

24 TON BLAST MACHINE

1. SCOPE

1.1. **SCOPE** - This specification reflects those characteristics which are essential to the minimum needs of the Government for a portable, skid mounted, self-contained ABRASIVE BLAST AND RECOVERY SYSTEM

2. REFERENCE PUBLICATION

2.1. **APPLICABLE DOCUMENTS** - The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on the date of an invitation for bids or a request for proposals shall apply.

2.2. **THE CODE OF FEDERAL REGULATIONS**

- 29 CFR 1910 Occupational Safety and Health Standards
- 29 CFR 1915 Occupational Safety and Health for Shipyard Employment
- 40 CFR 261 Identification and Listing of Hazardous Waste

(Information is available online at: www.gpoaccess.gov/ecfr)

2.3. **AMERICAN NATIONAL STANDARDS INSTITUTE, INC. (ANSI)**

- Z535.4 Product Safety Signs and Labels

(Copy of ANSI Publications may be ordered from the website: <http://www.ansi.org>)

2.4. **AMERICAN WELDING SOCIETY (AWS)**

- AWS-D1 Structural Welding Code

(Application for copies should be addressed to the American Welding Society, 550550 N.W. LeJeune Road, Miami, Florida 33126)

2.5. **AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS (ASHRAE)**

- ANSI/ASHRAE Standard 52.2, Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size

(Copies available online at: <http://www.ashrae.org>)

2.6. **NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)**

- NFPA 70 National Electric Code
- NFPA 79 Electrical Standards for Industrial Equipment

(Application for copies should be addressed to National Fire Protection Association, 470 Atlantic Ave., Boston, MA 02210)

2.7. **NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION (NEMA)**

- ICS Industrial Controls and Systems
- MGI Motors and Generators

(Information is available online at: www.nema.org)

2.8. **WASHINGTON STATE ADMINISTRATION CODE (WAC)**

- WAC-173-303 Washington Dangerous Waste Regulations

(Copies of these documents are available online at: <http://www.gpoaccess.gov/>)

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2.9. **INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)**

- ISO 3861 Rubber Hoses for Sand and Grit Blasting—Specification

(Application for copies should be addressed to the American National Standards Institute, 11 West 42nd St, New York, NY 10036)

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3. REQUIREMENTS:

3.1. **GENERAL DESCRIPTION OF SYSTEM** - This specification covers the minimum Government requirements for a portable, skid mounted, self-contained ABRASIVE BLAST AND RECOVERY SYSTEM. The system shall be used to abrasive blast metal surfaces with steel grit to bare metal, recover and classify the used grit, and return the reusable portion of the grit to the system for further use. For portability, the entire system shall be mounted on a single heavy duty skid base.

3.2. **CONDITIONS OF SERVICE AND PERFORMANCE** - The following service and operational conditions shall apply to the equipment delivered under this specification.

3.2.1. **Operating Environment** - The proposed system will be operated in a heavy duty industrial environment. The system shall operate continuously 24-hours per day, seven (7) days per week, for a four (4) month period with the only maintenance required being replacement of the dust collector filters.

3.2.2. **Equipment Size** - The proposed system shall be used in an industrial manufacturing environment having limited space. The proposed equipment shall fit within the following site dimensions:

- Maximum Overall System Length:.....14 feet 0 inches
- Maximum Overall System Width:.....8 feet 2 inches (with ladder installed)
- Maximum Overall System Height.....12 feet 0 inches
- Maximum Overall System Weight.(Empty).....11,800 pounds

3.2.3. **Environmental Conditions** - The unit shall be designed to operate in a salt and dust laden outdoor industrial environment, subject to wind driven rain, sleet and snow.

- Temperature Range:.....32° to 110 ° Fahrenheit
- Relative Humidity:.....up to 100% Non-Condensing

3.2.4. **Blast Media** – Steel grit G80, G50, G40 or G25/50 blend shall be used

3.2.5. **Compressed Air** - The unit shall operate from a single source of dry, compressed air which delivers 1,000 CFM at 100 PSIG.

3.3. General Equipment Requirements:

3.3.1. **Standard, Off the Shelf Components** - All materials and parts comprising the system shall be new, of current design and manufacture, and shall not have been in prior service except as required for factory testing. Standard, off the shelf components with proven reliability shall be used wherever possible to increase performance, reliability and cost. The equipment shall be one of the manufacturer's current production models which, on the day this solicitation is issued, has been designed, engineered and sold, or is being offered for sale through advertisements or manufacturer's published catalogs or brochures. Products such as prototype unit, preproduction model, or experimental unit do not qualify as meeting this requirement. The equipment shall be complete, so that when connected to the utilities identified herein, it can be used for the function for which it is designed and constructed .

3.3.2. **Personnel Safety and Health Requirements** - All machine parts, components, mechanisms, and assemblies furnished on the unit shall comply with all specific requirements of "OSHA Safety and Health Standard (29CFR1910), General Industry" that are applicable to the equipment itself. Covers, platforms, guardrails, belt guards, and safety devices shall be provided for all parts of the equipment that present a safety hazard. The safety devices shall not interfere with the operation or maintenance of the equipment. The safety devices shall be removable to facilitate inspection, maintenance, and repair of the part. For all equipment that requires preventative maintenance and servicing, provide access ladders, platforms, safety rails with toe boards and devices as required to

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meet 29 CFR 1910 Subpart D to allow workers to perform the maintenance without the use of personal fall protection. Additional safety and health requirements shall be as specified in other paragraphs of this specification.

3.3.3. NRTL Listing or NRTL Field Inspection and Approval - The blast and recovery system shall be listed or approved by one of the following methods:

3.3.3.1. Nationally Recognized Testing Laboratory (NRTL) Listing and Labeling - The equipment specified herein shall be listed and labeled by an Occupational Safety & Health Administration (OSHA) approved Nationally Recognized Testing Laboratory. Test data reports shall be furnished for review.

3.3.3.2. Nationally Recognized Testing Laboratory (NRTL) Field Inspection - The equipment specified herein shall be field inspected and approved by an Occupational Safety & Health Administration (OSHA) approved Nationally Recognized Testing Laboratory. Test data reports shall be furnished for review.

3.3.4. Energy Isolating Devices - Equipment provided by the contract shall provide energy isolating devices (e.g., safety switches, valves, etc.), to protect personnel from hazardous energy. The devices shall be designed and manufactured such that the device can be locked in the user selected position (ON/OFF) to prevent inadvertent or unauthorized change. The Contractor shall ensure that all energy isolating devices installed or modified are capable of being locked. This includes both mechanical and electrical devices. An energy isolating device shall be installed as the first energy control device on all major components of the system such that the component can be isolated at the component level.

3.3.5. Audible Noise Levels - During normal operation, the dust collector assembly shall not produce noise levels greater than 84 dB(A) as measured on the "A" scale and 92 dB(C) at any point three feet from the unit, as measured on the "C" scale of a standard sound level meter at slow response (29 CFR 1910.95, Occupational Noise Exposure Standard). Excluding the noise level at the nozzle.

3.3.6. Electrical - The equipment delivered and all accessory parts shall operate from a single source of primary power which is 120 VAC ($\pm 5\%$), single-phase, 60 Hz. The proposed system shall include all transformers required for individual circuits such as control power, etc.

3.3.6.1. All Electrical Components - including motors, starters, relays, switches, and wiring shall conform to and be located in accordance with the applicable NFPA, NEMA, and ANSI standards for the intended application.

3.3.6.2. Power Disconnect - A supply circuit disconnect device, either a fusible motor circuit switch or circuit breaker, shall be provided and installed on the equipment.

3.3.6.3. Motors - Motors shall be rated for continuous duty. Motors shall be equipped with ball bearings of the sealed and permanently lubricated type. All electrical motors shall meet NEMA-MG1 requirements.

3.3.6.4. Control Circuits - Main and auxiliary control circuits shall operate on a circuit of 120 volts or less derived from isolation transformers integral with the equipment.

3.3.6.5. Grounding - Equipment must conform to NFPA 70 requirements for static dissipation.

3.3.7. Environmental Protection - The unit shall be designed and constructed so that during operation, service, transportation and storage conditions described herein, including final disposal, the equipment will comply with all applicable Environmental Protection Agency (EPA) and Occupational Safety and Health Agency (OSHA) and State of Washington Department of Ecology (WDOE) restrictions for materials classified as hazardous to the environment in effect on the date of the contract. The equipment described herein shall not contain or emit material hazardous to the ecological system as prescribed by federal, state, and local statutes in effect at the point of installation.

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3.3.8. **Hazardous Material Exclusions** - Supplies being used in the performance of this contract, or materials being provided as part of the equipment shall be free of known hazardous materials. Definitions of hazardous materials are specified in the latest version, including revisions adopted during the term of the contract, of Federal Standard No. 313.

3.3.9. Notwithstanding any other hazardous material usage permitted in this contract, radioactive materials or instruments capable of producing ionizing radiation as well as materials which contain asbestos, mercury, cadmium, lithium, methylene chloride, lead ($\geq 0.06\%$), or polychlorinated biphenyls (PCB's) are prohibited.

3.3.10. **Painting** - exterior surfaces of all components shall be either hot dip galvanized or blasted and painted with federal standard green (14187) in accordance with the following requirements.

3.3.10.1. General requirements.

- (A) Components shall be prepared and coated prior to final assembly.
- (B) The exterior and interior of all enclosures and components shall be primed and painted unless they are fabricated of stainless steel, fiberglass, plastic, or carbon steel hot dip galvanized per ASTM A 123.
- (C) Coatings shall be applied in accordance with the manufacturer's instructions.

3.3.10.2. Preparation.

- (A) Prior to galvanizing or blasting, weld spatter and other surface imperfections shall be removed by grinding.
- (B) Components to be coated shall be cleaned to SSPC-SP1 (solvent cleaning) prior to abrasive blasting. This step assures the removal of oil, salt, and other surface contamination which can prevent proper paint adhesion in spite of subsequent abrasive blasting.
- (C) All sides of components shall be abrasive blasted to SSPC-SP10, (Steel Structures Painting Council-Surface Preparation Standard number 10, "Near White Blast"), with a surface profile of 1.5 to 2.5 mils.

3.3.10.3. Carbon steel components which conduct airflow, (for example ducts, hoppers, filter housing, plenums, transitions, and other air-moving components) shall be prepared and either hot dip galvanized or primed with a inorganic zinc paint and top-coated High Solids Epoxy Coating (such as Devco Devran 224HS) and painted with 2 part urethane paint with UV inhibitor, having a dry film thickness of 5 to 8 mils.

3.3.10.4. Steel structure, (for example rigging structure, sub-foundation for the fan, deck plates, stiffeners & braces, equipment mounts & supports, access platforms, and other mechanical components). Either hot dip galvanized per ASTM A123 or primed with a inorganic zinc paint and top-coated High Solids Epoxy Coating (such as Devco Devran 224HS) and painted with 2 part urethane paint with UV inhibitor, having a dry film thickness of 5 to 8 mils.

3.3.11. **Safety Signs and Labels** - Corrosion resistant "Caution" or "Warning" plates shall be securely attached to the equipment in visible locations, with any safety precautions to be observed by the operator or maintenance personnel permanently marked on the plates.

3.3.12. **Identification Plate** - An identification plate shall be furnished with the equipment. A nameplate shall be affixed to each major component of the system showing the manufacturer's name, equipment model, year of manufacture, and any other pertinent information for identifying the part as a unique component of the system.

3.3.13. **PCB Label Plate** - A label plate containing the PCB Certification information shall be permanently affixed to the equipment in the vicinity of the manufacturer's identification plate.

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3.3.14. **Bearings** - All bearings contained in the equipment and the entire system must be United States (U.S.) or Canadian manufactured. If they are not U.S. or Canadian manufactured bearings, the vendor must provide a list of exact U.S. or Canadian made equivalent bearings that can be used for replacement of each bearing within this equipment or system.

3.4. **REQUIREMENTS FOR ABRASIVE BLAST AND RECOVERY SYSTEM** - specified herein shall include, but is not limited to the following components, attachments and accessories.

3.4.1. The Abrasive Blast and Recovery System - Shall be delivered fully assembled and when connected to the appropriate utilities, shall be capable of performing its intended function in accordance with the operation and performance requirements specified herein.

3.4.2. Skid Base and Framework - For portability, the entire unit shall be mounted on a single heavy-duty skid base. The skid base shall provide adequate bracing and support to permit placing the entire assembly on uneven surfaces without causing equipment damage, distortion or overstress. The base and associated framework shall be gusseted and cross braced as necessary to withstand the stresses, vibration and shock associated with rough handling and transport of the unit by overhead crane or flat bed truck over rough surfaces.

3.4.2.1. Top of skid shall have OSHA handrails and access ladder with swing gate.

3.4.3. Lifting Attachments - The skid shall be equipped with four lifting pads welded into the structure. The allowable bending strength shall be based upon 1/3 of the allowable yield strength or 1/5 of the allowable ultimate strength, whichever is the most conservative, of the lifting attachment material.

3.4.3.1. The bearing strength shall be based upon 1/5 of 150% of the ultimate strength of the lifting attachment material.

3.4.3.2. The lifting attachments shall be sized based on actual weights plus 10% for unexpected growth in the weight of the load. The resulting value shall be further increased to reflect the loads induced by the angle the slings make to the plane the lifting attachments lie on. The attachments shall be oriented so the slings shall not pull out of the plane of the individual lifting attachment by more than 5° unless they are designed to withstand the resulting side load. In addition, the individual loads for each point shall be calculated based on the configuration of the rigged equipment and the location of its center of gravity. These final values shall be referred to as the Working Load Limit (WLL).

3.4.3.3. When installing the 4 lifting attachments, only half of them shall be assumed to carry the load. A lift sketch detailing the required spread, capacity and orientation of the lifting gear shall be provided for review at the time of the submittal of the equipment design.

3.4.3.4. The structure supporting the lifting attachments shall be designed to sustain the various lateral loads imparted by the arrangement of the lifting attachments and the induced sling angle loads on a buckling analysis per the American Institute of Steel Construction (AISC), Allowable Stress Design.

3.4.3.5. The lifting attachments are required to withstand a load test of 200% +5%-0% of the Working Load Limit (WLL) for 2 minutes. Acceptance criteria shall be: No bending, cracking, or permanent deformation of the lifting attachments or associated structure. The contractor's certified representative will perform the load test and

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inspection requirements of American Welding Society (AWS) D1.1 and submit documentation of the satisfactory results of all the various tests. The lifting attachments shall be labeled with the WLL and the test date.

3.4.3.5.1. All calculations required for the design of the lift points shall be performed by a Professional Engineer, and shall be provided for review at the time of the submittal of the equipment design.

3.4.3.6. In certain cases, with prior concurrence of the cognizant technical Code at Puget Sound Naval Shipyard & Intermediate Maintenance Facility, the load test may be waived and a magnetic particle test (MT) of the attachment weld substituted, meeting the acceptance criteria of MIL-STD-2035, Class 3 or equivalent standard as approved by the Government, provided the testing is performed by a certified third party and documentation of the satisfactory results are provided with the receipt of the equipment. Each lifting attachments shall be stamped with the WLL and the wording "MT" and the date certified.

3.4.4. Provisions for Forklift Handling - The skid base shall have forklift slots for handling with a forklift truck.

3.4.4.1. The forklift slot shall be integral part of the structural frame.

3.4.4.2. Forklift pockets - The base shall also have fully enclosed forklift slots for handling with a forklift truck. The forklift slots shall be 12 inches wide by 6 inches high rectangular tube (+/- 1/2-inch) and spaced 52" to 72" apart (measured from outside edge to outside edge of each forklift slot) on the length of the skid.

3.4.5. Abrasive Blast Machine - The blast machine shall be a single chamber unit with the following characteristics:

3.4.5.1. ASME - Section VIII coded tank, certified for a working pressure of 150 PSIG (minimum).

3.4.5.2. Abrasive fill port(s) mounted in top of tank with integrated abrasive diverter. Fill port(s) shall be arranged for a direct connection to the hopper discharge(s). Associated abrasive charge valves shall be mounted in tank.

3.4.5.3. Four (4) abrasive blast outlets.

3.4.5.4. Four (4) abrasive metering/blow down valves with heavy duty base.

3.4.5.5. Four (4) triggers with short circuit cards.

3.4.5.6. One (1) 3 inch (minimum) compressed air supply valve.

3.4.5.7. Compressed air/moisture separator manifold, with valve to drain moisture and a flanged end for easy cleaning.

3.4.5.8. Overpressure protection shall be provided by means of a rupture disc assembly to protect the equipment in case of pressures exceeding the working pressure rating of the pressure vessel.

3.4.5.9. The vessels shall depressurize through a MERV 13 rated filter or into the dust collector.

3.4.6. Storage Hopper - A storage hopper shall be provided with the following characteristics:

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3.4.6.1. The hopper shall be designed to operate under 29" HG vacuum, with a storage capacity of 100 cubic feet (minimum) and an abrasive storage weight capacity of 30,000 pounds (minimum), and bottom mounted abrasive discharge gate(s).

3.4.6.2. The storage hopper shall be equipped with high and low level sensors and indicator lights. During high level conditions the sensors shall cause automatic shutdown of the classifier and the induction vacuum or optional vacuum equipment.

3.4.6.3. The hopper shall be air and water tight, with a ladder and gasketed manway for interior access.

3.4.6.4. Manway shall have a removable screen installed for hopper inspection by operator.

3.4.7. Interceptor/Classifier - The interceptor/classifier shall have the following characteristics:

3.4.7.1. The inlet or interceptor to the classifier shall be fitted with a 5 inch vacuum hose connection. The interior of the interceptor chamber shall have a top wear plate lined against wear with permanent magnets or replaceable lined wear plates.

3.4.7.2. The classifier screen shall be of the rotating drum type or shaker, constructed from heavy gauge classification screen.

3.4.7.3. Heavy trash/debris larger than the classifier screen openings shall be collected in a 6-inch (minimum) trash discharge pipe and fitted with a manual gear box dump butterfly valve.

3.4.7.4. The unclean abrasive shall pass through a rotating drum or screen and drop the abrasive through the primary air wash.

3.4.7.5. The fines shall be removed without the use of screws or bucket elevator.

3.4.7.6. The classification chamber shall be sized to reclaim 3tons/hour (minimum) of steel abrasive through 50 feet of 5" I.D. vacuum hose.

3.4.7.7. The classification system shall retain abrasive in the 25 to 80 sieve range. Abrasive passing through the classification screen shall be regulated into a pick-up tube and passed through a second air wash process before being passed into the storage hopper. Abrasive smaller than 80 sieve shall be discarded as waste.

3.4.7.8. The classifier and associated abrasive vacuum storage hopper shall operate satisfactorily under a condition of negative pressure (vacuum) at up to 29 inches mercury (HG), provided by an external vacuum source (not included in this specification).

3.4.8. Dust Collector(s) - All exhaust airflow from the abrasive recovery system shall be filtered through a dust collector(s) with the following characteristics:

3.4.8.1. The dust collector(s) shall be of the cylindrical cartridge style rated at 1200 CFM (minimum) with an air to cloth ratio of 2.5 or greater cloth area.

3.4.8.2. The filters shall be round cartridge style.

3.4.8.3. The cartridge filters shall have a Merv rating of 13 or higher with a minimum filter area of 1200 square feet. Filter efficiency shall meet the ASHRAE 52.2 minimum requirements, and shall be verified by independent laboratory test results (see 2.5). Test results are required to be submitted with the Offeror's proposal (see 3.5.3).

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- 3.4.8.4. The dust collector shall include automatic, adjustable, solid state filter cleaning controls. Solenoid operated diaphragm valves shall sequentially introduce compressed air pulses into each filter or filter bank. Cleaning air manifold(s), diaphragm valves, and pulse cleaning nozzle piping shall be factory assembled. The cleaning system shall operate with 100-125 PSIG compressed air.
- 3.4.8.5. An aneroid (i.e. magnehelic) gage shall be provided for monitoring differential pressure across filter elements.
- 3.4.8.6. The dust collector(s) shall operate under the negative pressure condition of 29 inches HG.
- 3.4.8.7. Each hopper discharge shall be fitted with an air-tight butterfly valve for emptying accumulated dust and debris into standard 55 gallon drums (slide gates and counterweighted dump valves are unacceptable). 55 gallon drum assemblies with covers, adapters, hoses, and other required hardware shall be provided.
- 3.4.8.8. An outlet from the clean air to allow for a 5 inch vacuum hose connection.
- 3.4.9. Main Disconnect Panel - A NEMA 4X stainless steel, heavy duty, safety switch (visible blade type) panel shall be included to allow the power to the main control panel to be isolated.
- 3.4.10. Main Control Panel - The unit shall be supplied with a main control panel which shall include the following:
- 3.4.10.1. A NEMA 4X enclosure, with a fused main disconnect switch or circuit breaker for single point electrical disconnect to the entire system.
- 3.4.10.2. Motor starters, overload protection devices, remote control circuits for solenoid operated valves, indicator lights for high/low abrasive levels, and a timer circuit for automatic cleaning of the dust collector filters.
- 3.4.10.3. Short circuit card.
- 3.4.11. Contractor Installation and Set-Up - The blast machine shall be assembled, installed, set-up and tested by the contractor in the area(s) designated as its functional work area by the receiving activity . The contractor shall provide all personnel, equipment, and supplies necessary for the complete installation and set-up of the proposed system.
- 3.4.11.1. Coordination - The Contractor shall coordinate a proposed installation schedule with the Receiving Activity Point of Contact within 30 days after the effective date of the contract. The installation schedule shall be subject to review and approval of the receiving activity. Approval of installation schedule shall not relieve the Contractor of any responsibility for performance in accordance with the contract. The Contractor shall coordinate the site preparation and the delivery of materials in a manner, which causes minimum disruption/interference with the Government's normal business routine.
- 3.4.11.2. Work Process - The Contractor shall provide a full time (start of installation to acceptance of the facility) field supervisor to direct installation and testing. The field supervisor shall have full authority to implement his field decisions in an expeditious manner. No work shall be accomplished when the field supervisor is not in the immediate work area.
- 3.4.11.3. Methods And Schedules - The work shall be executed in a manner and at such times as to cause the least practicable disturbance to the occupants of the buildings and normal activities of the Government. Before

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starting any work, the sequence of operations and methods of conducting the work shall have been reviewed and approved by the Government.

3.4.11.4. Prior To Commencing Work, the Contractor representative(s) shall meet in conference with the Government Point Of Contact, shop supervision, and other necessary Government personnel to discuss and develop mutual understandings relative to safety, methods and schedules, security, waste management and any other subject necessary for a smooth and successful operation.

3.4.11.5. Energy Control (Lockout/Tags-plus). - The Government will provide the Contractor with a copy of the lockout and tag out controls (Lockout/tags-plus) used by the Government facility where the equipment is to be installed. The Contractor shall meet with the Government Point of Contact to discuss Lockout/tags-plus interface. The Contractor shall use the Receiving Activity's Lockout/tags-plus procedures as required by 29 CFR 1915.89. Lockout/Tags-plus procedures IAW 29 CFR 1915.89 shall be followed, where applicable. Contractors shall train their employees to Vol. II Chapter 9 of the Government's Occupational Safety and Health (OSH) manual or as directed by the Receiving Activity. Audits, surveillances and incident investigations may be performed per 29 CFR 1915.89 and the Receiving Activity's OSH Manual Vol. II Chapter 9 requirements.

3.5. TECHNICAL DATA TO BE PROVIDED

3.5.1. Operator / Maintenance Manuals - The equipment shall be furnished with five (5) copies of the manufacturer's standard Operation, Maintenance, and Repair Manual(s) and one copy on CD-ROM disk(s). The manuals shall include all mechanical and electrical schematics showing discrete components/block diagrams/wiring diagrams with inputs and outputs identified/system electrical interface documents and drawings for the specific model of all machine equipment/drives/controls supplied.

3.5.1.1 The information contained in the manual(s) shall reflect the unit and its components in the "as built" configuration. A calibration method or procedure for each precision measuring device provided with the equipment shall be included in the manual(s) The information contained in the manual shall be adequate to permit troubleshooting and repair of the equipment by journeymen level personnel. The information contained in the manual(s) shall be in the English language and shall be in imperial units of measure.

3.5.1.2 The manuals shall include start-up, operation, shut-down and emergency shut-down procedures.

3.5.1.3 The manuals shall include parts list with a complete bill of materials.

3.5.1.4 The manual shall include a list of recommended consumable spare parts and possible sources for procurement.

3.5.2. Lifting Attachment Certification - Concurrent with equipment delivery, the contractor shall supply a letter of certification stating the lifting pads meet the specified design criteria.

3.5.3. Air Operating Permit Information -The contractor shall provide the Government with the following information within 30 days after the effective date of the contract so the equipment can be locally permitted for use:

3.5.3.1. Specify the manufacturer and model number of the dust collector. Serial numbers are not acceptable.

3.5.3.2. Specify the flow rate in actual cubic feet per minute (acfm).

3.5.3.3. Specify the type and quantity of filters that will be installed in the dust collector.

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- 3.5.3.4. Specify the filter fabric material that will be installed in the dust collector.
- 3.5.3.5. Specify the air to cloth ratio of the filters that will be installed in the dust collector.
- 3.5.3.6. Specify the filter cleaning method of the filters that will be installed in the dust collector.
- 3.5.3.7. Specify the configuration of the dust collector (induced fan on the clean side [negative pressure] or forced fan on the dirty side [positive pressure]).
- 3.5.3.8. Specify the internal stack diameter or rectangular cross-sectional dimensions (in inches) of the ventilation stack of the dust collector.
- 3.5.3.9. Specify the height of the ventilation stack of the dust collector above ground level (in feet).
- 3.5.4. **Filter Efficiency Certification** – Filter efficiency shall meet the requirements of Section **Error! Reference source not found.** and shall be verified by an independent testing laboratory. A copy of the filter efficiency certification shall be provided.
- 3.5.5. **NRTL Listing or NRTL Field Inspection and Approval Compliance Statement** - The contractor shall provide signed, written certification of compliance to the requirements of 3.3.2 - NRTL listing or NRTL field inspection and approval. Failure to provide this certification will delay acceptance of the equipment, and could result in rejection for failure to comply with the terms of the contract.
- 3.5.6. **PCB Certification** - The Contractor shall provide written certification from the manufacturer that the equipment contains no detectable PCBs (less than two (2) part-per-million (ppm)). The certification shall be on manufacturer's letterhead, and signed by a company official who is empowered to provide same. A label plate containing the PCB Certification information shall be permanently affixed to the equipment in the vicinity of the manufacturer's identification plate. The certification shall be engraved or etched on wear and corrosion resistant material.
- 3.5.7. **Warranty** - Supplies and services furnished shall be covered by warranty from defects in design, materials and workmanship. The warranty shall be the manufacturer's standard commercial warranty, which shall conform to all requirements of the contract. Acceptance of the manufacturer's standard commercial warranty shall not minimize the rights of the government under clauses in the contract, and in any conflict that arises between the terms and conditions of the contract and manufacturer's warranty, the terms and conditions of the contract shall take precedence. The warranty period shall commence from the date of acceptance as cited on a properly executed DD Form 250.
- 3.3.1 **On-Site personnel Training** - Within twenty working days after satisfactory completion of acceptance testing of the system, the services of a qualified representative(s) shall be provided for specialized training to familiarize receiving activity personnel with the equipment and to help ensure reliable performance and maximum service life, during normal usage. Training sessions shall be provided separately for each group/type of government personnel. The training shall apply to personnel as follows:
- 3.3.1.1 Operator Personnel – Training shall be provided for 5 operator personnel at a journeyman mechanic level for a period of 4-hours. This training shall include preparation of equipment for operation and actual, safe operation of the equipment.

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3.3.1.2 Maintenance Personnel (Mechanical/Pneumatic) - Training shall be provided for 3 mechanical maintenance personnel at a journeyman mechanic level for a period of 2-hour. This training shall include trouble-shooting and methods of correction if the equipment malfunctions, with particular emphasis on minimizing equipment down time.

3.3.1.3 Maintenance Personnel (Electrical/Electronic) - Training shall be provided for 3 electrical/electronic maintenance personnel at a journeyman mechanic level for a period of 2-hours. This training, with respect to equipment/controls/drives/interface units and related components, shall include trouble-shooting and methods of correction should equipment malfunction, with emphasis on minimizing equipment down time.

3.3.1.4 Training services shall be rendered at Puget Sound Naval Shipyard.

3.3.1.5 Training shall be scheduled and tailored by mutual agreement between the Contractor and the receiving activity. Two (2) weeks prior to the start of any training, the contractor shall provide a course outline for government review and comment. Training sessions shall be provided separately for each group/type of government personnel. The contractor shall provide all training manuals and guides. The government shall provide classroom space in close proximity to the equipment/shop,

3.3.1.6 The entire contractor cost of providing the training (including travel, per diem, etc.) shall be covered by this contract.

4. QUALITY ASSURANCE PROVISIONS

4.1 **RESPONSIBILITY FOR INSPECTION** - The Contractor shall be responsible for the performance of all inspection requirements (examinations and tests) as specified herein. The Contractor may use his own facility or any other facility suitable for the performance of the inspection requirements specified herein. The Government reserves the right to perform any of the inspections set forth in this specification, where such inspections are deemed necessary to assure supplies and services conform to the prescribed requirements.

4.2 **RESPONSIBILITY FOR COMPLIANCE** - All items shall meet all requirements of sections 3 and 5. The inspection(s) set forth in this specification shall become part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspections, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements; however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.3 **BASIC PERFORMANCE TESTS** - Basic performance tests shall be conducted on the primary equipment and all associated equipment to the extent practicable, to demonstrate functionality. The tests may be performed by the Manufacturer, either by personnel of their service organization directly, or by an independent testing agency.

4.3.1 **At the option of the government** - Tests may be witnessed by a representative of Puget Sound Naval Shipyard or shall have the option of sending their technical representative(s) to witness the tests. The Contractor shall schedule and coordinate the test at origin. At least fifteen days prior to the test, the Contractor shall notify the Shipyard Point Of Contact of the scheduled date, time, and location of the test.

4.4 **INSPECTION AT DESTINATION**

4.4.1 **Test And Grooming** - The equipment delivered shall be inspected by the Government for mechanical and electrical integrity as follows: All welds will be inspected for integrity and appearance. Surfaces will be examined for sharp edges and burrs. Fasteners will be checked for tightness to prevent loosening due to vibration. Paint will be checked for flaking and blistering. Electrical requirements shall be examined for compliance to the National Electrical Code, (NFPA 70/79). The fit of parts shall be observed, with particular reference to the interchangeability of those that are likely to require replacement.

Note: Faults will be duly recorded and presented to the contractor for rectification.

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4.4.2 **Operational Tests** - Upon satisfactory completion of the tests above, the equipment shall be setup by the government for an operational test. The unit shall be exercised to the extent necessary to prove proper operation in accordance with specification requirements. The system shall function, without failure, for the duration of this test period. If a failure occurs during operational testing, the contractor shall be duly notified for rectification and upon repair the tests shall be restarted from the first test. Three failures without completion of the operational tests shall be considered cause for rejection of the system. For the purpose of this test, a "failure" is defined as any equipment malfunction, which requires remedial action to restore the system to full operation in accordance with contract specifications.

4.4.3 **Provisions for Repair and Test** - In the event of a test failure, the contractor, at their discretion, may elect to correct the failed condition and request a retest of the system.

4.4.4 **Final Acceptance** - Upon satisfactory completion of testing of the equipment (paragraph 4.4.2), an authorized Government Representative shall sign and forward the acceptance document(s) (DD Form 250) to the paying office.

5. **DELIVERY**

5.1 **NOTIFICATION** - The receiving activity shall be notified no less than 48 hours prior to the arrival at the site of the contractor's installation personnel.

5.2 **SHIPMENT** - Shipment of materials shall be coordinated with site preparation and installation. Material transportation from the manufacturer's facility to the work site shall be the responsibility of the contractor. Limited secured storage areas at the facility will not permit the Government to store material for extended periods of time. Early shipment of materials, without the permission of the receiving activity shall be refused.

5.3 **PACKING MATERIAL** - The use of shredded paper, whether newspaper, office scrap, computer sheets, or wax paper, in packing material for shipment to Navy activities, is prohibited.

5.4 **DELIVERY** - The equipment shall be delivered to:

**Puget Sound Naval Shipyard
1400 Farragut Avenue
Bremerton, WA. 98314-5001**

5.5 **RESPONSE TO REQUEST** - As a part of the response to this request, descriptive literature shall be furnished in sufficient detail to show that the proposed design will meet these specifications. Vendor submittals shall include the following with their proposal:

- Include brochures of the model being submitted.
- Layout drawing showing overall dimensions, major equipment locations (pressure vessel, dust collector, induction vacuum, separator and main control panel), and skid details.
- Cartridge style dust collector data to be provided.
- Cartridges efficiency certified data from Independent Laboratory to be provided.
- Statement of compliance with specification each line item.

6. **ADDITIONAL REQUIREMENTS**

6.1. **GENERAL SECURITY REQUIREMENTS**

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6.1.1 Security Regulations - The contractor shall comply with security regulations imposed by the installation Commander and/or agency occupying the space where the work/training is to be performed, which includes obtaining any necessary personnel security clearances and vehicle passes.

6.2. ADMITTANCE TO THE WORK SITE

6.2.1. **Access Badges (Controlled Industrial Area)** – Upon contract award, employees or representatives of the Contractor who require access to the Puget Sound Naval Shipyard Controlled Industrial Area (CIA) and shall be admitted to the work site only after they have been issued a Security Pass/ID Badge.

NOTICE: Persons who are currently on probation or parole from a felony conviction cannot qualify for a Security Pass/ID Badge and will be denied access to the Shipyard.

6.2.1.1. Contractor personnel requiring access badges for unescorted entry into the CIA will be required to provide personal background information to the extent necessary to obtain a Security Pass/ID Badge.

6.2.1.2. A request for Visitor Badge, PSNS Form 5512/127, completed by the sponsor (typically the Contracting Officer or the Receiving Activity Point of Contact) and submitted by the sponsor (Receiving Activity Point of Contact) to the Pass and I.D. Office, at least five (5) business days before the badges are needed.

6.2.1.3. The Government will issue badges without charge.

6.2.1.4. Contractors, their subcontractors and vendors requesting access to the CIA will be required to view an orientation videotape lasting approximately 30 minutes prior to receiving a badge.

6.2.1.5. Contractor shall allow approximately two (2) hours for each employee to acquire a badge.

6.2.1.6. Each employee shall visibly display/wear the Government issued badge chest high over the front of their outermost clothing.

6.2.1.7. It shall be the Contractor's responsibility to collect and account for all Security Pass/I.D. Badges issued to their personnel upon termination of any employee, expiration of the badge, completion of the contract, or when access is no longer required. Badges, passes and permits shall be returned to the Pass and I.D. Office immediately.

6.2.2. **Required Documentation** - Contractors working within the CIA are required to be United States citizens and must show proof of citizenship prior to receiving a badge. Acceptable forms of proof are:

Original Birth Certificate

Original Department of State Birth Certificate

Certificate of Person Born Abroad

Original Naturalization Certificate

Valid United States Passport

NOTE: Proof of U.S. citizenship shall be hand carried by the employee to the Pass and I. D. Office located in Bldg. 981, when picking up the badge.

6.2.3. **Foreign Nationals or Affiliations** - Foreign Nationals (non U.S. Citizens) or persons affiliated with, or employed by, a foreign, or foreign owned company will not be granted access to Puget Sound Naval Shipyard CIA without prior written approval from Commander, Naval Sea Systems Command (NAVSEA).

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6.2.3.1. The Government will provide a standard background information data form for obtaining NAVSEA approval of foreign nationals. This form can be obtained from the Contracting Officer or the Receiving Activity Point of Contact.

6.2.4. Vehicle Passes

6.2.4.1. Contractors will be allowed to bring company vehicles into the CIA based upon the nature of their work as determined by the Commanding Officer in conjunction with the Industrial Security Officer.

6.2.4.2. Forms for obtaining vehicle passes and permits may be obtained from the Receiving Activity Point of Contact.

6.2.4.3. Each contractor, subcontractor and vendor vehicle shall be registered with the Pass and I.D. Office located in Bldg. 981.

6.2.4.4. Contractors shall clearly display an authorized company sign or logo on their vehicle.

6.2.4.5. Contractor vehicles are not allowed to enter the CIA with more than three (3) people onboard.

6.2.4.6. After contract award, the Contracting Officer will issue a memorandum that lists the vehicles a contractor will be allowed to bring into the CIA.

6.2.4.7. Each permit will include the company name, license plate number and expiration date.

6.2.4.8. CIA permits will be issued to each authorized vehicle by license number.

6.2.4.9. Each contractor, subcontractor and vendor shall provide the state registration or a photocopy and proof of insurance documents of each approved vehicle to the Pass and I.D. Office where one of the following Vehicle Permits will be issued and the purpose for each type of permit.

6.2.4.10. Lay-down Permit - A permit that authorizes the vehicle to be brought in to transport tools, parts, or materials to/from the site or function as a work platform. Vehicles with Lay-down permits are kept at the negotiated job site when not traveling to/from the gate.

6.2.4.11. Load/Unload Permit - A permit that authorizes the vehicle to be brought in to drop off tools, equipment and machinery (which cannot be hand carried) then is taken out of the CIA. Vehicles with Load/Unload Permits shall not be left unattended at the job site for more than 30 minutes.

6.2.4.12. Service Permit - A permit that authorizes the vehicle to be brought in and used as a mobile work platform because it contains tools, parts, materials, supplies and/or fabrication equipment. Vehicles with Service Permits allow the vehicle to be used at job sites throughout the CIA where no negotiated lay-down area exists.

6.3. RESTRICTIONS

6.3.1. Parking

6.3.1.1. Vehicles and equipment- Vehicles and equipment required by the Contractor to complete this contract must be registered with Shipyard Security.

6.3.1.2. Contractor vehicles must be marked on the outside with the company name or logo or both. Failure to comply will result in ticketing and/or loss of vehicle privileges.

6.3.2. **Regular Working Hours** - All work is to be performed during Puget Sound Naval Shipyard & Intermediate Maintenance Facility Bremerton Site's regular work hours from 7:30 a.m. to 4:00 p.m., Monday through Friday except for Federal Holidays.

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6.3.3. **Restricted Colors** - This Shipyard uses the colors magenta, yellow, red and blue to identify specially controlled materials. The Contractor is specifically prohibited from using magenta, yellow, red or blue colored plastic wrapping materials or bags, tape, or other covering materials.

6.3.4. **Radio Restrictions** - Operation of privately owned citizens band or amateur radio equipment (receive and transmit) within the geographic limits of Puget Sound Naval Shipyard is prohibited. All radio equipment installed in privately owned motor vehicles must be turned off upon entering any gate to the Government Activity.

6.3.5. **Privately Owned Personal Computers And Cellular Telephones** - The use of privately owned personal computers and cellular telephones by contractor personnel at Puget Sound Naval Shipyard is restricted. Contractors requiring such devices in the performance of this contract shall obtain a copy of the applicable form(s) from the Contracting Officer. The completed applicable form(s) shall be returned and routed for Government approval. The use of cell phones are not permitted at anytime while driving anywhere within the Government Activity.

6.3.6. **Photography/Recording** - Contractor personnel are prohibited from having photographic equipment (including cell phones and watches capable of taking pictures), tape recorders, zip drives, personal electronic management devices, or other recording devices in their possession while inside the Government Controlled Industrial Area (CIA).

6.3.7. **Sanitation** – Puget Sound Naval Shipyard & Intermediate Maintenance Facility (PSNS & IMF) prohibits its employees to consume food except in designated areas. Per the Code of Federal Regulations, 29 CFR 1910.141, Sanitation, employees may not eat or drink in regulated work areas or in other industrial work areas where toxic materials are present. Hardhats, gloves and any other regulated work clothing shall not be worn or placed in designated eating areas.

6.3.8. **Smoking** – Smoking is permitted in designated areas only.