the timely repair of equipment in the event of a failure or breakdown. No payment shall be made for standby time or equipment rental caused by a breakdown or failure of the SUBCONTRACTOR's equipment. Equipment necessary for the work shall include, but not be limited to:

- Workover rig
- Weighted brush block
- Double surge block
- Bailer
- Chemical mixing tanks
- Portable wastewater storage tank
- Pumps, piping, and valves for transferring well rehabilitation fluids at the surface.
- Generator and electrical switchgear necessary for the safe well rehabilitation pump operation

The source of water for all well rehabilitation work will be provided by the CONTRACTOR from an active public supply well on NNSS. The SUBCONTRACTOR shall provide all means for water conveyance from the source (fill station at a supply well on NNSS) to the well rehabilitation site for their water needs. If a water truck is utilized, it shall be NSF 61 certified and be permitted by NDEP. A local connection to the public drinking water system may not be available at the wellhead.

Task 3 - WELL PUMP REMOVAL

The CONTRACTOR will make all arrangements for complete pump removal by others prior to SUBCONTRACTOR mobilization to NNSS. Pump removal is NOT included in the SUBCONTRACTOR's scope.

The CONTRACTOR will place the pump, discharge head, pump, motor, wire, discharge pipe, and stilling tube at a suitable location near the well clear of the SUBCONTRACTOR's work area.

Task 4 - PRE-REHABILITATION VIDEO INSPECTION

Prior to video inspection, the SUBCONTRACTOR shall measure the depth of the well using a sounding device that provides measurements accurate to within 0.01 foot. The SUBCONTRACTOR shall complete a pre-well rehabilitation video inspection consisting of a closed-circuit television recording of the interior surfaces of the well. The video inspection equipment shall have both forward (downward) and 360-degree side facing submersible video cameras angles, each equipped with appropriate lighting and wide-angle lenses. The video inspection equipment shall be capable of capturing undistorted video footage both above and below the static water level surface with a minimum 720p high definition. The video inspection equipment shall be capable of capturing a color image up to 5,500 feet in depth at a submergence of up to 5,000 feet. The video inspection equipment shall include a video monitor for real time, on-site video display, as well as a record of the video feed in a readily usable video file format (AVI, .MOV, .MP4, or similar). The camera equipment shall be capable of taking still photos at any time during the video inspection. The video inspection equipment shall be capable of displaying and recording an on-screen depth measurement accurate to the nearest 0.01 foot. The video inspection equipment shall be equipped with a removable centralizer device to stabilize the camera and minimize disturbance to the internal surfaces of the well. The camera shall be lowered slowly into the well for a continuous visual inspection of the casing, slotted or perforated sections, open borehole sections if present, and other features encountered in the well. If the water in the well becomes clouded during the inspection with reduced visual quality, the SUBCONTRACTOR shall stop advancing the camera and wait for the water to clear or add water to the well to enhance clarity before proceeding. Upon completion of the inspection, the SUBCONTRACTOR shall provide a report to the CONTRACTOR, including an electronic video file, still photographs, the well number, inspection date, time of day, elapsed time, and depth of the camera.

Task 5 - WELL REHABILITATION

Rehabilitation of the water supply well shall be accomplished by mechanical brushing, surging with a double disk surge block, chemical treatment, and pumping via submersible pump or air lift pump to remove sediment from the treatment interval and bottom of the well. Prior to initiating rehabilitation procedures, a pre-treatment specific capacity test shall be completed at a flow rate at least 80% of the typical production rate when the well it is in service (see Table 1). The pre-test shall include at least 15 minutes of continuous pumping and continuous water level measurements.

The well rehabilitation process shall include one or more of the procedures described below and as recommended by the SUBCONTRACTOR to maximize effectiveness, well efficiency improvement, and safeguards to the long-term integrity of the well. Well efficiency is defined as the ratio of the well's specific capacity at the time of measurement to when it was first tested well installed. The objective of the rehabilitation process is to increase the well efficiency and remove scale deposits as much as is practical. The tasks described below outline the general procedures for well rehabilitation. The order of the tasks, and potential substitution of tasks as recommended by the SUBCONTRACTOR, shall be included in the SUBCONTRACTOR's Well Rehabilitation Plan. Regardless of the well rehabilitation task, the SUBCONTRACTOR shall provide and erect fluid handling and storage tanks for the containment of the spent chemicals and wastewater pumped from the well during rehabilitation. The SUBCONTRACTOR shall install a temporary above ground pipe system, complete with flow meter, to connect the well rehabilitation discharge piping to the fluid handling system.

The well history for each well is included in Appendix B, NNSS Well Data Binder. Water chemistry information will be provided to the SUBCONTRACTOR by the CONTRACTOR. Using this information, the SUBCONTRACTOR shall develop a Well Rehabilitation Plan for each well serviced. The plan shall include a summary of all materials,

supplies, and service equipment that will be used (work-over rig, pump, motor, generator, compressor, surge block, brush, chemicals, etc.). The plan shall include a summary of the SUBCONTRACTOR's recommended chemical treatment(s) and highlight the types and amount of chemicals that will be used. The plan shall include the procedures proposed to complete the pre-treatment specific capacity test. The plan shall include a discussion of chemical neutralization process and discharge, The rehabilitation plan will be reviewed and approved by the CONTRACTOR prior to implementation. The rehabilitation process shall include one or more chemical treatment aids as recommended in the SUBCONTRACTOR's plan. The chemical treatments may include acid, inhibitors, polymer dispersants, phosphate, sodium hypochlorite, or other aids as recommended by the SUBCONTRACTOR. Chemical aids shall be designed specifically for use in potable water wells and must be National Sanitation Foundation (NSF-61) approved. Chemicals shall be mixed with clean water in an appropriate mixing tank in accordance with the manufacturer's recommendations.

The SUBCONTRACTOR shall install rehabilitation equipment (surge blocks, pumps, etc.) into the targeted treatment zone. The surge block shall be configured with rubber disks of slightly smaller diameter than the internal diameter of the casing and slotted or perforated sections of the well. The surge blocks shall be spaced 5 to 10 feet apart, creating an isolated treatment interval. Surging shall be accomplished by applying a reciprocating action to the surge block. The stroke length shall be equal to at least the separation distance between the surge blocks. When an interval is complete, the surge block apparatus shall be moved to the next treatment interval. Chemical aids shall be injected into the well through the openings between surge blocks. Proportional amounts of the mixture shall be dispensed in each treatment interval. Following surging, the well shall be pumped through openings in the pipe between surge blocks. Pumping shall be conducted throughout all treatment intervals to effectively remove dislodged scale deposits in each treatment zone. The SUBCONTRACTOR shall contain all spent chemicals in an approved wastewater storage tank for neutralization. Neutralized water may be discharged directly to the ground surface as authorized by the CONTRACTOR. Discharge shall not be less than 200 feet from the wellhead.

- **Specific Capacity Measurement**

  The SUBCONTRACTOR shall monitor the well's specific capacity performance after all treatment applications. This will require the use of a water level monitoring device and flow meter.

- **Brushing Well**

  Brushing the well shall be performed before chemical rehabilitation. Brush all internal surfaces of the well casing above and below the water level and the slotted/perforated sections to remove scale and bio-fouling deposits. Removal of these deposits in the slotted/perforated section will enable the well rehabilitation chemicals to uniformly penetrate and treat the interior surfaces. A two-brush apparatus shall be used with the brush pads approximately 5 feet apart, effectively covering 10 feet per stroke. The brush shall be nylon or wire. Brush the full length of the well casing and slotted/perforated casing sections. Brush for a period of approximately 5 minutes per foot in the slotted/perforated section. Following brushing, the SUBCONTRACTOR shall remove accumulated sediment to within 1 foot from the bottom of the well.

- **Acid Treatment**

  If recommended by the SUBCONTRACTOR as an appropriate well rehabilitation chemical aid, and approved by the CONTRACTOR, an acid treatment shall be applied to remove iron scale and bio-mass matrix caused by iron fouling bacteria. The type of acid used shall be determined by the SUBCONTRACTOR based on the water chemistry analysis provided by the CONTRACTOR and the results of the pre-inspection video survey. Typical acids used for well rehabilitation include hydrochloric, sulfamic, and phosphoric. The acid solution, as recommended by the SUBCONTRACTOR, shall be a blended form of NSF approved liquid acid and inhibitor. The acid solution shall be introduced to the targeted treatment zone via tremie pipe. Agitate the well to dislodge scale material softened by the acid solution. Monitor the pH frequently during treatment to maintain a pH of 3.0. Surge the well to accomplish

approximately 10-minute surge time per foot of slotted/perforated casing. Following acid treatment, pump the spent acid solution until the pH of the discharge water is equal to pre-treatment level and record the specific capacity of the well at the same pre-treatment pumping rate.

- **Polyphosphate Treatment**

  If recommended by the SUBCONTRACTOR as an appropriate well rehabilitation chemical aid, and approved by the CONTRACTOR, a polyphosphate treatment shall be applied to treat a well that has lost capacity due to plugging with silt and clay particles. The polyphosphate chemicals typically used for well rehabilitation include Sodium Tripolyphosphate (STP), Sodium Acid Pyrophosphate (SAPP), Tetrasodium Pyrophosphate (TSPP), Sodium Hexametaphosphate (SHMP) and Weltone (SHMP mixed with a chlorinating chemical and wetting agent). The polyphosphate shall be mixed with potable water to the proper concentration before injecting into the well. Mixture of the solution shall be in accordance with the manufacturer's recommendations. Follow a similar surging and pumping regiment as described under the acid treatment process.

- **Chlorine Treatment**

  If recommended by the SUBCONTRACTOR as an appropriate well rehabilitation chemical aid, and approved by the CONTRACTOR, a chlorine treatment shall be applied. A typical chlorine product includes sodium hypochlorite. The chlorine treatment is intended to remove iron, and manganese bacteria microbes that convert dissolved iron into an insoluble, reddish-brown to black gelatinous slime and encrustation when in the presence of oxygen. The SUBCONTRACTOR shall follow a similar surging and pumping regiment as described under the acid and phosphate treatments.

Task 6 - DISINFECT WELL

Upon completion of well servicing, the SUBCONTRACTOR shall disinfect the well using calcium or sodium hypochlorite in sufficient quantity to achieve 50 parts per million throughout the slotted/perforated casing interval. The chlorine solution shall be premixed with potable water prior to application. After disinfection, the well shall be flushed to remove all residual chlorine. Evidence of no chlorine residual shall be provided to the STR prior to acceptance of completion.

Task 7 - POST-REHABILITATION VIDEO INSPECTION

The SUBCONTRACTOR shall conduct a video inspection of the well after rehabilitation, applying the same procedures and equipment described under Task 4, Pre-rehabilitation Video Inspection. The video inspection results shall be presented in a report to the CONTRACTOR.

Task 8 – POST REHABILITATION WELL CASING INSPECTION

The SUBCONTRACTOR shall perform an Acoustic Televiewer (ATV) inspection of all internal surfaces of the well casing and slotted/perforated casing sections. The ATV shall be used to provide ultrasonic casing inspection and real-time thickness and inside/outside caliper information for steel casing. The SUBCONTRACTOR shall evaluate the televiewer data to determine the integrity of the casing. A summary of the evaluation shall be presented to the STR immediately after the ATV inspection. The results shall also be included in the Well Rehabilitation Report (see section B12 Deliverable)

Task 9 - PUMP REINSTALLATION

The CONTRACTOR will make all arrangements for complete pump reinstallation by others after the SUBCONTRACTOR has demobilized from NNSS. Reinstallation is not included in SUBCONTRACTOR's scope.

Task 10 - SAND CONTENT TEST

If directed by the CONTRACTOR, a sand content test shall be conducted concurrently and after well rehabilitation using a properly calibrated Rossum Sand Tester apparatus, or an approved equivalent. The well number, date of

test, operator's name, start time, end time, pumping rate, test results, and any other relevant notes or observations shall be submitted to the CONTRACTOR in electronic format.

Task 11 - DEMOBILIZATION FROM NNSS

Following the completion of well rehabilitation, the SUBCONTRACTOR shall remove all temporary structures, materials, tools, and equipment from the site. The SUBCONTRACTOR shall dispose of all debris resulting from the work in accordance with local, state and federal regulations. The work area should be left in a condition equal to before the work was performed. The SUBCONTRACTOR shall repair and pay for any repairs required on public streets, flood controls, or other facilities damaged by the SUBCONTRACTOR. The SUBCONTRACTOR shall transport all personnel, equipment and supplies from the work site back to the SUBCONTRACTOR's place of business.

2. Acceptance Criteria

Work products and services provided shall meet all applicable MSTS procedures for control and review of work products and pertinent regulatory requirements, as required by this subcontract and incorporated provisions.

Further specific Acceptance Criteria applicable to this scope include:

- The SUBCONTRACTOR shall provide daily field records of all well rehabilitation work. Field records shall be presented to the STR for acceptance

B-4 PERSONNEL REQUIREMENTS

1. Training

The SUBCONTRACTOR and its personnel will be required to attend the site-specific training listed below.

NOTE: Site access may be delayed until training is complete or renewed. The SUBCONTRACTOR shall contact the Subcontract Technical Representative (STR) to coordinate scheduling of training. See Section B-6, item 4, *Badging*.

DESCRIPTION	DURATION	FREQUENCY
NNSS Site Access Safety Orientation (1E00W102)	0.5 Hours	One time only
Tool Pouch Maintenance (1E00W286)	0.5 Hours	One time only
Standard Industrial Hazards & Controls Awareness (1E00W287)	0.5 Hours	One Time only
Work Location Emergency Response Plan, Including Evacuation Alarms and Accountability (1REM050000)	3.0 Hours	One time only
Initial Security Briefing. DOE O 470.4B, "Safeguards and Security Program" (1S000110) as well as DOE O 470.4B Chg. 3 (Ltd.Chg.)	1 Hours	One time only
Activity Level Work Control Document Reviews, Pre-Job Briefings and Post-Job Debriefings(1G00W567)	0.5 Hours	Per ALWD
Protective Actions – How to Act During an Emergency (1REMPAW1)	0.5 Hours	Annual
Integrated Work Control Process (1G00W552)	1 Hours	One Time Only
General Employee Radiological Training (1E00W585)	0.5 Hours	One Time Only

The SUBCONTRACTOR shall maintain training records for their personnel and ensure all required training is completed prior to start of work. Additionally, as soon as practical after award, the SUBCONTRACTOR shall submit a badge request for personnel required under the various releases so that they may be scheduled for training and medical evaluation so that crews will be eligible for work on site.

2. Qualifications, Licensing and Certifications

The SUBCONTRACTOR shall ensure that its personnel meet and maintain the appropriate training, qualifications, licensing, and certification requirements to perform the work as specified in this Statement of Work (SOW). The SUBCONTRACTOR shall provide appropriately trained and qualified staff to perform the type of work in accordance with the specifications, exhibits, and other documents, which are made by reference, and part of this SOW. Additionally, the SUBCONTRACTOR shall perform work in accordance with the specifications, exhibits, and other documents, which are made by reference, and are a part of the SOW.

The SUBCONTRACTOR must meet the following qualifications:

- SUBCONTRACTOR shall have minimum 10 years of experience completing well and pump services .
- SUBCONTRACTOR shall have experience with inspection, maintenance, and repair of deep (+1000 feet), high yielding (>200 gpm) water supply production wells.
- SUBCONTRACTOR shall clearly demonstrate an understanding of water supply well servicing and rehabilitation in their proposal and have the capability to perform all scope of services described in this Statement of Work (SOW).
- SUBCONTRACTOR shall have demonstrated experience at a government facility, working with multiple regulators and clients in an operational environment.
- SUBCONTRACTOR shall have experience in preparing evaluations and forecasts for maintenance services.
- SUBCONTRACTOR shall have current Nevada Water Well Driller's License.

In addition to the above, the SUBCONTRACTOR shall provide qualified personnel and Key Personnel throughout the period of performance of the Subcontract. SUBCONTRACTOR shall be responsible for ensuring its personnel meet and/or maintain current and valid training requirements, certifications, and are fully capable of completing the duties described through the entirety of the Subcontract period of performance.

3. Key Personnel

The SUBCONTRACTOR shall submit a resume and any documented applicable qualifications/certifications for each of the Key Personnel list below prior to being authorized to proceed with work. The SUBCONTRACTOR shall submit any changes in the Key Personnel assignments during the progression of the work to the CONTRACTOR for approval.

Project Manager

The Project Manager shall oversee all services and on-site construction operations, ensuring projects are completed on time, within budget, and adhere to safety regulations. The Project Manager shall manage lower-tier subcontractors, coordinate schedules, and enforce quality and safety standards.

Responsibilities

- Lead field crews and project management staff
- Ensure compliance with applicable state and federal codes
- Communicate project status, schedule, and plans to the CONTRACTOR.

Qualifications

- Bachelor's degree in construction or science-related field, such as construction management, engineering, environmental science, or geology.
- Specialized certifications such as Occupational Safety and Health Administration (OSHA) or Project Management Professional (PMP) can enhance the CONTRACTOR's qualification review and acceptance.

- Experience in a supervisory role on similar well rehabilitation sites.
- Minimum of five (5) years' experience managing well rehabilitation projects.

On-Site Safety Representative

The SUBCONTRACTOR shall have a qualified Environmental Safety and Health professional representative that is acceptable to the CONTRACTOR and present at the worksite whenever SUBCONTRACTOR personnel are performing activity level work. The Safety Representative shall ensure a safe and healthy work environment by representing employee concerns, identifying hazards, and promoting safety protocols. The Safety Representative shall engage with site support staff and management to address workplace safety issues, conduct inspections, educate employees on safety practices, and ensure that all site and regulatory requirements are met.

Responsibilities

- On-site presence during all work activities, high risk, and other critical activities.
- With job planner assistance, develop and maintain Job Hazard Analyses (JHA) throughout the project.
- Develop separate JHAs when construction is phased or has dissimilar hazards.
- Develop and maintain permits/plans that are generated by the SUBCONTRACTOR and their lower- tier subcontractors
- Perform daily inspections with the FWS (it is expected that the On-site Safety Representative will perform inspections at the job site)
- Ensure that the FWS is documenting the daily inspections, including positive observations, deficiencies, and corrective action(s)
- Attend pre-job meeting at least once/week.
- Work alongside FWS to ensure that equipment used onsite is properly maintained.
- Work alongside FWS to ensure that each employee's (and lower-tier employee's) training records are approved prior to performing work and maintained current throughout the project.
- Work alongside FWS to ensure that products/chemicals (provided by the SUBCONTRACTOR and lower-tier SUBCONTRACTORS) are submitted and approved prior to use.
- Attend kick-off meetings and progress meetings.
- Attend job walk-down after award of subcontract with FWS, Construction Manager (CM) and MSTS Safety Professional
- Participate in inspections with FWS, CM, and MSTS Safety Professional
- Perform incident investigations
- Participate in MSTS investigations and fact-finding meetings.
- Work alongside FWS to ensure that the work is being accomplished following MSTS Safety and Health procedures.
- Work alongside FWS to help resolve employee concerns.

NOTE: The On-site Safety Representative's oversight frequency shall increase if the SUBCONTRACTOR or MSTS determines that more rigorous oversight is required.

Qualifications

A qualifications statement shall be provided to the CONTRACTOR with a list of projects and description of duties where the person was a full-time or part-time On-site Safety Representative. Accepted qualifications for consideration include:

- Degree in Occupational Safety, or
- Designation as a Certified Safety Professional, or
- Designation as an Associate Safety Professional with a minimum of 1-year documented safety experience, or
- Designation of Occupational Health and Safety Technician, or
- Certification as Construction Safety and Health Technician with 3 years of relevant experience fulfilling the safety duties on well rehabilitation projects, or
- Documented 5 years full-time On-site Safety Representative experience (100% safety work).

If, upon review of qualifications, and separately accepted by the CONTRACTOR, the SUBCONTRACTOR's assigned On-site Safety Representative may have other duties on site as long as fulfillment of the other duties does not interfere with or prevent the employee from performing the responsibilities stated above.

Safety Manager

The SUBCONTRACTOR shall have a qualified Safety Manager Responsible for developing, implementing, and managing safety programs to ensure a safe, healthy, and compliant work environment for all employees.

Responsibilities

- The Safety Manager shall be responsible for identifying hazards, conducting safety audits, investigating incidents, and providing recommendations for improvement.
- The Safety Manager shall create a workplace that meets legal and contractual expectations and actively support the SUBCONTRACTOR organization's occupational health and safety goals.
- The Safety Manager may be required to be on site during high-risk construction activities.

Qualifications

- Minimum qualifications of the Safety Manager include the same as listed above for the On-site Safety Representative, with an additional 3 years of Safety Management experience or additional safety management certifications, such as the Certified Safety Manager (CSM) acquired through the National Association of Safety Professionals.
- The Safety Manager must be a full time employee and cannot fill a dual role with other Key Personnel positions.

Lead Well Rehabilitation Specialist

The Lead Well Rehabilitation Specialist is the SUBCONTRACTOR appointed site lead to perform all well rehabilitation services. The Lead Well Rehabilitation Specialist shall be qualified in municipal water well maintenance, with at least 3-years' experience in municipal well rehabilitation practices, operation of well rehabilitation equipment, and the application and safe handling of well rehabilitation chemicals.

Responsibilities

- The Lead Well Rehabilitation Specialist shall have a working knowledge of the operation and safety requirements of all equipment and materials used for well rehabilitation.

Qualifications

- OSHA safety training
- 3 years demonstrated experience with the operation of hydraulic boom truck cranes or pump hoist rigs.

- 3 years demonstrated experience with the key elements of water well maintenance, including well development practices, mechanical and chemical surging, rehabilitation, and disinfection.
- Additional education, specialized training, and certifications in well maintenance are preferred

B-5 TECHNICAL REQUIREMENTS

The SUBCONTRACTOR shall perform in accordance with the terms and conditions of this subcontract, MSTS internal policies and procedures, and quality assurance provisions, including safety programs, laws, orders, permits, rules, confidentiality of information and intellectual property safeguards. In addition, the SUBCONTRACTOR shall perform work in accordance with the national codes, specifications, drawings, exhibits, and other documents, which by reference are made a part of the SOW.

Inspection of the work required by governmental agencies shall be arranged by the STR. The SUBCONTRACTOR shall request inspections through the STR, after the work is ready for inspection. Any drawings/specifications needed will be provided at the Task Order level.

1. Specifications

SPEC NUMBER	TITLE	REV	PAGES
NA	NA	NA	NA

2. Drawings

DRAWING NUMBER	TITLE	REV	PAGES
NA	NA	NA	*NA*

B-6 PLACE OF PERFORMANCE

1. Work Location

Work will be performed a Nevada National Security Site - Mercury, NV 89023

Various work locations include Area 25, Area 5, Area 6 and Area 18. For any work performed on the NNSS site or in an MSTS controlled facility, the provision of the On-Site services shall apply to this subcontract

Work performed outside normal operating hours shall be coordinated and/or approved through the STR and/or the Procurement Specialist prior to performing the work.

2. Site Access and Work Hours

MSTS personnel at the NNSS work a standard 4/10 schedule. The standard work week consists of ten (10) hours of work between 7:00 a.m. and 5:30 p.m. with one-half hour designated as an unpaid period for lunch, Monday through Thursday.

However, due to the use of chemicals in the well and need to minimize the total period the well is out-of-service, the SUBCONTRACTOR has the option to operate on a 12-hour/day, 7 days/week schedule. The SUBCONTRACTOR shall coordinate and/or obtain approval through the STR and/or the Procurement Specialist at least 2 weeks in advance of the need to operate outside the general NNSS work week hours. The CONTRACTOR will support the SUBCONTRACTOR'S work at all times, including during periods of 12/7 operations.

3. Badging

Any onsite work shall be coordinated with the STR in accordance with the SOW and site-specific training requirements. The SUBCONTRACTOR shall wear a MSTS issued security badge identifying themselves. A minimum of ten (10) working days advance notice is needed for site badging. SUBCONTRACTOR employees shall be required to submit to vehicle searches and not personally carry or transport prohibited articles listed in the Prohibited Controlled Articles Policy document linked here: (ProhibitedControlledArticlesPolicy.pdf).

B-7 Clearance Requirements

The following access authorization or clearance requirements are required.

1. Check all that apply:

- ☒ No security clearance; unclassified work
- ☐ DOE L
- ☐ DOE Q
- ☐ HSPD-12 PIV Credential

2. If applicable, add any or all parts of the following statement security qualifications:

- ☐ The SUBCONTRACTOR shall have the ability to obtain a U.S. Department of Energy (DOE) facility security clearance and have personnel capable of obtaining a Q-type or L-type security clearance.
- ☐ Q- or L-type security clearance is required for all SUBCONTRACTOR personnel having access to classified information or special nuclear material when performing such work.
- ☐ A corresponding level of security clearance from another federal agency may be applicable if approved by the MSTS and DOE.
- ☒ N/A

B-8 Special Requirements

1. Government Assets

Use of Government Vehicles	
☒	There is **NO** anticipated need for any SUBCONTRACTOR employees to use a Government-furnished vehicle in the performance of this SOW. The SUBCONTRACTOR's employees, therefore, are specifically prohibited from driving any Government-furnished vehicles under the performance of this SOW unless this SOW is formally modified by the parties and the employee(s) will present a valid driver's license to the STR for review.
☐	One or more SUBCONTRACTOR employees will have access to Government-furnished vehicles while performing this SOW.
Government Property	
☒	Government Property **NOT** anticipated to be furnished to or acquired by the SUBCONTRACTOR under this SOW.

☐	Pursuant to Federal Acquisition Regulation (FAR) 52.245.1 – Government Property, the following Government-owned property will be furnished to the SUBCONTRACTOR. The SUBCONTRACTOR shall be responsible for managing the Government-Furnished Property (GFP) below and/or Contractor-Acquired Property (CAP) as required in accordance with FAR 52.245-1. A list of the property to be furnished to the SUBCONTRACTOR can be found in Appendix Choose an item, along with any special technical and/or handling instructions.

2. Quality Assurance (QA)

The work as described has been identified to be.	
☐	**SAFETY CLASS/SAFETY SIGNIFICANT SERVICES AND/OR COMMODITIES (NUCLEAR/RADIOLOGICAL)** This PO is related to items or services used in support of the nuclear and/or radiological mission(s) of the Nevada National Security Site, therefore: The SUBCONTRACTOR shall implement and maintain a Quality Assurance (QA) program in accordance with at least one the following quality assurance criteria and requirements: • ASME NQA-1 (2015) quality assurance requirements for nuclear facility applications • ASME NQA-1 (2008 with 2009 addenda) quality assurance requirements for nuclear facility applications • Equivalent program authorized in writing by the contractor's quality assurance organization In addition, the SUBCONTRACTOR shall be responsible for: **Price Anderson Amendments Act (PAAA)** The item or service identified in the purchase order agreement is being procured by a contractor to the Department of Energy (DOE)/National Nuclear Security Administration (NNSA). This item or service is intended to be used in the performance of activities that (1) prevent or mitigate radiological or harm to the worker, the public or the environment or (2) provide a healthful and safe workplace for DOE/NNSA contractor personnel. Therefore, the SUBCONTRACTOR is responsible for assuring that the items or services provided under this purchase agreement meet the stated requirements.
☒	**GENERAL SERVICES AND/OR COMMODITIES** This subcontract is for items or services that support the mission(s) of the Nevada National Security Sites, therefore: **SUSPECT/COUNTERFEIT ITEMS REQUIREMENTS**: The SUBCONTRACTOR will take positive measures to ensure that only new, unused equipment/material from acceptable sources is provided under this subcontract. Notwithstanding any other provisions of this subcontract, should any suspect/counterfeit items or components be found within or on this equipment during contractor receipt inspection, SUBCONTRACTOR shall, at its expense, promptly replace such items or components. These requirements shall be flowed down to all levels of subcontractors as they pertain to this procurement activity.

B-9 ENVIRONMENTALLY PREFERABLE PRODUCTS

MSTS is required by the U.S. Department of Energy to purchase Environmentally Preferable Products (EPP) (also known as green or sustainable purchasing) and are also required to flow those procurement requirements to their SUBCONTRACTOR. When designing materials and/or supplying materials to be used onsite as part of a subcontract SOW, those materials must meet these same requirements.

The following is a list of EPP types that must be used if they are available:

- **Products with Recycled Content.** MSTS supports efforts that reduce or eliminate environmental hazards, conserve environmental resources, minimize life-cycle cost and liabilities. Towards the end, the acquisition cycle is viewed as an important key in understanding what is brought onto the Site as well as identifying what can be reused/recycled. Focus is directed on recycled-content, biobased-content, ozone-depleting substances, and other environmental impacts. Specific additional clauses are included in this solicitation that address potential requirements and preferences based on the nature of the item being considered for purchase.
- **Water Efficient Plumbing Products**. When purchasing commercially available, off-the-shelf water consuming products, products must meet EPA's WaterSense standards (http://www.epa.gov/watersense).
- **Non-Toxic or Less Toxic Alternatives**
- **Green Certified Products**. (e.g., Design for Environment, Green Seal)
- **Bio-Based Products**. MSTS will give preference to acquiring Department of Agriculture designated biobased products. For more information to this program, see www.biopreferred.gov.
- **Energy Efficient Products**.
    - EPA Energy Star® When purchasing commercially available, off-the-shelf energy-consuming products, products must be Energy Star rated (www.energystar.gov).
    - Federal Energy Management Program designated products, When purchasing commercially available, off-the-shelf energy-consuming products, products must use no more than one watt of standby power as defined and measured by International Electrotechnical Commission (IEC) code 62301 or otherwise met FEMP specifications for low standby power consumption. If FEMP has not specified a standby power level for a product category, the item shall be the lowest standby power consumption available.
- **Energy Efficient Electronics**. When purchasing the following products, EPEAT ratings will apply:
    - Desktop and Notebook Computers – must meet the EPEAT silver rating or higher
    - Displays, Monitors, Integrated Desktop Computers, Workstation Desktops, Thin Client, Workstation Notebooks, and/or Tablet Notebooks – must meet the EPEAT silver rating or higher
    - Fax Machines, Multifunction Devices, and Printers – must meet the EPEAT bronze rating or higher
    - Copiers and Digital Duplicators – must meet the EPEAT silver rating or higher
- **Reuse of Leased IT Electronic Equipment** In accordance with DOE Order 436.1, Departmental Sustainability, MSTS is striving to reduce or eliminate environmental hazards, conserve environmental resources, minimize life-cycle cost and maximize operational sustainability through the incorporation of electronics stewardship practices thereby minimizing the economic and environmental impacts of managing toxic by-products and hazardous wastes generated in the conduct of site activities. Therefore,

MSTS requires that at the end of the lease period, the equipment is to be reused, refurbished, donated, or recycled using environmentally sound management practices.

B-10 MEETINGS

After subcontract award, a Subcontract Kickoff Meeting may be requested, which may be a conference call, an internet meeting, or a meeting to be held at MSTS. The time, date, and agenda for the meeting will be provided to the SUBCONTRACTOR by the CONTRACTOR.

The SUBCONTRACTOR shall interface with various CONTRACTOR (and other) organizations through the Procurement Specialist (or designated STR for in-scope work), as required, or at points and frequency determined by the Procurement Specialist.

The CONTRACTOR will issue meeting notices, prepare an agenda, and provide minutes for meetings with the SUBCONTRACTOR. When applicable, minutes will identify action items, assigned actioner, and due dates.

The purpose of the meetings is the exchange of work-related information. The person or persons designated by the SUBCONTRACTOR to attend all meetings shall have all required authority to make decisions and commit SUBCONTRACTOR to technical decisions made during meetings.

FREQUENCY	DURATION	TITLE	DESCRIPTION / PURPOSE
Weekly	1 Hour	Well Rehabilitation Status Update	Update CONTRACTOR on well rehabilitation progress

B-11 SUBMITTALS

Appendix A , *Submittal Register*, identifies deliverables due during the execution of this subcontract and the recipient.

If the SOW requires the submittal of SUBCONTRACTOR Information, the following apply:

- The following items shall be submitted to the submittal e-mail address(es) as indicated on Appendix A , *Submittal Register*, identifies deliverables due during the execution of this subcontract and the recipient.
- The SUBCONTRACTOR shall include the Procurement Specialist and STR on the transmittal.
- Subcontractor information shall be submitted in either hard copy or electronic format (If electronic, it must be viewable using either Microsoft Windows®, Microsoft Office®, or Adobe Acrobat® software).
- Submittals should consist of any information, documentation, data, etc. which will require review/approval or used as verification or acceptance of work completed.

B-12 DELIVERABLE

SUBCONTRACTOR shall provide a Well Rehabilitation Report for each well serviced under this subcontract. The report shall be presented to the CONTRACTOR's STR and Project Manager. The report shall provide a complete summary of all well rehabilitation techniques and services performed, including the well depths, depths of the treatment zones, duration and chemical contact time of well rehabilitation applications, amount and type of chemicals used, concentrations applied, and pumping rates attained during the pumping and surging process. The report shall provide a summary of all specific capacity tests performed, the notable features observed during the pre- and post- video inspections, and the general condition of the well casing and screen sections as revealed from the Acoustic Televiewer inspection. Specific capacity pumping test data and chemical analysis data shall be summarized and appended to the report.

B-13 APPENDIX

APPENDIX NUMBER	*TITLE*	*REV*	*PAGES*
Appendix A	Submittal Register	*NA*	*3*
Appendix B	NNSS Well Data Binder	*NA*	*77*

The SUBCONTRACTOR shall meet the required schedule and provide the documents specified in accordance with the following submittals.

APPENDIX A
SUBMITTAL REGISTER

Section A: Purchase Order/Subcontract Information			
Subcontractor Name:	*TBD*	SOW Title:	**Well Testing, Cleaning and Rehabilitation Services**
Purchase Order and Release Number:	*TBD*	Requisition Number:	*REQ-0006513*

Section B: Submittal Delivery Requirement
Submittals shall be electronically, unless otherwise noted, to: *Procurement Specialist; Julao, Claudia <JULAOCJ@nv.doe.gov> and Subcontract Technical Representative; Hervey Regino ReginoH@nv.doe.gov* *Insert any special notes. DO NOT INCLUDE internal distribution notes.*

Section C: Submittal Requirement Details

NO.	TITLE	REFERENCE	DUE DATE / FREQUENCY	REVIEWED BY	COMMENTS
001.	Subcontract Schedule	*RFP*	No later than 10 calendar days from date of task order award	ProcSpec STR	Prior to the start of work
002.	Site Specific Environmental, Safety, and Health Plan	*Exhibit E*	NLT 10 calendar days from date of award	STR, ProcSpec	Prior to the start of work
003.	Timesheets/Field Tickets Progress Report/Employee Count	*Exhibit D*	Monthly, NLT 5th day of new month	ProcSpec STR	
004.	Safety Data Sheets	*Exhibit E*	NLT 10 calendar days from date of task order award	STR, ProcSpec	Prior to the start of work
005.	Subcontract Hours, FRM-1253	*RFP*	On or prior to the 28th of the month	STR	
006.	Safety and Personnel Report	*Exhibit E*	NLT 10 calendar days from date of award	STR	Prior to the start of work
007.	Quality Control/Assurance Program	*RFP*	NLT 10 calendar days from date of award	STR, ProcSpec	Prior to the start of work
008.	Insurance certificates	*RFP*	NLT 10 calendar days from date of award	ProcSpec	Prior to the start of work
009.	Payment/Performance Bonds	RFP	NLT 10 calendar days from date of award	ProcSpec	Prior to the start of work

APPENDIX A
SUBMITTAL REGISTER

Section A: Purchase Order/Subcontract Information			
Subcontractor Name:	*TBD*	SOW Title:	**Well Testing, Cleaning and Rehabilitation Services**
Purchase Order and Release Number:	*TBD*	Requisition Number:	*REQ-0006513*

Section B: Submittal Delivery Requirement

Submittals shall be electronically, unless otherwise noted, to: *Procurement Specialist; Julao, Claudia <JULAOCJ@nv.doe.gov> and Subcontract Technical Representative; Hervey Regino ReginoH@nv.doe.gov*

Insert any special notes. DO NOT INCLUDE internal distribution notes.

Section C: Submittal Requirement Details

NO.	TITLE	REFERENCE	DUE DATE / FREQUENCY	REVIEWED BY	COMMENTS
010.	Subcontractor Medical Release	Exhibit E	Prior to the start of work for each task order	STR	Required when subcontractor employee is on-site more than 30-days or enrolled in a Medical Surveillance Program while working on M&O site, Provided using CONTRACTOR Form FRM-2026, “Subcontractor Medical Release”
011.	Hazard Communication Program	Exhibit E	NLT 10 calendar days from date of notice to proceed prior to start of work	STR, ProcSpec	Prior to the start of work
012.	Service Contract Reporting Requirements	RFP	Annually by October 15th	ProcSpec	As specified in special condition titled, “Service Contract Reporting Requirements”
013.	Organizational Conflict of Interest (OCI) Certification	RFP	With proposal and prior to addition of any lower-tier subcontractors	ProcSpec	For work similar to that to be performed by the OFFEROR valued at over $150K

MSTS
MISSION SUPPORT AND TEST SERVICES LLC

APPENDIX A
SUBMITTAL REGISTER

Section A: Purchase Order/Subcontract Information			
Subcontractor Name:	*TBD*	SOW Title:	**Well Testing, Cleaning and Rehabilitation Services**
Purchase Order and Release Number:	*TBD*	Requisition Number:	*REQ-0006513*

Section B: Submittal Delivery Requirement

Submittals shall be electronically, unless otherwise noted, to: *Procurement Specialist; Julao, Claudia <JULAOCJ@nv.doe.gov> and Subcontract Technical Representative; Hervey Regino ReginoH@nv.doe.gov*

Insert any special notes. DO NOT INCLUDE internal distribution notes.

Section C: Submittal Requirement Details

NO.	TITLE	REFERENCE	DUE DATE / FREQUENCY	REVIEWED BY	COMMENTS
014.	Subcontract Release Statement – FRM-2206	Exhibit C, RFP	Following completion of work prior to final payment for each Task Order	ProcSpec	SUBCONTRACTOR shall submit a Subcontract Release Statement FRM-2206. The Subcontract Release Statement shall include a certification that states the following: "All GOVERNMENT and CONTRACTOR-furnished property has been returned, consumed, delivered or otherwise disposed of as instructed by CONTRACTOR."
015.	SUBCONTRACTOR's Authorized Representative	Exhibit C	Prior to the start of work of each task order	ProcSpec	Also when changes occur
016.	Daily Progress Report	Exhibit B, section 3.2	Daily during the work	STR	
017.	Final Service Report	Exhibit B, section 3	At completion of service	STR, ProcSpec	Report required for each well serviced

NLT = No Later Than
NTP = Notice to Proceed
TLO = Transmittal Letter Only

Appendix B NNSS Well Data Binder

- See file: NNSS Well Data_eDCRO_73522.PDF (77 pages)

APPENDIX INSERT APPENDIX # GOVERNMENT FURNISHED PROPERTY / EQUIPMENT			
NO.	PROPERTY TYPE	PROPERTY NUMBER	COMMENTS
001.	*Property type, example laptop*	*Property Number*	*List any special requirements*
002.			
003.			
004.			
005.			
006.			