STATEMENT OF WORK

FOR

NEXT GENERATION COLD SPRAY SYSTEM

Prepared By

76 PMXG
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1. **OVERVIEW**

1.1. **Scope.** The content of this specification describes the minimum requirements for the name brand procurement of Impact Innovations Impact Spray System EvoCSII High Pressure Cold Spray System, FANUC M710ic/50 industrial robot, robotic turntable, HiWatch HR2, and ReliaCoat ICP-8 sensor. The specifications for a Nitrogen gas supply system, argon fire

suppression system, dust handler modification, high-pressure gas plumbing, and booth camera.

2. **APPLICABLE DOCUMENTS.**

2.1. **General Information.** The Contractor, at a minimum, is required to comply with the current editions of the following requirements for design, construction, installation, and safety, as applicable. The term "most recent edition" shall be understood to mean, most recently released edition as of date of issuance of contract. This list of references is not all-inclusive nor in priority order. While every effort has been made to ensure the completeness of this section, users are cautioned that they must meet all specified requirements of documents cited throughout this Statement of Work (SoW).

2.2. **Government Documents.** The following Government documents form a part of this document to the extent specified herein.

2.2.1. Specifications, Standards, and Handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein.

2.2.2. U.S. Department of Labor

OSHA 29 CFR 1910 – General Industry, OSHA Safety and Health Standards (29 CFR 1910), 2019 or most recent edition (available at http://www.osha.gov/)

(Application for copies should be addressed to the U.S. Department of Labor, 200 Constitution Ave, Washington, D.C. 20210)

2.2.3. Environmental Protection Agency

40 CFR 82 – Protection of Stratospheric Ozone

40 CFR part 761 – Polychlorinated Biphenyls (PCB) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions.

(Application for copies should be addressed to the U.S. Department of Labor, 200 Constitution Ave, Washington, D.C. 20210)

2.2.4. Federal Standards

FED-STD-H28B – Screw Thread Standards for Federal Services, 2019 or most recent edition

FED-STD-H28/21B – Screw Thread Standard for Federal Service, Metric Screw Threads, 1984 (R2006) or most recent edition

(Application for copies should be addressed to Superintendent of Documents, Government Printing Office, Washington, D.C. 20402-001).

2.2.5. Military Standards

MIL-STD-130N w/Change 1: Identification Markings of U.S. Military Property (2012 Ed.) Item Unique Identification Marking (IUID) or most recent edition

(Application for copies should be addressed to Air Force Product Data Systems Modernization Standards (TMSS) Office, 554 ELSG/SBP, 4375 Chidlaw Road, Bldg. 262, Room S008, Wright-Patterson AFB, OH 45433-5006, Phone (937) 257-0870 or 0853 or https://quicksearch.dla.mil/qsSearch.aspx)

2.2.6. National Institute of Standards and Technology (NIST)

FIPS 140-3: Security Requirement for Cryptographic Modules

(Request for information should be addressed to Information Technology Laboratory, National Institute of Standards and Technology, Gaithersburg, MD 20899-8900. This document is available free of charge at https://doi.org/10.6028/NIST.FIPS.140-3)

2.2.7. Unified Facilities Criteria (UFC)

UFC 3-600-01: Fire Protection Engineering for Facilities, w/change 6 or most recent change

UFC 3-601-02: Fire Protection Systems Inspection, Testing, and Maintenance

2.2.8. Other Government Documents, Drawings, and Publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein.

Local Facility Documents

2.3. **Non-Government Publications, Specifications, Standards, and Handbooks.** The following documents form a part of this document to the extent specified herein.

2.3.1. National Fire Protection Association (NFPA)

NFPA 1 – Fire Code, 2010 edition or most recent edition

NFPA 13 – Standard for the Installation of Sprinkler Systems, 2025 edition or most recent edition

NFPA 68 – Standard on Explosion Protection by Deflagration Venting

NFPA 69 – Standard on Explosion Prevention Systems, 2024 or most recent edition

NFPA 70 – National Electrical Code, 2014 edition or most recent edition

NFPA 70E – Standard for Electrical Safety in the Workplace, 2011 edition or most recent edition.

NFPA 79 – Electrical Standards for Industrial Machinery, 2007 or most recent edition

NFPA 660 – Standard for Combustible Dusts and Particulate Solids, 2025 or most recent edition.

NFPA 2001 – Standard for Clean Agent Fire Extinguishing Systems, 2025 or most recent edition.

(Application for copies should be addressed to National Fire Protection Association, Battermarch Park, Quincy, MA 02269)

2.3.2. Telecommunications Industry Association (TIA) Standard

EIA/TIA-232-F – Interface Between Data Terminal Equipment and Data Circuit- Terminating Equipment Employing Serial Binary Data Interchange, 1997 (R 2002) or most recent edition.

(Application for copies should be addressed to IHS International Inc., http://www.ihs.com, or call 1-800-854-7179 for U.S. and Canada)

2.3.3. National Electrical Manufacturers Association (NEMA)

NEMA MG 1 – Motors and Generators, 2009 (R2010) or most recent edition

NEMA ICS 1 – Industrial Control and Systems General Requirements (2015 Ed.) or most recent edition

NEMA ICS 6 – Industrial Control and Systems: Enclosures, 1993 (R2006) or most recent edition

(Application for copies should be addressed to National Electrical Manufacturers Association, 1300 N 17th Street, Suite 1752, Rosslyn, VA 22209)

2.3.4. Underwriter Laboratories, Inc.

UL 508A – Industrial Control Panels

(Application for copies should be addressed to Underwriter Laboratories, Inc. 333 Pfingsten Road, Northbrook, IL 60062)

2.3.5. American Society for Testing and Materials.

ASTM SI 10 – American National Standard for use of the International System of Units (SI): The Modern Metric System, 2010 or most recent edition.

(Application for copies should be addressed to ASTM Headquarters, 100 Barr Harbor Drive,

P.O. Box C700, West Conshohocken, PA 19428-2959)

2.3.6. American National Standards Institute

ANSI/ASME B5.1M – T-Slots, Their Bolts, Nuts, and Tongues (1985) or most recent edition.

ANSI B11.19 – Performance Requirements for Risk Reduction Measures: Safeguarding and Other Means of Reducing Risk (2019) or most recent edition.

ANSI B11.20 – Safety Requirements for the Integration of Machinery into a System (2017) or most recent edition.

ANSI/RIA R15.06 – Industrial Robots and Robot Systems - Safety Requirements (2012 Rev.) or most recent edition

ANSI/RIA R15.406 – Safeguarding (2014) or most recent edition.

ANSI/RIA R15.506 – Applicability of ANSI/RIA R15.06 – 2012 for Existing Industrial Robot Applications (2014 Rev.) or most recent edition

ANSI/RIA R15.05-3-1992 (R1999) – Industrial Robots and Robot Systems – Reliability Acceptance Testing - Guidelines

(Application for copies should be addressed to American National Standards Institute, Attn: Sales Department, 1430 Broadway, New York, NY 10018-3363)

2.3.7. International Organization for Standardization (ISO)

ISO 10218-1 – Robotics - Safety Requirements Part 1 (2025) or most recent edition.

ISO 10218-2 – Robotics - Safety Requirements Part 2: Industrial robot applications and robot cells (2025) or most recent edition.

ISO/TR 20218-1 – Safety Design for End-effectors (2018) or most recent edition.

ISO 8573-1 – Compressed Air Part 1: Contaminants and Purity (2010) or most recent edition.

(Application for copies should be addressed to the International Organization for Standardization (ISO) 1 rue de Varembé, Casepostalea56, CH211Geneva 20, Switzerland)

2.3.8. Society of Automotive Engineers (SAE)

SAE EIA-267-C – Axis and Motion Nomenclature for Numerically Controlled Machines (2015 Ed.) or most recent edition

(Application for copies should be addressed to: Society of Automotive Engineers 400

Commonwealth Drive; Warrendale, PA 15096)

2.3.9. European Standard (EN)

EN1822:2019 - High efficiency air filters (EPA, HEPA and ULPA) (2019 Ed.) or most recent edition

(Application for copies should be addressed to: European Standards s.r.o, Krimicka 134, 318 00 Pilsen, Czech Republic)

2.4. **Order of Precedence.** In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. **GENERAL REQUIREMENTS.** Unless otherwise indicated, the following requirements in Section 3 apply to all equipment and subcomponents as applicable. Use of the term "Contractor" implies the "Contractor or authorized sub-contractor."

3.1. **Prototype Equipment**. The Contractor shall provide new, current, and commercially available machine/equipment models. A current model is defined as the manufacturer's currently produced model which, on the date this solicitation is issued, has been designed, engineered, sold, or is being offered for sale through advertisements or manufacturer's published catalogue or brochures. Products such as a prototype unit, pre-production model, or experimental unit do not qualify as meeting the requirements specified herein. The machine shall include all components, parts, and features necessary to meet the performance requirements specified herein. Parts subject to wear, breakage or distortion shall be accessible for adjustment, replacement, and repair.

3.2. **Measuring and Indicating Device Graduations.** Measuring and indicating devices on the equipment shall be graduated in both US customary units and International System of Units (SI).

3.3. **Safety, Environmental, Hazardous Materials.**

3.3.1. Safety and Health Requirements. Machine parts, components, mechanisms, and assemblies furnished on the machine, whether specifically required herein, shall comply with requirements of OSHA 29 CFR 1910.

3.3.2. Safety Guarding. Covers, guards, or other safety devices shall be provided per ANSI B11.19, B11.20, B11.22, B11.23, and B11.25 as applicable. The safety devices shall prevent operator contact with the guarded part, and shall be easily removed to facilitate inspection, maintenance, and repair of the parts. Guarding shall be constructed and attached in a manner as to not create safety hazards. Incorporated safety devices shall not limit the OEM intended operation of the machine.

3.3.3. Emergency Stop Devices (e-Stop). Equipment designs shall incorporate a single emergency stop function. The emergency stop function may, as the design dictates, be

accomplished by one or more emergency stop devices. Emergency stop devices shall conform to the requirements of NFPA 79. The Contractor shall ensure all emergency stop devices are placed at accessible, normal operating locations.

3.3.4. Slip Hazards. Non-slip stepping surfaces shall be provided in locations where it is necessary for operator/maintenance personnel to step or walk on parts of a machine that presents a potential slip hazard due to wet/slick conditions from coolant, chip, swarf, or lubricants.

3.3.5. Work Envelope Monitoring. The Contractor shall provide a work envelope monitoring system that complies with ANSI B11.25 regarding viewing of the work envelope with fully enclosed equipment.

3.3.5.1. *Workpiece Monitoring System.* Each machine shall come provisioned with a workpiece video monitoring system. The system shall be of a design that is rated IP64 or better. The installation location of the viewing system shall not interfere with the operation of the machine or machine accessories. Workpiece monitoring video camera(s) within the machine enclosure shall be installed at a location(s) that permit direct visual access to the components and the spray process. The system shall permit, at a minimum, operator remote control of the camera tilt, pan, and zoom functions via motor drive. The system shall come provisioned for concurrent transmission of video feed across the Government industrial network.

3.3.5.2. *Workpiece Monitoring Display*. Each machine system shall come provisioned with a separate, minimum 21-inch, display located in the operator work room that permits the concurrent observation of the video output and machine control display.

3.3.6. Audible Noise Level. Audible noise emitted by the equipment shall not exceed 84 decibels (dB), measured on the "A" weighted scale of a standard Type II sound level meter, at the operator's work position or any point three (3) feet away from the spray booth. Noise generated by the work piece and ambient workplace shall be excluded in determining compliance of the equipment with the 84 dB requirements.

3.3.7. Mercury Restriction. The machines shall not contain mercury or mercury compounds nor be exposed to free mercury during manufacture.

3.3.8. Asbestos Restriction. Asbestos and materials containing asbestos shall not be used on or in the machines/equipment.

3.3.9. Lead. Lead and materials containing lead shall not be used on or in the machines except for radiation cladding and lead solder in circuits.

3.3.10. Polychlorinated Biphenyl (PCB). The use of polychlorinated biphenyl (PCB) on or in the equipment is prohibited. The machine shall be considered PCB free providing certification to be verified containing less than 5 parts per million (<5ppm) in accordance with 40 CFR part 761.

3.3.11. Environmental Protection. Under the operating, service, transportation, and storage conditions described herein, the machine shall not emit materials hazardous to the ecological

system as prohibited by Federal, state, or local statutes in effect at the point of installation.

3.3.12. Energy Conservation & Management. Where applicable, equipment designs and configurations shall consider both active and passive energy efficiency and power conservation management features e.g., LED lamps, regenerative braking, machine stand-by mode, automated machine warm-up procedures, etc.

3.3.12.1. *Pump Energy Conservation.* The Contractor shall provision applicable pumps with means of electronic management that optimizes rotational speed and power usage based on actual demand. The management feature shall be integrated into the equipment's control and sensing system.

3.3.13. Electrical Enclosures. Construction of electrical enclosure(s) shall conform to NEMA ICS 6 standards. Electrical enclosure(s) shall be a NEMA type 12 intended for indoor, non-hazardous location. All electrical components shall conform to applicable NEMA ICS 1 standards. Machine electrical cabinet shall meet requirements of NFPA70 and NFPA 79. Electrical enclosure(s) shall provide means for ventilation.

3.3.13.1. *Electrical Enclosure Lighting Device.* A lighting device shall be incorporated inside each enclosure. Each lighting device shall provide adequate lighting for troubleshooting and maintenance purposes.

3.3.13.2. *Enclosure Outlets*. All internal and external enclosure electrical outlets shall conform to the requirements of NFPA 79.

3.3.13.3. *Enclosure Arc Flash Protection.* Each machine electrical and disconnecting device enclosure shall be marked for arc flash hazard warning in accordance with NFPA 79.

3.4. **Lubrication Data.** The Contractor shall provide the following information and the US equivalent on all liquid or grease lubricants contained within equipment/system or in bulk (5 gallons or more) supplied under this procurement.

3.4.1. Liquid Lubricants

- Viscosity grade in ISO units
- Viscosity Index
- AGMA and/or SAE classification as applicable
- Mil Spec and/or NATO Code as applicable
- Cincinnati Milacron Specification Number as applicable
- Viscosity in Centistokes (cst) @ 40° C and 100° C
- Type Additive package. Example: ZDDP, Rust inhibitors, Foam inhibitors.
- Neutralization, the TBN (alkalinity) and/or TAN (acidity).
- Flash point

- Pour point

3.4.2. Grease Lubricants

- National Lubrication and Grease Institute (NLGI) Number
- Type and percent of thickener
- Dropping point
- Maximum Service Temperature
- Base oil viscosity range in SUS or centipoise

3.5. **Instrument, Control Panel, and Plate Marking.**

3.5.1. Data Plate Requirements. All words on data plates shall be in the English language. Characters shall be engraved, etched, embossed, or stamped in boldface on a contrasting background. All plates shall be corrosion resistant.

3.5.2. Lubrication Plate. Each machine shall come with lubrication plates. All plates shall be securely attached to each machine at locations readily visible to an observer without the need for disassembly or movement of machine components. The plate shall contain the following information:

- Points of Lubrication Application
- Servicing Interval
- Type of Lubricant
- Viscosity
- Military or Federal Specification for Each Lubricant (If available)
- Size and Type of Each Lubricant Filter

3.5.3. Machine Nameplate. Each machine shall come with a machine nameplate. The nameplate shall be securely attached to each machine at locations readily visible to an observer without the need for disassembly or movement of machine components. The nameplate data shall meet the requirements of NFPA 79 and contain, at a minimum, the following information listed below. If the machine is a special model, the model designation shall include the model number of the basic standard machine and a suffix identified in the manufacturer's permanent records.

- Manufacturer’s Name
- Manufacturer’s Model Designation
- Manufacturer’s Serial Number
- Rated voltage, number of phases, and frequency
- Full-load current for each supply
- Ampere rating of the largest motor or load

- Short-circuit current rating of the industrial control panel
- Maximum ampere rating of the short-circuit and ground fault protective device, where provided.
- Electrical diagram number(s) or number of the index to the electrical drawings

3.5.4. Identification Marking of Military Property. In addition to the requirements of Paragraph 3.5.3, each machine shall come with an Item Unique Identification Marking (IUID) plate. The IUID plate shall marked in accordance with MIL-STD-130N and all applicable documents with Machine Readable Information (MRI), and item identification marking, and automatic data capture. The application of Human Readable Information (HRI) shall be used in combination with MRI and free text. At a minimum this tag shall contain the following information.

- Nomenclature
- Cage Code
- Manufacturer
- Model Number
- Serial Number
- Date of Manufacture
- Contract Number

3.5.5. Warranty Data Plate. At machine acceptance, Contractor shall securely attach a warranty data plate to the machine enclosure. In accordance with MIL-STD-130N, the data plate shall include the statement "WARRANTED ITEM" and the warranty expiration date.

3.6. **General Equipment Requirements**. Unless otherwise noted, the following requirements shall apply to all equipment components.

3.6.1. General Construction. All Equipment and sub-components shall be constructed of parts that are new, without defects, and free of repairs. The structure shall withstand all forces encountered during operation of the machine to its maximum rating and capacity without distortion.

3.6.2. Castings and Forgings. All castings and forgings shall be free of defects, scale, and mismatching. No processes such as welding, peening, plugging, filling with solder, or filling with paste shall be used for reclaiming any defective part.

3.6.3. Fastening Devices. All screws, pins, bolts, and other fasteners shall be installed to prevent unintentional loosening. Fastening devices subject to removal or adjustment shall not be permanently installed.

3.6.4. Threads. All threaded parts used on the machines and their related attachments and accessories shall conform to FED-STD-H28B and the applicable "Detailed Standard" section referenced therein.

3.6.5. Gears. All gears of axis drive trains shall conform to or exceed all provisions of ANSI/AGMA ISO 1328-1-B14 (PESO). All gears shall be of proper width and size to transmit full-rated torque and power throughout the speed ranges without failure for the expected service life of the machine. Gears in drive trains shall be hardened and ground steel.

3.6.6. Surfaces. All surfaces shall be clean and free of harmful or extraneous materials. All edges shall be either rounded or beveled unless sharpness is required to perform a necessary function. The condition and finish of all surfaces shall be in accordance with the manufacturer's commercial practice.

3.6.7. Welding, Brazing, or Soldering. Welding, brazing, or soldering shall be employed only where specified in the original design. None of these operations shall be employed as a repair measure for any defective part.

3.6.8. Painting. The machines shall be painted in accordance with the manufacturer's commercial practice. Paint shall not contain lead.

3.6.9. Workmanship. Workmanship of the machines shall meet all the requirements specified herein and shall be of a quality equal to that prevailing among manufacturers producing equipment of the type covered by this purchase description.

3.6.10. Bearing Information. The Contractor shall provide bearing manufacturer and part number for all bearings used in all rotating equipment supplied under this contract. The information shall be included on the sectional drawings for each bearing location. The Contractor shall provide the operating speed for constant speed units and the normal operating speed range for variable speed equipment.

3.6.11. Fans and Blowers. The Contractor shall provide the following information on fans and blowers supplied with the proposed equipment:

- Fan and blower type(s)
- Number of rotating fan blades/vanes
- Number of stationary fan blades/vanes
- Rotating speed(s)

3.6.12. Fan and Blower Access. The design of each machine shall ensure access to all fans and blowers for the purpose of performing maintenance without the need for significant disassembly of the machine.

3.6.13. Belts. The Contractor shall provide the following information for belt driven fans:

- Number of belts
- Belt length(s)
- Belt Part Number

- Diameter of the drive sheave at the drive pitch line
- Diameter of the driven sheave at the drive pitch line

3.7. **Machine Operating Controls.** All electrical, mechanical, hydraulic, and pneumatic operating controls shall be installed in a location convenient for their intended use.

3.7.1. Control Panel Display Language. All control panels shall display information in the English language.

3.8. **Hardware/Software Agreements.** The Contractor shall ensure all hardware/software agreements entered into for the fulfillment of these requirements are transferable to the Government.

3.8.1. Third Party Software License. The Contractor shall provide all necessary license(s) for third party applications needed to meet the requirements outline in this statement of work. The Contractor shall transfer ownership of all licenses to the Government for sustainment over the lifecycle of the system no later than the completion of (destination) acceptance inspection. All license(s) provided to Government:

- Shall be provided in a floating license server configuration.
- Shall not be subscription based.
- Shall not require a connection to the internet for its activation, use, or updating.

3.9. **Replacement Parts.** All parts subject to replacement shall be manufactured to definite dimensions and tolerances. Replacement parts shall be interchangeable without requiring modification. Replacement parts are those that are subject to wear or failure such as gears, bearings, shafts, feed screws, drive belts, pumps, and seals. Electrical replacement parts shall include, but not be limited to, motors, relays, fuses, switches, magnetics, pushbuttons, light bulbs, braking mechanisms, and solid-state devices. Tooling and accessories normally supplied as standard items shall also be considered replacement parts. All replacement parts shall have guaranteed availability for a minimum of ten years.

3.10. **Special Tooling and Equipment.** The Contractor shall provide the Government all special tooling and equipment required for proper operation of each machine listed in the award e.g., special tools needed for the regular maintenance. The Contractor shall provide the Government technical POC a list outlining all special tools and equipment required for each machine and piece equipment indicated in the award no later than fifteen (15) calendar days post award. The document shall be provided to the Government in an electronic searchable (.pdf) format.

3.11. **General Equipment Requirements.** Unless otherwise noted, the following requirements shall apply to all equipment and associated accessory components.

3.11.1. Electrical System. Each machine shall conform to NFPA 79. The existing source power available by the Government is 480 volt, 3-phase, 60 Hertz (Hz) for large equipment and 120v, 1-phace, 60 Hertz (Hz) for small equipment. Each machines' electrical system shall be tolerant of fluctuation of +/- 10 percent. The electrical system shall be complete including electrical

transformer(s) that may be required to modify the existing source voltage to the proper operating voltage of the equipment. A properly rated and fused single disconnect device shall be utilized on the machine with a means of locking the device in the off position only. Wiring inside electrical enclosures shall be individually labeled.

3.11.2. Solid-State Components. Electrical devices used to power electrical servo and spindle motors of control voltage delivered to solid-state electrical components shall be solid-state devices. Such devices shall handle the electrical load imposed by the operation of the machine to its maximum capability. The use of selenium in solid-state components shall be restricted to those devices that protect other solid-state components from voltage surge.

3.11.3. Facility Connections. Electrical connections made to the facility electrical system shall conform to NFPA 70.

3.11.4. Electrical Motors. Motors shall be rated for continuous duty. Alternating-current (AC) motors shall be designed to operate on 60-Hz and each motor enclosure shall meet the requirements for a drip-proof enclosure. All motors shall meet the requirements of NEMA MG-1. Each motor shall have an identification plate with the following information below. Motor horsepower shall be the manufacturer's standard or standard optional horsepower as indicated on the manufacturer's design and construction drawing(s).

- Manufacturer
- Model Number
- Voltage
- Amperage
- Horsepower
- Phase
- Frequency
- Frame Number

3.11.5. Lubrication. Each Machine shall come equipped with a system that provides lubrication (oil, grease, coolant, etc.) for all moving parts in accordance with manufacturer requirements. Recirculating lubrication systems shall include a filter that is cleanable or replaceable. All oil holes, grease fittings, and filler caps shall be easily accessible.

3.11.6. Initial Lubrication Fill. The Contractor shall be responsible for the initial filling of all lubricants and grease required to operate a machine or piece of equipment.

3.11.7. Analog Hour Meter. The Contractor shall provision each machine with a non-resettable type, digital or analog hour meter to display accumulated operating time of the system. The hour meter(s) shall be mounted on the main electrical panel and be visible from the outside. The hour meter(s) shall be sealed to prevent the entrance of dust, moisture, and capable of withstanding shock/vibration generated by the machine. The hour meter(s) shall have a range of 0 to 99,999.9 hours in increments of one (1) tenth of one (1) hour.

3.12. **Network Communication and Sensing.**

3.12.1. Machine Sensing Requirements. In addition to standard OEM sensor configuration, the Contractor shall ensure each machine includes sufficient hardware, software, and software license(s) to meet sensing and reporting requirements list elsewhere in this Statement of Work. Sensor, sensor component, and sensor data output shall be integrated into the machine main control system(s) for distribution to external networks using methods described below.

3.12.2. Machine Generated Sensor Data. The Contractor or authorized sub-contractor shall coordinate Government access rights to obtain OEM non-proprietary machine and equipment sensor information for external collection, analysis, and display purposes.

3.12.2.1. *Government Data Rights.* The Government shall retain unlimited rights to use, disclose, reproduce, prepare derivative information, distribute, or permit others to distribute, and display raw or conditioned data obtained using methods listed in Section 3.12.

3.12.3. Network Communication Protocol. Impact EvoCSII shall come licensed enabled and able to communicate using industry standard protocols including, at a minimum, OPC-UA to external networks. Each machine or equipment controller shall come equipped with a minimum of one dedicated RJ45 ethernet port configured for connection of the controller to a Government owned network. The dedicated ethernet port shall be located on the main control cabinet in such a manner that does not require disassembly of the equipment to gain access. The use of a NEMA 6 rated cable gland on the control cabinet for CAT6 network cable passthrough is permissible.

3.12.3.1. *OPC-UA Server Activation*. Each machine shall come provisioned with a licensed enabled OPC UA server. The OPC-UA server software shall be the latest version available at the time of machine delivery at destination.

3.12.3.2. *OPC-UA Firewall Configuration.* The Contractor shall be responsible for configuring each machine firewall to permit two-way OPC-UA server communication to/from the Government industrial network. As a deliverable, the Contractor shall provide a written, detailed instruction describing the stepwise process for configuring each machines firewall to allow OPC-UA communication across the Government network no later than fifteen (15) calendar days prior completion of (Destination) acceptance inspection. The instruction shall be provided in an electronic searchable (.pdf) format. The turning off or complete disabling of a machine's firewall shall not be the configuration method permitting OPC-UA communication with the Government network.

3.12.3.3. *OPC-UA Data Tags.* The Contractor or designated sub-contractor shall provide a one thousand (1000) OPC-UA data tag allocation for each machine listed in the award. The Contractor shall retain OEM services for the configuring of each machine's OPC-UA server with the relevant information needed to support collection of both the OEM's standard sensor data and additional sensor data requested by the Government as outlined in Appendix K or described elsewhere in this Statement of Work. As a deliverable, the Contractor shall provide to the Government technical POC, a written document in a Microsoft Excel (.xlsx) digital format

detailing the following OPC-UA information for each data tag no later than thirty (30) calendar days prior to machine delivery.

- Tag Name (signal common name)
- Tag expanded description, purpose, or function (read/write)
- Tag data type e.g., Integer, float, boolean, string, etc.
- Full data tag path
- Example of data tag value e.g., temperature sensor reads in Celsius
- Tag dependencies such as derived values based on other data tag measurements

3.12.4. Digital Hour Meter Information. EvoCSII shall come provisioned to collect, display, and report cumulative operational "run-time" data via digital output. Hour meter data shall be made available as an output for data collection purposes IAW Paragraph 3.12.3. Operational run-time use data shall include at a minimum, the machine's operating, working, and CNC spindle runtime hours as defined by the following:

- Operating hours: Time the control voltage is applied to the system and the system is not in emergency stop.
- Working hours: Time the EvoCSII is executing a spray recipe, including any warm up and cool down time.

3.12.5. External Network LAN Connection. The Contractor shall provide the Government external network connection requirements for all items listed in the award NLT thirty (30) calendar days post award. The Contractor shall annotate on installation drawings, the physical location of all external network connection point(s). The Government will provide the Contractor an active Local Area Network (LAN) physical connection from the Government local industrial network switch to within 10 feet of the location(s) indicated on the installation drawing.

3.12.6. Network IP Address Schema. Internet Protocol (IP) addresses for Operation Technology/Information Technology (OT/IT) devices outward facing network communication shall conform to local Government network policies and schemas. The Government will be responsible for providing the Contractor appropriate IP address and configuration information at (Destination) acceptance inspection.

3.12.7. OT/IT Device Configuration. The Contractor shall be responsible configuring all machine OT/IT devices e.g., machine controls, with the necessary hardware, software, and software adaptations that enable machine/equipment communication with the Government industrial network using the IP address and configuration provided in 3.12.6.

3.13. **Network Security Requirements.**

3.13.1. Universal Serial Bus (USB) Communications. All internal and external USB communications shall be clearly documented and described within the contractor provided technical data. All external USB ports that are accessible to the operator shall be configured to

use administrative access controls and capable of being physically disconnected or rendered inoperable by non-permanent means. The Contractor shall provide, as an appendix to the technical data, detailed easy-to-read instructions for disabling USB ports.

3.13.2. Windows Operating System. All controllers, controller sub-components, and 3rd party hardware applications that use a Windows based Operating Systems (OS) shall be Windows 11.

3.13.3. Role-Based Permission Hierarchy. All controllers and Human Machine Interface (HMI) shall come configured for use with user account privileges. User accounts shall be configured to perform role-based functions as defined by the following hierarchy: Operator, Maintenance, Engineering, System Administrator, and OEM. Operator, maintenance, and engineering functions shall be able to be performed in their entirety without the use of Windows administrative or Linux root privileges.

3.13.4. Software Patches. All machines and peripheral equipment shall come with the latest OEM software version and patches installed at the time of final acceptance.

3.13.5. Software Patch Management. As a deliverable, the Contractor shall provide an offline patch management and update process for the machine type that includes easy to read written instructions that clearly define the step-by-step processes detailing installation and verification of controller patch updates no later than fifteen (15) calendar days prior completion of (Destination) acceptance inspection. At a minimum, the instructions shall cover the base Operating System (OS) and principal machine functional software that is installed on the machine. The scope of the instructions shall include software installed on third party add-on hardware applications listed elsewhere in this requirement. The patch management instruction document shall be provided to the Government in an electronic searchable (pdf) format.

3.13.6. Security Vulnerabilities. Upon completion of destination acceptance, The Contractor shall ensure each machine complies with all published Security Advisories relating to the remediation of known security vulnerabilities associated with the installed control system(s), sub-system(s), and software. Workarounds and mitigation procedures shall not be the primary means of vulnerability remediation. As a deliverable, the Contractor shall provide a written document for each machine/piece of equipment certifying compliance with this paragraph. The document shall be provided on company letterhead and include, at a minimum, the machine Make, Model, Serial Number, and a summary of all relevant Security Advisories listed in descending order based on the original advisory publication date. The document shall be provided to the Government in a electronic searchable (pdf) format no later than fifteen (15) calendar days prior completion of (Destination) acceptance inspection. Each advisory entry shall include, at a minimum, the advisory ID, document title, current version number, and a brief description of actions taken to remediate the vulnerability.

3.13.7. IT/OT System Accreditation. The Contractor shall assist Government system administrators obtaining machine/equipment accreditation by providing documentation and artifacts as defined by DOD Instruction 8510.01, Risk Management Framework (RMF) Program. The Contractor shall support Government request for artifact information and documentation e.g., installed hardware/software list, controller specifications, external connection types in use, known security vulnerabilities, etc., that are required to assess the security impact of new

machine(s) and equipment installation and their subsequent addition to existing Authority To Operate (ATO).

3.13.8. Bluetooth®. The use of Bluetooth® technology on equipment or subcomponents of that equipment is prohibited.

3.13.9. Wi-Fi Device Use Declaration. Use of Wi-Fi or similar wireless technology on any piece of equipment, sub-components of that equipment, or attached device(s) must be FIPS 140-3, or most recent edition, compliant. Wireless connection shall require certificate authentication on the most recent 802.11 standard. No later than fifteen (15) calendar days post award, the Contractor shall provide a written document to the Government POC declaring the use of all wireless technology in the build of the provided equipment, sub-components, or attached devices. The contractor is responsible for providing the Government the necessary documentation to demonstrate the provided wireless device meets the afore-mentioned compliance. The use of wireless technology shall not be the method of machine connection to the Government's industrial network.

3.13.10. Uninterruptible Power Supply (UPS). All machines or integrated equipment shall come equipped with an uninterruptible power supply to safeguard installed industrial computer system(s) from damage in the event of main power interruptions. The alternative power supply shall come provisioned to automatically sense partial or total loss of main power and initiate a complete systematic shutdown of the industrial computer(s).

4. BOOTH REQUIREMENTS

4.1. **Existing Booth.** The soundproof booth and dust collector already exist and only require the new equipment installed into them or modifications made as applicable.

5. EvoCSII MODEL REQUIREMENTS

5.1. **Machine Configuration.** In addition to the requirements detailed in Section 3, EvoCSII model machine shall at a minimum meet the requirements detailed in this section

5.2. **Carrier Gas**. The system shall be configured to use both Helium and Nitrogen carrier gas.

5.2.1. **Multi-Gas Spray.** The system shall be configured to utilize Nitrogen as warm-up and cooldown gas for sprays that use Helium as primary carrier gas.

5.3. **Nozzle Cooling.** The system shall be configured for water cooling.

5.4. **Powder Handling**.

5.4.1. **Powder Feeder Quantity.** The system shall be configured with two powder feeders.

5.4.2. **Powder Feeder Selection.** The system shall be capable of swapping between powder feeders within a single recipe without the need to stop the system or enter the spray area. The system shall be capable of utilizing both feeders simultaneously.

5.4.3. **Powder Feed Station.** The system shall be delivered with an Impact Powder Feeder Station EvoCSII configured for two powder feeders.

6. FANUC M710iC/50 MODEL REQUIREMENTS

6.1. **Machine Configuration.** In addition to the requirements detailed in Section 3, M710iC/50 model machine shall at a minimum meet the requirements detailed in this section.

6.2. **Packages.** The system shall be delivered with the following options

6.2.1. ASCII Program Loader

6.2.2. Expanded Registers

6.2.3. Menu Utility

6.2.4. iPendant

6.2.5. Multi Group Motion

6.2.6. SNTP

6.2.7. Motion Package

6.2.8. Learning Path Control

7. TURN-TABLE REQUIREMENTS

7.1. **Drive Configuration.** Turntable shall come configured with FANUC drive.

7.2. **Rotation Requirements.** Turntable shall be capable of 400RPM continuous rotation

7.3. **Indexing Requirements.** Turntable shall be capable of indexing to specific location via robot programming instructions

7.4. **Tilt Requirements.** Turntable shall be tiltable at minimum to 30, 45, 60 and 90 degrees.

8. RELIACOAT ICP-8 MODEL REQUIREMENTS

8.1. **Machine Configuration.** In addition to the requirements detailed in Section 3. ReliaCoat ICP-8 sensor what at minimum meet the requirements detailed in this section.

8.2. **Software.** System shall be delivered with installation media and instructions for all software required to operate the equipment.

8.2.1. **Delivery Method.** System software can be delivered via CD, email, or DoD SAFE.

8.3. **Test Bars.** System shall be delivered with (12) Aluminum 6061 test beams.

9. NITROGEN SUPPLY SYSTEM REQUIREMENTS

9.1. **Machine Configuration.** In addition to the requirements detailed in Section 3, Nitrogen supply system shall at a minimum meet the requirements detailed in this section

9.2. **Gas Purity.** The system shall provide gas at minimum purity of 99.999%(10ppm)

9.3. **Production Capacity.** The system shall produce at a minimum of 105 scfm of gas.

9.4. **Outlet Pressure.** The system shall provide gas at sufficient pressure to deliver 1500psig at the cold spray system inlet.

9.5. **Gas Regulators.** High flow regulators shall be installed at minimum at the gas storage tank exit and just before entry into cold spray system.

9.6. **Operating Environment.** The system shall be rated for outdoor service.

9.7. **Remote HMI.** If the system includes an HMI it shall be configured with the HMI at the operator booth.

9.8. **Supply Telemetry.** The system shall be equipped with a telemetry system to ensure nitrogen is refilled automatically upon reaching a configurable setpoint.

9.9. **Gas Storage.** The System shall be designed to utilize existing storage tanks provided by 76 PMXG.

9.10. **Foundation.** Contractor shall provide analysis of existing foundation to ensure it is sufficient to support liquid tank and evaporator.

9.10.1. **Foundation Installation.** Contractor shall install new foundation if required.

10. HIWATCH HR2 REQUIREMENTS

10.1. **Machine Configuration.** In addition to the requirements detailed in Section 3, the HiWatch HR2 shall at a minimum meet the requirements detailed in this section.

10.2. **Particle Temperature.** The system shall be capable of detecting cold particles.

10.3. **Particle Density.** The system shall be capable of measuring particle density.

10.4. **Particle Speed.** The system shall be capable of measuring particle speed.

10.5. **Data Connection.** The System shall be delivered with an active USB 3.0 cable. The cable shall be 20 ft. long at minimum.

11. ARGON FIRE SUPPRESSION SYSTEM REQUIREMENTS

11.1. **Equipment Configuration.** In addition to the requirements detailed in Section 3, the Argon Fire Suppression system shall at a minimum meet the requirements detailed in this

section.

11.1.1. *Fire Suppression System Design.* Fire protection system designs shall be accomplished by a Qualified Fire Protection Engineer (QFPE). The system shall meet the requirements of UFC 3-600-01, UFC 3-601-02, NFPA 2001, and local fire protection standard associated with the delivery destination.

11.1.2. *Fire Suppression Design Report.* The Contractor shall develop a comprehensive fire protection engineering report that demonstrates compliance with NFPA 13 and applicable DOD/UFC/local fire protection requirements. The report shall be endorsed by a licensed fire protection PE, licensed in the state of destination delivery, the Government for review no later than 130 calendar days post award.

11.1.3. *Fire Suppression Design Report.* The Contractor shall develop a comprehensive fire protection engineering report that demonstrates compliance with NFPA 13 and applicable DOD/UFC/local fire protection requirements. The report shall be endorsed by a licensed fire protection PE, licensed in the state of destination delivery, the Government for review no later than 130 calendar days post award.

11.1.4. *Fire Suppression Design Report (final).* The Contractor shall provide the Government the final fire suppression design no later than 165 calendar days post award.

12. **DUST HANDLER MODIFICATION REQUIREMENTS**

12.1. **Equipment Requirements**

12.1.1. **Existing Dust Collector.** The boot already has an existing dust collection system. The following requirements shall be modifications to the existing system.

12.1.2. **Inlet Isolation Valve.** Contractor shall install and inlet isolation valve that will shut down the cold spray process when triggered per NFPA 69

12.1.3. **Spark Arrestor.** Contractor shall install an in-line spark arrestor.

12.1.4. **Warning Sign.** Contractor shall install a sign that reads “CAUTION This collector can contain explosible dust. Keep outside the marked area while equipment is operating.

13. **HIGH-PRESSURE GAS PLUMBING REQUIREMENTS**

13.1. **Equipment Requirements.**

13.1.1. **Working Pressure.** Gas tubing shall be rated for a working pressure of 3600psig or greater.

13.1.2. **Gauges.** Gauges shall be sized for a 5000psig maximum pressure.

14. **SYSTEM INTEGRATION REQUIREMENTS**

14.1. **Impact Cold Spray System**

14.1.1. Spray programs shall be callable from robot programs

14.1.2. Start, Stop, and switching between powder feeders shall be callable from robot programs

14.1.3. Gas selection shall be callable from robot program

14.1.4. Shut down shall be callable from robot programs

14.1.5. Cooling shall be callable from robot programs

14.1.6. System shall be integrated with safety interlocks to enter e-stop condition if booth door is opened

14.1.7. System shall be integrated with safety interlocks to require dust collector operational before system will start

14.1.8. System shall be integrated with safety interlocks such that any e-stop condition triggered by other equipment also triggers e-stop for cold spray system.

14.1.9. HiWatch HR2 shall be directly integrated into the EvoCSII system. This is a COTS capability offered by Osier and Impact.

14.2. **FANUC Robot**

14.2.1. Robot shall be integrated with safety interlocks to trigger e-stop when any other system e-stop is triggered

14.3. Turntable

14.3.1. Turntable shall be integrated as a Group 2 axis with the robot.

14.4. **ReliaCoat ICP-8**

14.4.1. System data collection start/stop shall be activated via robot programs

14.4.2. System cooling air shall be activated via robot programs

14.5. **Safety Interlocks**

14.5.1. At a minimum the system shall have the following safety interlocks

14.5.1.1. Dust Handler – Robot and EvoCSII shall be configured to consider the dust handler in the OFF position as an E-stop condition

14.5.1.2. Manual E-stops shall at minimum be in the following locations

14.5.1.2.1. EvoCSII operator panel

14.5.1.2.2. FANUC robot controller cabinet

14.5.1.2.3. FANUC teach pendant

14.5.1.2.4. On the wall inside the spray booth

14.5.1.3. Gate – Door to the spray area shall be configured IAW robot safety standards. Door must be closed for robot to operate in automatic mode. Door shall remain open when operator is controlling robot via teach pendant.

15. **ADDITIONAL EQUIPMENT REQUIREMENTS**

15.1. **Vacuum Cleaner.** Contractor shall provide a sparkless ignition proof vacuum cleaner.

15.2. **Intake Monitor.** Contractor shall install a monitor into the booth air intake. Monitor shall be integrated into the E-Stop system to prevent equipment operation if sufficient air flow is not present.

15.3. **Booth Oxygen Monitor.** Contractor shall install an oxygen monitor into the spray booth. Monitor shall be installed such that operator can see it prior to entering booth area. Monitor shall be equipped with audible and visual alarm if oxygen levels are below safe levels.

16. **TRANSPORTATION, RIGGING, FOUNDATIONS, AND INSTALLATION.**

16.1. **Transportation.** The Contractor shall be responsible for providing crating, preservation, transportation, and delivery of all machines, equipment, and accessories listed in the award from the manufacturer's facility to the final destination location.

16.2. **Rigging.** The Contractor shall furnish all labor, tools, materials, and material handling equipment required for the off-loading of crates and equipment at the destination site. The Contractor shall be responsible for the unpacking and disposal of all crating, skids, and packing materials.

16.3. **Installation.** The Contractor shall provide all labor, equipment, tools, and materials necessary to clean, assemble, and set on-site machine components and associated sub-assemblies of said components with the supervision of factory representatives. The Government will prove a basic drawing of the facility illustrating the intended machine/equipment installation location as well as transport path options with clearance dimension no later than fifteen (15) calendar days post award. The Contractor shall provide the Government, both Preliminary and Final Installation/Foundation drawings IAW Section 9.7. The Government reserves the right to observe all installation activities.

16.4. **Utility Hook-Up.** The Contractor shall furnish all personnel, equipment, and materials necessary to connect the equipment to Tinker AFB provided "rough-in" 480V electrical and compressed air services that are available within thirty-five (35) feet of final connection points. Contractor shall be responsible for providing necessary transformers and for compatibility to

facility power supply.

16.5. **System Charging.** The Contractor shall provide all fluids including but not specifically limited to lube oils IAW manufacturer's instruction. The Contractor shall be responsible for meeting the requirements of Paragraph 13.4 regarding hazardous chemical/material Safety Data Sheet(s) (SDSs) and marking of containers.

16.6. **Installation and Foundation Drawings.**

16.6.1. Installation Drawings. In addition to foundation specific drawings listed below, the contractor shall provide to the Government technical POC, engineering installation drawings (hard copy) and a digital (dxf) format illustrating the location of compressed air, electrical, water, or other utilities applicable to the equipment listed in the award. The Contractor shall provide approved, final installation drawings no later than one hundred sixty-five (165) calendar days post award.

16.6.2. Foundation Construction Drawings. The Contractor shall provide approved, final foundation drawings for the machine(s) NLT one hundred sixty-five (165) calendar days post award. The foundation drawings for the machine shall indicate the elevations.

16.6.3. Installation/Foundation Drawing Details. Installation drawing shall contain, at a minimum, the following information:

- Overall and principal dimensions in sufficient detail to establish limits of space in all directions required for installation, operation, and servicing.
- Amount of clearance required to permit opening of doors and removal of plug-in units.
- Clearance for travel or rotation of any moving parts.
- Interface mounting and mating information, such as dimensions of location for attaching hardware, and meet the manufacturer vibration design requirement.
- Interface pipe and cable attachments required for installation and co-functioning of the item to be installed with related items.
- Size and location of duct.
- Weight of each component and total unit.
- Location, type and dimension of cable entrances, terminal boards, and electrical connectors.
- Interconnecting and cable detail.
- Peak electrical load (AMPS) required to support all proposed equipment in its fully configured and operational state, including all accessories.
- Location of all machine and equipment external network connection points.
- Foundation preparation plans; including mounting place details, hardware requirement, accessory trenches, drilling plans, shock mounting buffers and utility connection points.

- Description of the excavation containment plan.
- As applicable, the location of sump pump including pump discharge connection, discharge flow rate (gpm), and utility service requirements.

16.6.4. Preliminary Installation/Foundation Drawing. As a deliverable, the Contractor shall submit to the GPOC preliminary installation design drawings with soft measurements using the manufacturer's standard format NLT thirty (30) calendar days post award. The Contractor shall supply a digital copy of the preliminary drawings in both (.pdf) and AutoCAD 2024 (.dxf) viewable format. The Government will notify the contractor, in writing, NLT fourteen (14) calendars days upon receipt of the drawings if they comply.

16.6.4.1. *Preliminary Submission Revisions.* If required, the contractor has seven (7) calendars days upon notification of non-compliance to make revisions and resubmit to the Government POC for a new review or approval. Rejection of drawings shall not relieve the Contractor from final delivery date of contract performance period.

16.6.5. Final Installation/Foundation Drawing. As a deliverable, the Contractor shall submit final installation design drawings to the Government POC NLT one hundred twenty-five (125) calendar days post award. The final drawings shall bear a complete title block with a permanent drawing number, signature, date, and an original stamp or seal of a Professional Engineer (PE) licensed in the state of the receiving activity where the equipment will be installed. The final drawing submission shall be provided in digital (.pdf) format and include an engineering report with structural calculations used in the design. A PE shall stamp the engineering report. The Contractor shall provide the Government POC an updated copy of as-built drawings in AutoCAD 2024 digital (.dxf) format. The Government will notify the contractor, in writing, no later than fourteen (14) calendar days after receipt of the drawing and report if they comply.

16.6.5.1. *Final Submission Revisions.* If required, the contractor has fourteen (14) calendars days upon notification of non-compliance to make revisions and resubmit for a new review or approval. Rejection of drawings/report shall not relieve the contractor from final delivery date of contract performance period.

16.7. **Foundations.** The Contractor shall construct a manufacturer's recommended foundation for each machine/piece of equipment listed in the award. The contractor shall be responsible for suppling all qualified personnel, machinery, and materials for the demolition, excavation, removal, and disposal of demolished and excavated material and installation of the new foundation.

16.7.1. Guarding of Floor Openings. The Contractor shall provide guarding for foundation floor openings that meet the requirements of OSHA 29 CFR 1910. Floor openings shall be defined as a void in the floor, resulting in a change in elevation, into which persons may trip or fall.

16.7.1.1. *Walk-on Type Guarding.* Walk-on type guarding provided for the protection of floor openings shall be of sufficient load bearing capacity to support two times the intended load or a minimum of 250 pounds concentrated load without excessive deflection. Excessive deflection shall be defined as not to exceed 1/180th of the span length unless otherwise approved by the

Government. Walk-on grates and covers shall be fastened securely to the floor in a manner that facilitates easy removal with the use of simple tools.

16.7.2. Foundation Pits. Equipment and equipment accessories that require the construction of a foundation where all or portions of the associated equipment not rated for wet conditions rest below the grade of the surrounding floor surface shall be protected against the accumulation of liquids via a U.S. commercially available submersible sump pump system.

16.7.3. Foundation Pit Contamination Prevention. Foundation pits shall be protected against seepage of contaminates into the concrete by method of coating or other means as required by local, state, or federal requirements.

16.7.3.1. *Foundation Pit Sumps*. The Contractor shall be responsible for design, construction, and provisioning of a sump pump system for foundation pits that meet the requirements outlined in paragraph 10.8.2. The Contractor shall provide a U.S. commercially available industrial grade sump pump designed for continuous use in a submersible liquid environment. The pump shall be sized to support a minimum of 80gpm with a vertical lift of 30 feet and a horizontal distance of 250 feet. The pump shall come configured with an adjustable liquid level detection mechanisms designed to automatically energize and deenergize the pump when user established threshold levels are reached. The sump system shall be configured with a resettable audible alarm system that activates when detected liquid levels exceeded user set threshold limits.

16.7.3.2. *Sump Pump Power Source*. Sump pumps shall be powered via an independent electrical circuit.

16.7.3.3. *Sump Pump Pit Guarding*. The Contractor shall provide walk-on type guarding over a sump pump pit opening. Pit guarding shall meet the requirements of paragraph 10.8.1.1. Pit guarding shall be designed to protect against intrusion of foreign debris into the pit that is greater than 1 square inch while maximizing the inflow of liquid into the pit. Sump pump inlets shall be protected from the ingestion of foreign debris by means of a strainer.

16.7.4. *Sump Pump Design Drawing.* The contractor shall provide the government TPOC the selected sump pump Make, Model, calculated discharge criteria, and pipe size for Government review no later than 65 calendar days post award. The Contractor shall indicate the location of the sump on foundation drawings. Foundation drawings shall include at a minimum, the following information: illustrated cross-section of sump system, sump pit dimensions, pump type, pump capacity and rated horsepower, pump voltage, pump discharge details, and sump system utility requirements. The location of the sump shall be subject to the review and approval of the Government.

16.7.5. Underground Utilities. Information e.g., floor plan layouts, dimensions, structural, mechanical and electrical data, and location of underground utilities provided by the Government for existing construction are based on available as-built documentation and observations. This information is to be considered approximate and shall be verified by the Contractor.

16.7.6. Storage of Equipment. The Contractor shall limit the storage of materials, equipment, and

incidentals to the immediate construction site. If the Contractor requires additional storage area(s) other than the project site, a request shall be submitted, in writing, to the Contracting Officer for approval.

16.7.7. Delivery Notification. The Contractor shall provide the Government POC seven (7) calendar days in advance notice of all scheduled major deliveries and concrete pours. Deliveries must be received prior to 12:00pm local time. The Contractor is responsible for coordinating arrival of the delivery vehicles with the Government POC. The Government POC will assist with obtaining vehicle access to the installation.

16.7.8. Excavation Site Survey. Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The Contractor shall take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Government. Any damaged items shall be repaired or replaced as approved by the Contracting Officer at the Contractor's Expense.

16.7.9. Foundation Excavation. The Contractor shall be responsible for all foundation demolition, excavation, removal, and disposal demolished and excavated material, and foundation fill. The contractor is responsible for the foundation excavation area marking and utility locations. The contractor shall saw cut the existing concrete according to the foundation outline. The Contractor shall implement a containment method during the cutting and demolition of concrete e.g., erection of temporary wall with attachment of flame-retardant sheeting and curtains for all sides, top and access points, to prevent dust and dirt contamination in the adjacent production areas. The Contractor shall reference the respective Rough Machine Layout for the locations of existing foundation(s) within the excavation area. The Contractor shall be responsible for general work area housekeeping IAW Section 14.3.

16.7.10. Excavation Shoring Requirements. The contractor shall provide shoring to the excavated area to prevent undermining of remaining concrete slabs and column footers during the excavation process.

16.7.11. Demolition and Installation Hours. The contractor shall perform demolition, removal and foundation installation activities IAW the contractor's approved work plan schedule during the hours (6:00a.m. to 4:45p.m. hours), excluding U.S. federal holidays and weekends, Paragraph 14.4.6.

16.7.12. Contaminated Soil (Tinker AFB). The Contractor shall be responsible for obtaining and testing of soil samples representative of the foundation area. Upon receiving test results indicating the presence of soil contamination, the Contractor shall halt immediately foundation work and provide the results to the GPOC. The GPOC will coordinate excavation and disposal of the contaminated soil. Upon completion of the contaminated soil removal, the contractor shall be responsible for the backfill the excavated area using clean washed sand and soil meeting the necessary compaction for foundation support. Upon completion of the foundation installation, the Contractor shall remove temporary construction barriers and replaced with yellow barrier tape or barricades along the circumference of the designated workspace.

16.7.13. Foundation Construction. Contractors and sub-contractors performing work within the

excavated area shall meet requirements for training specified in 29 CFR 1910. Foundation construction shall be performed during the hours indicated in Paragraph 14.4.6.

16.7.14. Foundation Geotechnical Survey. The Contractor shall be responsible for coordinating all surveys necessary to determine adequate soil bearing conditions relevant to the foundation design. The Contractor shall provide to the Government technical POC results of all surveys conducted in an electronic (.pdf) format no later than one hundred sixty-five (165) calendar days post award.

16.7.15. Foundation Concrete Structural Testing. The Contractor shall coordinate concrete structural test to ensure the new foundation conforms to the designed structural strength as indicated in the final foundation drawings/report. The contractor shall provide a copy of the final testing report to the Government technical POC. The Contractor shall provide to the Government technical POC a digital copy of the final test results in (.pdf) format, no later than thirty (30) calendar days prior to machine delivery.

17. **TRAINING REQUIREMENTS**

17.1. **Training Overview.** Upon satisfactory completion of acceptance testing of the machines, the services of qualified representative(s), proficient in the English language, shall be provided for specialized training to familiarize Government designated personnel with equipment and processes in such a manner that helps ensure reliable performance and maximum service life. Representative provided shall be considered experts in the subject area being taught.

17.1.1. Training Times and Notification. The Government shall be responsible for providing the Contractor formal written request for training. Unless otherwise agreed upon by the Government training shall be conducted on-site at the Government facility. Training shall not be less than eight (8) hour workdays, between 5:30 am and 3:30 pm excluding weekends and U.S. federal holidays. Contractor shall notify the Government a minimum of thirty (30) working days prior to the beginning of any training period.

17.1.2. Training Travel and Travel Expenses. The Contractor shall be responsible for all travel and travel related cost associated with the execution of training events.

17.1.3. Training Materials and Documents. The Contractor shall be responsible for providing all training materials including permits, licenses, insurance, shipping, handling, storage, and tooling necessary to complete the subject course of instruction. Training provided shall consist of both topic specific, structured formal classroom and hands-on instruction. Where applicable, a course of instruction shall maximize use of as-built drawings, technical data/manuals, and materials derived as a result of this Statement of Work. All training materials shall become property of the U.S. Government upon completion of the course.

17.1.3.1. *Written training materials.* Written training materials provided by the contractor shall be in the English language.

17.1.4. Training Duration. The Contractor shall provide the quantity of training specified at the

time of award. The Government reserves the right to tailor both training session duration and topic to fit the experience level of their personnel. The Government will notify the Contractor of any changes to training requirements no later than thirty (30) calendar days prior to the start of any scheduled training event. Changes to training session duration shall not exceed the total allocation of time indicated in the award.

17.2. **Training.** The Contractor shall provide an aggregate total of three hundred sixty (360) hours of combined initial and follow-on training. Unless specified otherwise, initial training shall begin no later than one (1) calendar month following (Destination) acceptance inspection.

17.2.1. Initial Cold Spray Operator Training. The Contractor shall provide a minimum of 160 combined hours of operator training and support. The initial operator training shall accommodate up to 4 Government designated personnel. Training shall be conducted over 10 consecutive working days, 2 personnel training in the first 5 days and 2 different personnel training in the remaining 5 days, following machine acceptance. Time and occurrence of the remaining initial operator training shall be at the discretion of the Government.

17.2.2. Follow-On Cold Spray Operator Training. The Contractor shall provide a minimum of 160 combined hours of operator training and support. The follow-on operator training shall accommodate up to 4 Government-designated personnel. Training shall be conducted over 10 consecutive working days, 2 personnel training in the first 5 days and 2 different personnel training in the remaining 5 days. Time and occurrence of the remaining initial operator training shall be at the discretion of the Government.

17.2.2.1. *Operator Training Topics*. At a minimum, training shall cover the basic information, operating procedures, and safety related procedures for the machine/equipment. The topics for initial operator training shall include, but is not limited to, the following:

- Machine/controller functions
- Integration of machine into shop flow
- Use and demonstration of recipe generation
- Use and demonstration of equipment assembly/disassembly
- Operator preventative maintenance requirements
- Use of powder canisters
- Common alarm codes and corrective actions

17.2.3. Initial Maintenance Training. The Contractor shall provide a minimum of forty (40) hours of maintenance training to be conducted over five (5) consecutive working days accommodating up to four (4) Government designated maintenance personnel. Two and a half (2.5) days shall focus on mechanical maintenance and two and a half (2.5) days shall focus on the electrical maintenance of the machine. The Contractor provided instructor shall be qualified and considered an expert in the maintenance practices of the relevant machine Make and Model.

17.2.3.1. *Initial Maintenance Training Topics.* Training shall cover the basic information,

operating procedures, and safety related procedures for the machine/equipment as well as machine specific background information, and additional topics as follows:

- Machine preventative maintenance routines and procedures
- Common and uncommon maintenance issues and corrective actions
- Error modes and corrective action
- Contact information for future troubleshooting or maintenance issues

18. **TOOLING, ACCESSORIES, & TECHNICAL DATA.**

18.1. **Tooling.** The Contractor shall provide required tooling per the appropriate appendix for the machine procured. The appropriate appendix for the machine model is as follows:

- Appendix A – EvoCSII Tool List

18.2. **Machine and Equipment Technical Data.** As a deliverable, the Contractor shall supply One (1) hard copy (paper) and one (1) electronic copy in searchable (.pdf) format of the technical data for each piece of equipment specified in this SoW. Technical data shall contain, at a minimum, technical information, specifications, instructions for the operation, lubrication data, maintenance of the machine, recommended spare parts list, and other information to meet Government requirements. All copies of technical data shall be legible and written in the English language. The Contractor shall provide an electronic copy of the technical data in searchable (.pdf) format on a DVD no later than thirty (30) calendar days prior to machine delivery.

19. **QUALITY ASSURANCE.**

19.1. **Responsibility for Inspection.** The Contractor shall be responsible for the performance of all inspection requirements specified herein. The Government reserves the right to witness any inspections set forth in the purchase description where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

19.2. **Responsibility for Compliance.** The Contractor shall be responsible for meeting all requirements indicated within this SOW.

19.3. **Classification of Inspections.** The inspection requirements specified herein are classified as follows:

19.3.1. Origin Inspection (Paragraph 12.5).

19.3.2. Destination Final Inspection/Acceptance Test (Paragraph 12.6).

19.4. **Inspection Conditions.** All inspections, tests, and examinations shall be performed in an indoor facility with ambient temperature conditions in the range of 55 ºF to 100 ºF and 10% to 95% relative humidity.

19.5. **(Origin) Inspection/Acceptance Test.** Each machine shall be inspected and tested at the

OEM's build location (origin) IAW the OEM's model specific geometric acceptance protocol. Acceptance of origin inspection results shall be obtained from the Government POC prior to the machine being shipped to destination. Items identified during testing as unacceptable shall be made acceptable by the Contractor prior to shipping unless a corrective action plan is approved by the Government POC. All corrective actions identified during Origin Inspection shall be completed prior to beginning (Destination) Acceptance Test.

19.6. **(Destination) Inspection/Acceptance Test.** Final Inspection and acceptance test shall be performed on the machine to ensure conformance with this purchase description. The acceptance test shall be performed only after the machine is installed at its final location.

19.7. **Machine/Equipment Examination.** The Government reserves the right to examine each machine/piece of equipment for design, dimensions, construction, materials, components, electrical equipment, and workmanship to determine compliance with the requirements of this specification.

19.8. **Acceptance Tests.** Unless otherwise specified within this document, all programs, instruments, materials, material handling equipment, qualified personnel, and tools required to perform and evaluate the tests shall be furnished by the Contractor. All measurement tools and indicating devices shall be calibrated and traceable to NIST or equivalent controlling standardizing facilities.

19.8.1. OPC-UA Server Testing. The Contractor shall demonstrate to the Government the ability to browse OPC-UA tag data via connection to the Government's industrial network RJ45 ethernet interface port.

19.8.2. Software Vulnerability Update Functional Test. The Contractor shall install, update, test, and validate software security patches prior to the start of (Destination) acceptance tests. As a deliverable, the Contractor shall provide a written report confirming all updates have been installed and tested IAW Paragraph 3.13.7.

19.8.3. Audible Noise Level Test. The equipment shall be tested for compliance with paragraph 3.3.6 "Audible Noise Level."

19.8.4. Test Failure. Three (3) failures in a row to complete the run test may be cause for rejection of the entire system. After successful completion of the operational test, over-travel limits (programmed stops and hard stops), emergency stop devices, and accessories shall be verified during the trial period. The safety limit stops shall be checked by attempting to exceed the limits of travel of each moving axis.

19.9. **Initial Post Award Meeting.** The Contractor shall be responsible for hosting a Microsoft TEAMS video conference to discuss deliverables and the exchange of Government furnished property no later than fifteen (15) calendar days post award. At a minimum, the attendee at the post award meeting should be the Government contracting point-of- contact (POC), Government technical POC, and applicable contractor(s). The Contractor shall coordinate the date, time, and call-in information with the Contracting POC NLT three (3) working days prior to the meeting. The Contractor shall provide a United States listed phone number for the meeting call-in.

19.10. **Plan of Action and Milestones (POA&M).** The Contractor shall provide a POA&M to identify contractor performance target for major events spanning contract award to completion of all contract requirements. The POA&M shall detail such items as system design concept, system development, software design concept, software development, engineering, procurement of major hardware, assembly, operational debug, factory acceptance, shipment, installation, training, and final acceptance test. The initial POA&M shall be delivered to the Government POC no later than thirty (30) calendar days post award. The milestones shall be prepared using a recognized project management technique, such as Microsoft Project. The Government and the contractor shall review the report, at a minimum, on a weekly basis. The Contractor shall notify the Government prior to making any changes to the POA&M. All changes to the POA&M shall be approved in advance by the Government point of contact.

19.11. **Design/Progress Review Meetings.**

19.11.1. Weekly Meeting. The Contractor shall be responsible for hosting a weekly design review meeting with the Government technical POC, Government Contracting POC, the equipment OEM, or others as requested by the Government. Unless otherwise approved by the Government, The Contractor shall use Microsoft Teams as the primary means of hosting the meeting. The Contractor shall provide a United States listed phone number for the meeting call-in.

19.11.2. Preliminary Facility Design Review. The Contractor shall host an initial layout design review meeting NLT thirty-five (35) calendar days post award. At a minimum, attendees should be the Government's engineering technical POC(s), facility POC(s), the contractor, and the OEM. The Contractor shall coordinate the date, time, and call-in information NLT three (3) working days prior to the initial meeting. The Contractor shall use Microsoft TEAMS as the primary means of hosting the meeting. The Contractor shall provide a United States listed phone number for the meeting call-in. The meeting shall, at a minimum, hold discussions over the initial equipment installation and foundation drawings, an initial overview of facility requirements in the context of equipment listed in the award, and any other topic as directed by the Government.

19.11.3. Final Facility Design Review. The Contractor shall host a final layout design review meeting NLT one hundred thirty (130) calendar days post award. At a minimum, attendees should be the Government's engineering technical POC(s), facility POC(s), the contractor, and the OEM. The Contractor shall coordinate the date, time, and call-in information NLT three (3) working days prior to the initial meeting. The Contractor shall use Microsoft TEAMS as the primary means of hosting the meeting. The Contractor shall provide a United States listed phone number for the meeting call-in. The meeting shall, at a minimum, hold discussions over the final installation and foundation drawings and a final review of facility requirements in the context equipment listed in the award, and any other topic as directed by the Government.

20. **OTHER REQUIREMENTS.**

20.1. **Safety and Quality Control.** The Contactor shall be responsible for the following:

- Ensuring and enforcing industry safety practices, and quality control of the job site.
- Compliance with all safety practices posted in the assigned work area and Personal Protection Equipment (PPE) requirements. PPE shall include, but is not limited to, safety glasses and hearing protection.
- Appropriate environmental and safety training required by the state and federal Government according to Resource Conservation Recovery Act (RCRA).
- Fall protection, PPE, and any other safety related material needed shall be provided by the Contractor for contract employees. All safety signage in the work area and OSHA regulations shall be strictly followed by the Contractor.
- Onsite supervision shall be responsible for ensuring personnel related to this project observe and follow the safety guidelines and properly wear the correct PPE. Hard hats shall be required in the facility periodically due to the ongoing construction, as well as hearing and eye protection and safety glasses.

20.2. **Foreign Object Damage (FOD) & Dropped Object Prevention (DOP).**

20.2.1. FOD and DOP Training. All Contractor personnel and their subcontractors working in the performance of these requirements shall comply with local governing instruction regarding Foreign Object Damage (FOD) and Dropped Object Prevention (DOP) for the destination location. The Contractor shall be responsible for ensuring and enforcing compliance with FOD requirements of the job site. All Contractor personnel and their subcontractors working on this project shall receive FOD/DOP Awareness and Prevention Training.

20.2.2. FOD and DOP Training (Tinker AFB). Supplement to the requirements of paragraph 13.2.1, The Contractor and sub-contractors shall comply with TINKERAFBI 21-100, dated 20 Feb 2023 regarding FOD and DOP. FOD/DOP Awareness and Prevention Training is available on the Tinker Intranet, https:/ /wwwmil.tinker.af.mil /76mxw /FOD.asp. This training is also available via CD-ROM upon request to the contracting officer by the Contractor for an alternate form of training.

20.3. **Housekeeping.**

20.3.1. General Work Area. The Contractor shall keep the work areas clean and neat in accordance with Industry Standards, Occupational, Safety and Health Administration (OSHA), fire and safety standards listed elsewhere in these requirements. The Contractor shall thoroughly maintain a clean working area. The Contractor shall keep all aisle ways used for access clean and the area in and around the temporary staging area clean. The Contractor shall be responsible for daily and final project clean-up of all areas, including but not limited to the interior work site, utilized roadway, utilized facility aisles, utilized ramps and outside lay down area. All generated debris, waste materials and trash shall be swept up and removed. All tools shall be properly stored in a lockable toolbox and trash removed. All hardware shall be properly stored in Ziplock, or equivalent, bags and the work area left in orderly condition, no exceptions.

20.3.2. Packing Material Disposal. The Contractor shall remove all packing material, material remnants, rubbish and debris shall from Government property daily, unless otherwise directed, to

avoid accumulation at the work site. Materials that the Contractor cannot remove daily shall be stored in areas specified by the Government POC.

20.4. **Standard Operating Procedures.**

20.4.1. Environmental Protection & Safety. The Contractor shall be knowledgeable of and comply with all applicable federal, state, and local laws, regulations, instructions and requirements regarding environmental protection and occupational safety and health. The Contractor shall comply with any laws, instructions, or regulation changes during the term of this contract. Contractors shall comply with supplemental installation instruction for the delivery destination as indicated in the award.

20.4.2. Safety Data Sheet (SDS). The Contractor **shall not** transport, ship, or use any chemical, material or substance used in the performance of this purchase description to the destination before written approval is received by the Government.

20.4.3. *Safety Data Sheet (SDS) Submission.* The Contractor shall submit to the GPOC NLT ten (10) calendar days post award, all Safety Data Sheets (SDSs) as well as any required local destination SDS Information Sheet. The Contractor shall receive approval from the GPOC **prior to shipping** any chemical, material, or substance to the delivery destination. A copy of the manufacturer SDS shall accompany the shipment. The Contractor shall submit to the GPOC updated manufacturer SDS if the Contractor changes the manufacturer or vendor for any chemical(s)/material(s) that has received prior approved. The Contractor shall comply with the effective dates for SDS requirements IAW the Occupational Safety and Health Administrations (OSHA) Hazardous Communication Standard, Title 29, Code of Federal Regulation (CFR) Part 1910.1200. The GPOC will forward all SDS submittals to the approval authority.

20.4.3.1. *Safety Data Sheet (SDS) Availability.* The Contractor and sub-contractor(s) shall maintain copies of manufacturer SDSs for all chemical(s)/material(s) used in the performance of this contract at the delivery location specified in the award. The Contractor and sub-contractor(s) shall ensure SDS are made readily accessible at all times by Contractor and sub-contractor personnel as well as Government employees.

20.4.4. Container Hazardous Markings. The Contractor shall ensure **containers** of hazardous materials/chemical are labeled IAW OSHA Hazardous Communication Standard, Title 29, CFR Part 1910.1200 (2012 or current edition) with the following information **prior to shipping** to the destination indicated in the Call Order: product identifier; signal word; hazard statement(s); precautionary statement(s); pictogram(s); and name, address and telephone number of the chemical manufacturer, importer, or other responsible party.

20.4.5. Spill Management. Upon the occurrence of any spill that could enter a storm system or cause any harmful environment effects, the Contractor shall immediately call 911 to report the incident. When possible, the Contractor shall use a base telephone to receive help. The Contractor shall immediately report all environmental violations to the GPOC and UEC.

20.4.5.1. *Spill Management (Tinker AFB).* The Contractor shall comply with the requirement

stipulated in paragraph 13.4.5 of this SoW. If using a cell phone, dial 911, and request Tinker AFB 911. The Contractor shall provide five (5) copies of a typed or written report about the incident within four (4) clock hours as follows:

20.4.5.2. *Spill Incident Report.* One (1) copy to the CO, two (2) copies to the GPOC, a copy for UEC and one (1) copy for record. The format of the report shall be left up to the Contractor, but the report shall contain the following information:

- Name and contact number of person reporting the spill
- Date and time of incident
- Location and source of spill
- Substance or pollutant spilled
- Amount spilled and rate of discharge
- Any damage or injuries involved
- Extent of area impacted
- Potential hazards
- Actions taken
- Organizations contacted
- Remarks Sections – that addresses the cause of the spill (e.g. human error, equipment, etc.) and whether 911 were called and which agencies responded.

20.4.6. Forms, Technical Orders (T.O.), Instruction, and Publications. The Contractor shall obtain the forms and publications expressly required to perform the work in this contract via the internet at www.e-publishing.af.mil or other Government publication repository indicated in the award. In the event a form or publication is not available online, the GPOC will provide the form, instruction, or publication to the Contractor upon the Contractor's written request (e-mail is acceptable). In the event, laws, regulations, or service technical guidance changes during the term of this contract, the Contractor shall be required to immediately comply as the changes come into effect. Contractors delivering or handling official records shall comply with the applicable service records management regulations in its entirety.

20.4.7. Hours of Operation. The Contractor shall perform the work required under this contract during the following days and hours: Monday through Friday, 6:00am to 4:45pm excluding U.S. federal holidays and weekends. If work hours are required outside the hours stated, the Contractor shall contact the Government POC for approval from the Government contracting officer (CO). Upon receiving approval from the CO, the Government Subject Matter Expert (SME) or Government POC must be present with the Contractor.

20.4.8. Tool Control and Accountability. While performing contract services in or around Maintenance Production Shops, which includes ramp areas, the Contractor shall comply with the organization tool control and accountability guidance. The Contractor or Contractor's personnel shall inventory the container or bag of tools at the beginning of each workday and at the end of

each workday. The Contractor personnel shall immediately notify the GPOC of any tools that are missing or lost from the work area or container (e.g. tool or job box or tool bag). The GPOC will report any missing Contractor's tools which have not been located within one (1) hour after notification to the appropriate Government personnel.

20.4.8.1. *Tool Control and Accountability (Tinker AFB).* Supplement to the requirement of paragraph 13.4.8, the Contractor and their sub-contractor shall comply AFI 21-101_AFMC Supplement 1, 21-101, Chapter 10 (all paragraphs) and OC-ALCI 21-112, paragraph 14.1. and 14.5.3. The Contractor shall provide the completed MXRIWRS Form 032 prior to performing work in the OC-ALC industrial areas. The MXRIWRS Form 032 is available from the GPOC. The Contractor shall provide a Contractor Tool Listing, MXRIWRS Form 032, to the GPOC within five (5) business days after PM/RM actions. The Contractor shall obtain the Form 32 from the GPOC. The CM shall ensure each employee on the job site receives a briefing from the GPOC about Housekeeping, FOD/DOP, and Tool Control prior to starting work.

20.4.9. Privately Owned Motor Vehicles (POV). Contractor personnel shall comply with the applicable service organization directives regarding the operation of POVs at the destination facility.

20.4.10. Visitors Pass. The Contractor shall contact the Government point of contact five (5) working days before arrival to make arrangements for visitors passes and installation access. The Government POC will assign a sponsor for the Contractor or sub-contractor from within the organization. [redacted]

20.4.11. Foreign Nationals. The Contractor shall notify the Government POC prior to sending a Foreign National representative to perform services. Special rules apply for foreign nationals visiting a US Government facility.

20.4.12. Safety and Health on Government Installations. While performing work under this contract on a Government installation, the Contractor shall comply with federal, state, local regulations, and applicable service instructions. The Contractor shall notify the Government Contracting Officer (CO), technical POC, and Contract Administrator (CA) within one (1) working day of any injuries that occur to contractor or sub-contractor personnel while they are on the installation. The Contractor shall notify the CA, technical POC, and CA within one (1) business day of damage to Government property or equipment during the execution of the contract.

20.4.13. Emergency Procedures. The Contractor personnel shall follow the direction of the Government personnel with regard to emergency procedures, such as fire, tornado, active shooter, bomb threats, or other emergency. It is the responsibility of the Contractor to provide guidance and to establish procedures for its employees to respond to an emergency. It is the Contractor's responsibility to account for their employees following an emergency evacuation. The Contractor personnel shall participate with the Government personnel in all fire and tornado drills at no additional cost to the Government.

20.4.14. Shipping. The Contractor shall provide to the COR, the date equipment was shipped out, shipment identification information and include contract number on the shipping paperwork with a Free On Board (FOB) Destination. The ship to address is listed below as applicable.

- Tinker AFB (Bldg 3001):
  ATTN: [redacted] _____#/Contract No: _____
  Bldg. 3001
  3001 Staff Drive, [redacted]
  Tinker AFB, OK 73145

GOVERNMENT FURNISHED PROPERTY AND SERVICES (Tinker AFB).

20.4.15. Shared Storage Areas. The Contractor shall make arrangements with the Government POC for storage of Contractor materials, equipment, and incidentals between its delivery and its installation, as availability of space and security during non-working hours cannot be guaranteed. These areas are on a first-come first-served basis and are very limited. The Contractor shall limit all applicable storage of contractor materials, equipment, and incidentals to the immediate installation site.

20.4.16. Government Furnished Services. Government furnished services are applicable during the performance of this contract. The Government will provide the following general services:

20.4.17. Security Forces. The Government will provide general on-base security forces' service at the delivery location. Unless otherwise directed the destination Government POC dial 911 for emergencies.

20.4.18. Fire Emergency and Routine Services. The Government will provide general on-base fire protection services. The Contractor shall comply with fire prevention rules and regulations enforced by the service fire prevention branch.

20.4.19. Utilities. The Government will provide utility services roughed in to within thirty-five (35) ft of installation site. These utilities include natural gas, compressed air, electricity, water, and sewer for the sole purpose of accomplishing this contract. If the contractor requires additional utility services, it shall be the contractor's responsibility to provide. The Contractor shall use due care and diligence in efforts to conserve utilities to reduce utility costs.

20.4.20. Refuse Collection. The Government will provide refuse collection services limited to the extent provided in the Base Refuse Collection Contract(s) for the Government provided facilities. The Government will only allow non-hazardous refuse to be emptied into the nearest authorized refuse dumpster for trash collection. Do not use Government dumpsters to dispose of construction debris.

20.4.21. Intangible Government Property. Intangible Government Property includes SOW Section 10 and all other intangible Government Property associated with this contract. Intangible Government Property is not covered by FAR Part 45 plus supplements but is covered by FAR Part 27 and DFARS Part 227 plus supplements. When applicable and in accordance with

Government procedures, the Government will furnish, without cost, Intangible Government Property to the Contractor. All Intangible Government Property shall remain at all times sole property of the U.S. Government. All Intangible Government Property used, input, processed, acquired, modified, developed, and/or generated by the Contractor in support of this contract, in any media, shall remain at all times sole property of the U.S. Government. The Contractor may not use or disclose any Intangible Government Property for any purpose or in any manner not specifically authorized or required by the contract and this SOW. The Contractor shall ensure all Intangible Government Property is secured at the close of each workday. The Contractor shall use reasonable care to avoid losing and/or damaging Intangible Government Property. If the Contractor's failure to use reasonable care causes loss and/or damage to Intangible Government Property, the Contractor shall be liable for the cost to replace the Intangible Government Property, which may be deducted from the contract price. The Contractor shall use, input, process, maintain, and return all Intangible Government Property in the English language, readable and in a readily retrievable format, which requires no additional software or tools to read and retrieve beyond those already installed on the affected U.S. Government computers. The Contractor shall not return any intangible Government Property using Universal Serial Bus (USB) thumb drives or equivalent devices. During contract performance, contract completion, or contract termination, the Contractor shall return all Intangible Government Property to the Government POC. The Contractor shall comply with the applicable contract clauses and this SOW.

20.4.22. Government Furnished Drawings. Work plan drawings prepared by the Government for this project will be furnished in digital format (AutoCAD 2024, .dwg).

20.5. **Non-Government Owned IT System or Devices.** The contractor shall not install or connect non-Government owned computing system or devices to the Government industrial network without obtaining the proper authorization from the appropriate Information System Security Manager (ISSM). Non-Government owned computing system or devices include, but not limited to, personal or Contractor-owned thumb drives e.g., memory sticks, flash drives, universal Serial Bus (USB) drives, jump drives, pen drives, removable or external hard drives, Personal Digital Assistants (PDA), PC Cards/Express Cards, MP3 players, cell phones, digital media, compact disc (CD)/digital video disk (DVD) burners, optical recordings photo flash cards, laptops, or any devices that can store data. The Contractor shall not install or connect non-Government owned computing system or devices to Government networks without a Government representation present.

21. **INSTALLATION RESPONSIBILITIES**

Contractor	Government	Item
X		a. Provide machine foundation in accordance with the manufacturer's design requirements.
X		b. Furnish labor and material handling equipment for receiving, off- loading, unpacking, disposal of shipping materials and placing item on foundation.
X		c. Provide and install anchor bolts and nuts.
X		d. Set and rough level the machine on its foundation.
X		e. Level and align machine.
X		f. Connect of the machine to the Government provided utilities hook-up including, but not limited to, electrical fuse disconnect switch and breaker box onto bus bar and connecting pneumatic line with ball valve.
X		g. Provide all necessary tools, gages, and instrumentation necessary to perform the required tests.
X		h. Provide and charge all systems with fluids in accordance with the manufacturer's instructions.
X		i. Material for performance testing at Government facility.
X		j. Material for performance testing at Contractor's facility.
X		k. Installation and testing of Argon suppression sprinkler system, to include connection to existing building fire suppression control system.
	X	l. Provide utilities hook-up within 35 feet of the machine.

22. APPENDICIES

Appendix A –Tool List

Description	Part Number	Qty
EvoCSII 6/11 AH Cold Spray Gun		1
Prechamber Extension Kit 100mm	10108.00.000	1
Prechamber Extension Kit 135mm	10108.00.000	1
Prechamber Extension Kit 170mm	10108.00.000	1
Injector - Out1 SiC	10202.00.0.01	3
Injector - Out1 WC	10202.00.0.02	3
Injector – Out2 SiC	10203.00.0.01	3
Injector – Out2 WC	10203.00.0.02	3
Injector – Out7	10204.00.1.00	3
Injector – Out4 SiC	10205.00.0.01	3
Injector – Out4 WC	10205.00.0.02	3
Injector – Out5 SiC	10206.00.0.01	3
Injector – Out5 WC	10206.00.0.02	3
Injector – IN2 SiC	10207.00.0.01	3
Injector – IN2 WC	10207.00.0.02	3
Injector – IN3 SiC	10207.00.0.01	3
Injector – IN3 WC	10207.00.0.02	3
Powder Swap Container (80 bar)	10008.0.00-2.1	2
Conveyor Disc (03 x 120)	10002.03.0.08	4
Conveyor Disk (01.5 x 240)	10002.03.0.09	4
Conveyor Disk (01.5 x 492)	10002.03.0.10	4
Injector Cooling Unit	10012.01.0.00	1