CLIENT NAME: AGNICO-EAGLE LTD.

PROJECT AND SITE: MEADOWBANK GOLD PROJECT
NUNAVUT, CANADA

INQUIRY: MDB-S-M-268, REV. 0C

EQUIPMENT NAME: INCINERATOR

QUANTITY REQUIRED: 1

EQUIPMENT NO.: N/A

ATTACHMENTS FORMING PART OF THIS EQUIPMENT SPECIFICATION:

SECTION:	TITLE OF SECTION
01 11 00	Summary of Work
44 46 23	Equipment Specification
00 43 45	Technical Data Sheet
01 32 19	Vendor Data Requirements
01 43 00	Quality Surveillance Requirements
00 31 20	General Site Conditions & Equipment Standards

DRAWINGS FORMING PART OF THIS SPECIFICATION:

02-Apr-08	Issue for Quotation	MP	0C
31-Mar-08	Client Approval	MP	0B
31-Mar-08	Internal Review	MP	0A
DATE	ISSUED FOR	BY	REV. NO.

M. Pytlewski	31-Mar-08
PREPARED BY	DATE

N. Elinson	01-Apr-08
APPROVED BY	DATE

J. Hettinger	02-Apr-08
APPROVED BY	DATE

REV. NO.:			
SECTION:			
DATE:			
BY:			

1. Introduction

The Bidder shall submit a complete proposal for the design, manufacture, testing and supply of one (1) new, complete, and fully operational Incinerator.

The incinerator will be installed at a new 8,500 MTPD gold-processing facility. The facility will be located in Nunavut, Canada.

2. General

The equipment quoted shall be of the Vendor's proven design, as used previously in similar applications and under similar operating conditions.

The Vendor shall review all the technical requirements of this specification and confirm that compliance with these requirements in no way prevents the Vendor from supplying equipment that fully satisfy the operational and performance requirements stated in this specification. If the Vendor considers that any of the specified technical requirements will prevent them from providing equipment that will meet the specified operational and performance requirements, the Vendor shall notify the Owner/Engineer in writing and propose an alternate design or specification. The Vendor may use their alternate design or specification only after receiving written approval from the Owner/Engineer.

In case of conflict between the requirements of any sections of the RFQ package, the requirements of this document shall govern. Such conflict shall be brought to the attention of the Owner/Engineer by the Vendor in writing.

3. Scope of Work

3.1 Work Included

The scope of work shall include, but not be limited to, the design, manufacture, testing and supply of the incinerator, as detailed in Section 44 46 23, Equipment Specification.

Related works shall be completed by the construction contractor. The incinerator Vendor is required to submit necessary information for installation and operation, including:

- Requirements for site storage of delivered equipment.
- Foundation and building enclosure requirements.
- Installation of incinerator.
- Power and fuel supply.
- Location of wiring termination.
- Building ventilation.
- Waste handling into feed hopper.

- Fire alarm system details and requirements.

Vendor shall separately quote on supply of the incinerator building if the size and the geometry of the building allows for modular design and transportation. Otherwise the Vendor shall provide all relevant information needed for the design of the building and construction by another party.

Drawings and data for the supplied equipment and all accessories shall be provided as per attached "Vendor Data Requirements".

Vendor shall quote on the supply of recommended spare parts as he deems advisable for one year of operation. The spare parts shall include service and replacement spares plus insurance spares. In this regard the remote location of the site should be taken into account.

The Bidder shall quote their standard supply motors separately (take-out pricing) from main equipment pricing. Motors shall conform to standards set out in Section 00 31 20, General Site Conditions and Equipment Standards. However, Owner reserves the right to free-issue motors to the Vendor in accordance with an existing motor purchase agreement with ABB. Equipment Vendor shall liaise with Michel Turgeon at Moteur du Cuivre Inc (ABB Distributorship) as detailed below:

Mr. Michel Turgeon
Moteur du Cuivre Inc.
990 Rue de l'Echo
Val d'Or J9P 6Y7
Tel: 819-825-9231
Fax: 819-825-9490
mturgeon@zuritt.ca

Equipment Vendor shall provide the motor vendor with all relevant and necessary load data for selection of the correct motor for the application. Once the equipment vendor has confirmed with Moteur du Cuivre Inc. that the motor characteristics as proposed by Moteur du Cuivre Inc. are correct, Moteur du Cuivre Inc. will provide a quotation for the motor directly to the Owner for possible direct purchase by the owner and free-issue to the equipment vendor.

Vendor shall quote a separate price for commissioning and installation supervision assistance if required. The number of people required, the duration estimated, and per diem rates shall be quoted.

3.2 Work Not Included

- Concrete foundations and anchor bolts
- Field erection and installation
- Piping external to the system
- Wiring external to system.

END OF SECTION

1. General

This specification covers the requirements for the design, fabrication, inspection, testing, supply, installation supervision, and commissioning of the Solid Waste/Waste Oil Incineration System and its ancillary equipment for the Meadowbank Gold Project.

It is not intended that Vendor depart from his standard design. However, any deviations from this specification shall be clearly listed and explained in Vendor's proposal in the manner as specified in the document. The lack of such listing shall be taken to indicate that no such deviation exists.

In general the Incinerator emissions at the Meadowbank Project must meet emission regulations as set out by the Canadian Council of Ministers of the Environment (CCME) Canada-Wide standards for Dioxins and Furans (May 2000) and CCME Canada-Wide standards for Mercury Emissions (June 2000).

Detailed requirements, criteria and references to codes and regulations included in this specification are based on the Incineration Waste Management Plan report by Golder Associates Ltd, dated December 19, 2007.

2. Operating Conditions and Duty

The main objective of the incinerator will be to eliminate kitchen wastes, food packaging, food contact waste, filtered sewage sludge from the sewage treatment plants during the construction phase and other acceptable for incineration materials, from the landfill where they could cause odours and attract wildlife to the project site.

Materials not acceptable for incineration will either be land-filled or if considered hazardous, removed from site.

The incinerator system will be capable of reduction of waste oils from the project power plant and large equipment. It is preferred that the waste oils are utilized as part of the Solid Waste Incinerator fuel stream together with the Diesel fuel that will be used as the main fuel. The equipment capable of using waste oils as fuel and at the same time satisfying the applicable emissions criteria will be preferred as using calorific value of the waste oil will reduce project overall Diesel fuel consumption.

The Solid Waste/Waste Oil incinerator systems shall be capable of safely incinerating the following acceptable solid waste for incineration:

- Organic matter including food;
- Food containers and wrappings including plastics that are contaminated by food;
- Paper;
- Wood;

- Sludge from the sewage treatment plant; and
- Dead animals.
- Waste oils

Materials that are not listed above would be unacceptable for incineration in the Solid Waste/Waste Oil incinerator. These materials include, but are not limited to:

- Uncontaminated plastics, including chlorinated plastics;
- Inert materials such as concrete, bricks, ceramics, ash;
- Bulky materials such as machinery parts or large metal goods such as appliances;
- Radioactive materials such as smoke detectors;
- Potentially explosive materials such as propane tanks, other pressurized vessels, unused or ineffective explosives;
- Other hazardous materials such as organic chemicals (PCBs, pesticides), other toxics (arenic, cyanide);
- Electronics;
- Batteries;
- Asbestos;
- Dry walls;
- Vehicles and machinery;
- Fluorescent light bulbs;
- Whole Tires; and
- Any materials containing mercury.

The emission regulations for the Solid Waste Incinerator (Ref. Golder report Table 3-1) are listed in the table below.

Emissions	**Sector**	**Units**	**Guideline Maximum**	**Reference guildline**
Dioxins and Furans	Municipal Waste	pg I-TEQ/m^3	80	CCME, CWS 2000a
Dioxins and Furans	Sewage Sludge Incineration	pg I-TEQ/m^3	80	CCME, CWS 2000a
Mercury	Municipal Waste	μg/Rm^3	20	CCME, CWS 2000b
Mercury	Sewage Sludge Incineration	μg/Rm^3	70	CCME, CWS 2000b

Notes: Stack concentrations are corrected for 11% oxygen.

The solids waste weight for the incinerator is estimated to be 874 kg per day (based on an allowance of 1.8 kg of sewage sludge per day per person and a camp size of 344 during operations). However to allow for the anticipated peak number of 500 persons in the camp during construction and to allow some redundancy in capacity for the downtime due to weather the design capacity for the incinerator shall be twice that or approximately 1,750 kg per day.

The fuel burner systems shall be capable of safely incinerating the following acceptable waste oil/fuel:

- Waste oils; and
- Flammable or combustible petroleum hydrocarbons unsuitable for its purpose due to the presence of contaminants or loss of original properties (such as gasoline, diesel fuel, aviation fuel, kerosene, naptha or fuel oil).

Unacceptable wastes for incineration in the used oil furnace include the following:

- Waste oil with a flash point of less than 37.7 deg C;
- Paint;
- Solvents; and
- Propane

Under the regulations blending of used oil that exceeds one of more of the criteria listed below (ref. Golder report Table 3-2) is not allowed:

Impurity	Units	Maximum Level Allowed in Used Oil
Cadmium	ppm	2
Chromium	ppm	10
Lead	ppm	100
Total Organic Halogens (as chlorine)	ppm	1000
Polychlorinated biphenyls	ppm	2
Ash Content	%	-

The quantity of used oil generated from the site machinery is estimated to be approximately 130,000 litres per year.

The batch cycle for the primary chamber typically lasts approximately 8 to 10 hours for the burn cycle and is followed by a cool down of approximately 6 to 8 hours. The secondary chamber operates with a retention time of approximately 2 seconds.

The manufacturer shall use good engineering practice to ensure required dispersion of gases to meet applicable air quality standards/objectives for each incinerator.

Provincial and/or territorial regulations that pertain to emissions from incinerators were not found for Nunavut or the Northwest Territories. Therefore, performance limits for the incinerators at Meadowbank will be in accordance with the emission regulations set out by the Canadian Council of Ministers of Environment (CCME) Canada-wide Standards for Dioxin and Furans (CCME, 200a) and the CCME Canada-wide Standards for Mercury Emissions (CCME, 2000b).

The management of used oil is regulated in the Northwest Territories according to the Used Oil and Waste Fuel Management Regulations, N.W.T. Reg. 064-2003 (NWT, 2003).

Ash produced from the incineration process will be disposed of according to the Environmental Guideline for Solid Waste Discharges (D of SD, 2002). The National Pollutant Release Inventory (NPRI) is Canada's legislated, publicly-accessible inventory of pollutants released, disposed of and sent for recycling by facilities across the country (EC, 2007).

3. Mechanical Design Data

3.1 Site Conditions:

A summary of site and conditions is presented in Specification 00 31 20, "General Site Conditions and Equipment Standards."

3.2 Equipment Requirements:

The incinerator shall be a modern, commercially available dual chamber, forced air high temperature incinerator fuelled by Diesel fuel preferably with a capability to use waste oils in the fuel blend. Otherwise a Waste Oil Incinerator shall be proposed.

The Waste Incinerator systems shall be a complete package of Vendor's standard design suitable for the application as described in this document and shall include, but not necessarily be limited to the following items:

- Primary and secondary combustion chambers (incinerator can be multi-chambered, but to be suitably designed to incinerate the different types of solid wastes generated on-site).
- Blowers, motors, coupling, guards and ducts.
- Trays, bins or containers for solid or sludge or ash.
- Exhaust piping/stack system.
- Refractory lining.
- Air and fuel supply system with day tank for fuel.
- Burner with proper air/fuel mixing and atomisation system.
- Temperature control system in order that the organic content of the bottom ash shall not exceed 5 % by weight.
- Volume of furnace shall be sufficient to provide adequate retention time for complete combustion.
- Fuel handling system capable of using winter seasonal diesel as fuel (optional waste oil fuel burning system, provided it meets the environmental standards for toxic emissions).
- Fuel control valve train to Factory Mutual (FM) standards.

- Safety controls that will automatically shut off the fuel supply to the burner in the event the burner fails to ignite or its flame becomes extinguished or in the event of insufficient draft air.
- The incinerators shall be provided with adequate air circulation and ventilation systems.
- Manual ash removal facilities.
- Burner management controls system.
- Spark arrester on incinerator stack.
- Pollution control equipment, as required.

The incinerators shall be designed to comply with the standards and guidelines listed herein and, at a minimum to ensure long term quality of operation and/or any applicable Nunavut standards for municipal works.

The incinerator will be located indoors in a heated building.

The design basis, assumed waste production rates, required incinerator capacity, fuel supply and operational features shall be specified in the Solid Waste Incinerator Technical Data Sheet. The incinerator design must consider aspects of environmental requirements, safety, reliability and efficiency. Incinerators shall be equipped with after burners, scrubbers, filtration units, membranes and shall address the following:

- A safe and low maintenance feed system.
- Feed door system with adequate seals.
- Complete combustion of all organics. The destruction removal efficiency (DRE) for organics shall be high, so that the resulting ash organic content will be < 5 % by weight.
- Minimum of two combustion stages.
- Ash residue handling system.
- A combustion temperature of 650-850°C in primary chamber and around 1000°C in secondary chamber.
- An auxiliary burner to provide minimum operating temperature.
- Thermal $NO_x < 0.043$ g/s.
- Uncontrolled particulate emission not to exceed 3.50 grains/dscm (dry standard cubic metre) or as per local guidelines, corrected to 12% CO_2.
- Flue gas residence time ≥ 1.0 second.
- 12 hours/day of shift operation.
- Minimum manpower requirement.
- % opacity ≤ 5.
- Input material uncompacted bulk density to range between 80 and 800 kg/m^3.

Incinerator shall be provided with low fire system capable of maintaining a unit temperature of 105°C minimum.

3.3 Materials

Unless otherwise stated in this specification, the materials of construction shall be the Vendor's standards that are suitable for the process and environment and have proven successful in similar services.

A certificate of material compliance is required where special alloys other than carbon steel are used.

The incinerator assembly shall be made of carbon steel plate and adequately reinforced with structural steel members.

Heat resistant type paint shall be used for all parts to be painted.

For sheet steel hot dip galvanised coating to ASTM B852-94 and for irregular shaped articles 380 g/m^2 zinc coating to CSA G164 standard shall be applied.

Painting must comply with Specification 00 31 20, "General Site Conditions and Equipment Standards."

3.4 Fabrication

The entire incineration system with its components shall be fabricated and packaged in the Vendor's shop as much as possible to minimize field work.

Vendor shall fabricate and layout the whole system within the maximum dimensions permissible for transportation. The system shall be ready for start-up with minimal field assembly, except for interfacing with the required site facilities.

Equipment shall be built square, true, straight and accurate to required size, with joints closely fitted (weather-tight) and properly secured.

Exposed welds shall be continuous for length of each joint, welding shall be in accordance with CSA W59 and welds shall be filed or ground to give a smooth finish.

The primary and secondary chambers shall be seal welded completely to prevent the inclusion of incoming air.

The design and construction of the incinerator and all associated components shall be such that, in service, they will not crack, warp, or otherwise fail structurally so as to permit flame passage or emission of combustion gases or sparks into the building.

Explosion relief shall be provided as per National Fire Protection Association NFPA 82.

3.5 Spark Arrester

Spark arrester shall be installed on incinerator stack. Exceptions shall be as per NFPA 82.

3.6 Access for Inspection and Maintenance

Primary and secondary chambers shall be provided with adequate access doors for waste loading, inspection, maintenance and ash discharge.

Door assembly shall include a sealing device adequate to stand the internal temperature of the chambers and to prevent air leakage from outside. The door assembly shall be designed to hold a minimum of 12.5mm (0.5 inch) water negative pressure.

Vendor shall provide adequate ladder and platform for easy access and personal safety guards to perform regular operations, inspection and maintenance of incinerator and ancillary equipment.

3.7 Sampling Ports

The incinerator stack design shall incorporate appropriate sampling ports (wiith caps where necessary) at appropriate locations to allow for stack testing to be undertaken during indinerator operation.

3.8 Refractories

The calculated cold face temperature of the exterior surface of the casing shall not be more than 82°C based on ambient temperature outdoors.

The castable refractory shall be secured to the inside of the steel casing with anchors made of stainless steel.

3.9 Waste Loading, Segregating and Ash Removal Facilities

Vendor shall provide a system with related facilities to ensure the operation can be carried out efficiently and safely with minimum involvement of the operator. A complete description of the removal system including Manager requirements shall be included in the bid.

Vendor shall provide the power requirement details for the operation of the incinerator as well as all ancillary facilities.

Vendor shall design such that ash removal from the primary chamber will be initiated automatically or manually at the end of the cool-down cycle.

3.10 Stack and Breeching

Vendor shall design, fabricate and supply stack, to conform with CSA and local code requirements. The stack shall be self-supporting securely fixed with the port of the incinerator, independent of building structure, be properly braced for wind resistance, accommodate expansion and contraction, and provide weather-tight juncture.

Outer shell shall be of galvanized sheet steel formed to required thickness and diameter with appropriate heat resistant paint suitable for galvanized steel. Vendor shall include an option to supply stainless steel shell.

Spark-arrester screen shall be provided at top of stack with 2.9 mm steel wire in 12 mm mesh, formed around 10 mm diameter reinforced bar frame. Galvanized finish shall be applied after fabrication.

A stack sampling station shall be included.

3.11 Burner and Ignition System

Vendor shall provide designs that have been in service for at least 2 years.

The primary and secondary burners shall be flange mounted on the incinerator casing and piped to a single fuel supply line for ease of installation.

All burners shall be capable of firing diesel fuel and be capable of burning used diesel engine oil. Electric ignition system shall be provided.

The expected fuel oil will be P40 diesel fuel, or waste oil composed primarily of used diesel engine oil (10W30, 15W40, 0W50).

All burner combustion air shall be supplied by air blowers. These air blowers shall be mounted on the incinerator casing with ducting leading to the ports of the combustion chambers. Combustion air shall be indoor, ambient condition air.

Blowers and motors shall be provided with external lubrication. Lubrication facilities shall be grouped together for easy access for maintenance.

Burners with high turndown ratio shall be used for the purpose of warming up combustion chambers and for good modulation of control and fuel efficiency.

3.12 Safety Requirements:

The safety fire alarm, water sprinklers, fire extinguishers, first-aid kit and applicable safety standards and requirements shall be considered and recommendations provided within the Vendors' design.

3.13 Installation, Supervision and Commissioning

The incinerators and ancillary equipment will be placed on reinforced concrete foundations (by Others). The load, size and other requirements shall be submitted by the Vendor.

Vendor shall provide all necessary drawings and foundation details for the incinerators and ancillary facilities.

The Vendor shall provide the following services on site during installation and functional testing of the incinerator:

- Inspect all equipment for proper alignment, ease of installation and removal, proper connection and operation and satisfactory performance.
- Demonstrate installation and removal of components of the incinerator.

- Submit a functional test report for each trip to the site.
- Conduct performance tests after successful completion of functional tests.
- Provide the services of a factory-trained representative for two (2) non-consecutive working days to deliver detailed training to the Meadowbank Project site personnel for the safe Operation and Maintenance of the Incinerator.
- The dates of the training will be at AEM's discretion to ensure full participation of the appropriate personnel.
- Training co-ordination shall be made between the AEM training co-ordinator, Manufacturer and the Vendor for finalizing training sessions prior to the training sessions.

AEM shall notify the Vendor of the schedule for site visits. Duration of each trip shall be as necessary to inspect completed work, instruct the Construction Contractor about any future work or to complete the scheduled training.

3.14 Equipment Nameplates

A nameplate shall be provided for each piece of equipment.

Nameplates shall be located in an easily readable location, not subject to splashing of water or ash, attached to the equipment with stainless steel screws or other secure means.

Nameplates shall include the following:

- Manufacturer Name
- Year of Manufacture
- Model Number
- Serial Number
- Capacity
- Efficiency
- Fuels Used
- Other information unique to the equipment, such as safety tips, fire hazard, etc.

4. Electrical Design Data

4.1 Electrical, Instrumentation and Controls

For general selection of electrical and control equipment see Specification 00 31 20, "General Site Conditions and Equipment Standards."

Vendor shall provide complete Burner Management Package (BMP) for fuels used. BMP shall monitor pilots, main burners, fans, fuel supplies, combustion chambers, stack and all other required control parameters. BMP shall also shutdown the incinerator upon a system failure and/or detection of a hazardous condition.

Temperature control shall be segmented per burner gallery. Temperature control of the stack shall be included in the control scheme, as required to meet waste incineration requirements.

Other control parameters to be considered are:

- Flow rate of waste to be incinerated.
- Proper/complete incineration.

It is preferred that the Incinerator Package is controlled by a PLC. The preferred PLC shall be a Schneider Modicon PLC compatible with the Unity platform software. If the Vendor does not have the ability to provide a Schneider Modicon PLC, then the Vendor shall quote their standard PLC with optional pricing for the programming software including any required licenses.

If the package has an HMI, the vendor shall include optional pricing for any required programming software and licenses.

If the PLC or HMI has to be replaced or maintained, the client will need the software, licenses and a copy of the program.

The Incinerator package control system shall be able to communicate to the owner's plant control system either over Ethernet (Modbus/TCP) or RS-485 (Modbus/RTU). The Vendor shall provide either a 10/100 Base-T to Fiber optic Media Converter for Ethernet communications (Phoenix Contact Model # FL MC 10/100Base-T/FO G1300. Order # 2708164.) or an RS-485 to Fibe optic media converter for RS-485 communications. (Phoenix Contact Model # PSI-MOS-RS485W2/FO G1300. Order # 2708562.)

Output and input signals shall be provided for the following:

- Stack temperature.
- Stack temperature set point.
- Incinerator common alarm.
- Incinerator/component running status.
- Incinerator shutdown input.
- Emergency Shut Down (ESD) input.
- Input to low fire state.
- Input to permissive to start.
- Local ESD.
- Any other available PLC register information.

There shall be an adequate Operator Interface to the system for monitoring of the process, alarms, and setpoints.

Vendor shall advise on restrictions of controls/control panel and if control room environment is required.

Vendor shall supply a completely co-ordinated control system, constructed, wired and tested at the factory.

Vendor shall route/terminate locally mounted instruments through a skid edge junction box to the control panel. Local control panel may have an integral junction box.

Vendor's standard package shall be accepted provided that it meets or exceeds the applicable standards.

All instruments shall appear on the Vendor's P&ID in compliance with Instrument Society of America (ISA) Standards. Tag numbers shall be assigned by Hatch.

All instruments forming part of the package require Hatch format data sheets to be completed and submitted with the Vendor Documentation.

All control devices and systems shall be approved by Hatch prior to construction.

Instrument tagging for in-line equipment and major components shall have a nameplate with the following information as applicable:

- Equipment identification number (instrument tag number).
- Pressure rating of pressure containing parts.
- Manufacturer's name.
- Model.
- Serial number.
- Operating range.
- Materials.
- Size of outer and inner components.
- Voltage.
- Type.
- Range.

Information plates and name tags shall be securely attached by mechanical means with threaded fastener or fluted rivets. Adhesive fastening method is not acceptable. Only the instrument tag number may be fastened by stainless steel cable complete with stainless steel crush clamps or 18 gauge stainless steel wire.

PLC shall have a compatible communications port to interface the project's automation system.

All electrical and instrumentation equipment shall be new and CSA approved.

All electrical/electronic equipment and devices must be listed and labelled by a recognized testing agency for their intended use.

5. References and Standards:

All relevant References and standards are listed below:

CEPA, 1999. Canadian Environmental Protection Act. March 31, 1999

Canadian Council of Ministers of the Environment (CCME), 2000a. Canada-Wide Standards for Dioxins and Furans, May ,2000

Canadian Council of Ministers of the Environment (CCME), 2000b. Canada-Wide Standards for Mercury Emissions, June 2000

Canadian Council of Ministers of the Environment (CCME), 2001. Canada-Wide Standard for Waste Incineration – Stack Testing Requirements

Department of Sustainable Development (D of SD), 2002. Environmental Guideline for Industrial Waste Discharges. January 2002

Environment Canada (EC), 2007. National Pollutant Release Inventory (NPRI). http://www.ec.gc.ca/pdb/npri_home_e.cfm

National Guidelines for Hazardous Waste Incineration Facilities – Design and Operating Criteria, Volume 1, March 1992, (CCME)

NWT, 2003. Used Oil and Wase Fuel Management Regulations, 2004, NWT Reg 064-2003. January 1, 2003.

6. Quality Assurance

Vendor shall comply with the requirements of the enclosed section 01 43 00, Quality Surveillance Requirements.

7. Information Required

Drawings and Vendor information must be supplied with the bid as per the attached section 01 32 19, " Vendor Data Requirements".

The Vendor shall supply operation and maintenance manuals (as per attached "Vendor Data Requirements") which shall be indexed and bound or arranged in ring binders and shall include general installation, operation and maintenance instructions, parts lists, wiring and schematic diagrams, final certification drawings and detailed data on all parts and components. System operation, pilot and control device settings shall also be clearly documented.

The Vendor shall include applicable equipment numbers on all submitted drawings. The purchased equipment shall also be tagged with their applicable equipment numbers.

The Vendor shall include a list of recommended spare parts and their itemized costs for one (1) year of operation.

The Vendor shall submit a general arrangement drawing of the proposed equipment indicating weights and maximum loads to be used for the design of the supporting structures.

The Vendor shall submit a general arrangement drawings for the modular incinerator building. In case the building is to be supplied by other party, Vendor shall provide all relevant information needed to design and construct the building.

The Vendor shall supply technical data sheets, schematics and wiring diagrams for all power, control and instrumentation devices supplied.

The Vendor shall provide a current reference list of users of their equipment in similar applications.

END OF SECTION

1. Vendor Information Required

The Vendor shall supply information as detailed in the attached table, Data Requirements and/or as detailed in the Purchase Order. Required operating and maintenance manuals shall be indexed, bound and arranged in ring binders and shall include installation, operation and maintenance instructions, parts list, final certified drawings and detailed data on all parts and components.

Vendor shall specify the amount of field personnel time included in the proposal to assist in commissioning. The Vendor shall also quote per diem rate for qualified personnel to provide additional assistance as required by Owner.

Vendor shall include details of the closest area representative for this project, including the address and telephone number.

Vendor shall provide current reference list of users of existing installations with three (3) reference names, telephone numbers, and actual mechanical availability.

Vendor shall identify all required steps and shall provide a detailed schedule to ensure that the quoted delivery date is met.

Vendor shall indicate appropriate equipment numbers on all submitted drawings and shipping papers.

Each piece of equipment shall be identified with a visible nameplate. The nameplate shall be covered with a clear gel coat of resin and shall include the following minimum information in characters not less than 6mm high:

- Manufacturer's name
- Date of fabrication
- Equipment name
- Equipment number
- Rated motor power

2. Data Requirements Table

Vendor shall provide documents in the specified number of electronic files (E), in pdf format unless otherwise noted, and prints (P) within the specified time period.

Item	Drawings and Data Required Description	With Bid		Requirements (ARO) For Review		Final Certification		Req'd Vendor Documentation Submittal for Review Weeks (ARO)	Quoted Vendor Documentation Submittal for Review Weeks (ARO)
		E	P	E	P	E	P		
1	Completed Technical Data Sheets	1							
2	General Arrangement Drawing (including foundation criteria and material of construction)	1		1*		1	6	3	
3	Fabrication Schedule and Preliminary Drawing List	1						3	
4	Typical Operating and Installation Manuals – Preliminary							3	
5	Performance Curve and Guarantee			1			6	3	
6	Manufacturer's Test Reports						6	3	
7	Forces and Moments			1			6	3	
8	Schematic & Wiring Diagrams	1		1*		1*	6	3	
9	Recommended Spare Parts List			1		1	6	3	
10	Detail Drawings			1*		1*	6	3	
11	Assembly / Erection Drawings			1*		1*	6	3	
12	Parts List Showing Quantities, Materials, etc.			1			6	3	
13	Instructions / Operations, Maintenance and Installation Manuals			1		1	6	3	
14	Weld Procedures and Test Plan								
15	MTR's or Certificates of Performance on all Wetted Parts								
16	Product Quality Certificate or Vendors Equivalent			1			6	3	
17	Completed SPL Motor Specification Sheet								
18	QA Documentation Package					1		At Delivery	
19	Shipping Sizes and Weights	1		1		1		3	
20	List of Manufacturer's Standard Testing Prior to Shipment	1						3	
21	List of Exceptions to the Specifications and Standards	1						3	

Contents of QA Documentation Package Marked ☒

- ☐ Certified 'as built' arrangement drawing(s) and detail drawing(s)
- ☐ Mill/foundry material test report(s)
- ☐ Certificate of 'as built' datasheets
- ☒ Approved procedures (welding, NDT, repair, test, etc.)
- ☒ Welder qualification records
- ☒ Manufacturer's test report / Affidavit of manufacture
- ☒ Assembly, installation and erection instructions
- ☒ Vendors inspection and test plan
- ☒ Operating instructions
- ☒ Nameplate rubbing if applicable
- ☐ Product quality certificate

* - When available but no later than completion of manufacture

Notes:
1. All documents are to be prepared in the English language, Imperial and SI units, Imperial and Metric dimensions

Legend:
ARO = After Receipt of Order
E = Electronic File (in pdf format unless otherwise noted)
P = Print

* Vendor Acknowledgement *

Name _____ Signature _____

Title _____ Date _____

*AutoCAD format required

END OF SECTION

QUALITY SURVEILLANCE PLAN

Quality Surveillance to be conducted on this equipment/material: Yes ☐ No ☒

Quality Surveillance to be conducted per Level: ☒ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4

(Refer to Item 2.1 for Quality Surveillance Levels.)

The following are the minimum Verification and Hold Points that require witnessing by the Owner's representative

PREFABRICATION INSPECTION MEETING REQUIRED Yes ☐ No ☒

PROGRESSIVE INSPECTION: The Owner's representative will require advance notification from the Vendor in order to be present for the following Verification and Hold Points:

VERIFICATION POINTS:

HOLD POINTS:

1. Final inspection and release for shipment, which includes:
Visual inspection of equipment and auxiliary components
Review quality verification documents
Review preparation for shipment
Review tagging requirement

1. Manufacturers Quality Control and Assurance Program

The manufacturer shall have a current, audited quality control and assurance program. The program shall meet the requirements of the International Organization for Standardization (ISO) 9000 series and/or Canadian Standards Organization (CSA) Z299 series and/or the American Society of Mechanical Engineers quality program specifications.

1.1 Authority and Responsibility:

The manufacturer shall assume full responsibility for the Quality Control and Assurance Program, and shall submit the name of the individual who is responsible for administration of the program to the Owner's representative.

The Owner reserves the right to conduct quality surveillance but will not assume any responsibility for the conformance of the work to Codes and Regulations. The Owner's inspection does not relieve the Supplier of the responsibility to supply equipment that meets all the requirements specified in the purchase order documents.

The responsibility to properly manufacture and to thoroughly inspect the equipment prior to its presentation to the Owner's representative for inspection, rests solely with the Supplier. This responsibility includes material and/or equipment received from, or fabricated by Subsuppliers.

1.2 Inspection and Test Plan (ITP):

The manufacturer shall have an Inspection and Test Plan that covers all intended inspection and testing of the equipment available for review. (the ITP is to be submitted for approval when required by Section 01 32 19 'Vendor Data Requirements'.) As a minimum, the ITP shall address the following:

- It shall identify the name of the person responsible for the inspection and testing.
- It shall include a fabrication plan and/or flowsheet identifying all inspection points in the fabrication and assembly of the equipment. This plan should provide enough detail that the Owner's Verification and Hold Points can be identified on it.
- It shall include surveillance of, and inspection by, Subcontractors when applicable.
- It shall reference and identify forms to be used to record the various inspection and testing activities.

2. Quality Surveillance Plan

The Owner maintains the right to perform quality surveillance at the Supplier's facilities and/or at the Subsupplier's facilities. The Supplier must include this right in all their purchase orders to Subsuppliers. The quality surveillance requirements outlined are an integral part of the purchase order.

2.1 Definitions

- **Quality Surveillance**

Quality Surveillance is defined as the selective review, observation, and evaluation of processes, procurement, manufacturing operations, quality control systems and programs to determine supplier compliance with contractual quality requirements.

- **Verification Points (Observation Points)**

Verification Points are defined as critical steps in manufacturing and testing where observation or verification to confirm compliance with the Specification and Code requirements is considered necessary. The Supplier is obligated to advise the Owner's representative three (3) working days in advance of the operation so that it may be observed by the Representative. The Supplier may proceed with work past the verification point provided the Owner's representative has been notified as required and a written report covering the Verification Point will be issued by the Supplier.

- **Hold Points (Witness Points)**

Hold Points are defined as critical steps in manufacturing or testing where witnessing by the Owner's representative is mandatory. The Supplier is obligated to advise the Owner's representative five (5) working days in advance of the operation so that it can be witnessed. Fabrication or testing must not proceed past a Hold Point without witness by the Owner's representative, except by prior written agreement from the Owner.

- **Quality Surveillance Levels**

Level 0: **No Quality Surveillance required.**

Level 1: **Final Inspection:** This level requires only a final inspection visit after manufacturing or assembly completion to release equipment for shipment. This would normally consist of inspections such as overall visual and main dimension checks on the completed equipment; inspection or review of shipping preparations for equipment protection; checking of equipment marking/tagging; review of all associated quality verification documentation.

Level 2: **Limited scope surveillance:** This level includes final inspection as defined in Level 1, plus coverage of established Verification and Hold Points as specified in the Quality Surveillance Plan. Level 2 surveillance is intended for use on items that are "off-shelf" or manufacturer's standard that require the QS inspector's presence to witness specific tests or manufacturing steps in addition to final inspection.

Level 3: **Full scope surveillance:** This level includes quality surveillance coverage as detailed in Level 1 and 2, and in addition requires regularly scheduled quality surveillance visits during the manufacturing or assembly period to verify that procedures and standards are being followed. This level is intended to apply to "engineered" equipment, where the purchaser specifies some or all of the design criteria.

Level 4: **Extreme surveillance and residency surveillance:** This level requires in addition to the activities outlined under Level 3, daily visits or full residency as directed by the

Project.
The Supplier Quality Program Execution shall be monitored on an ongoing basis and all specified tests shall be witnessed. This level is intended for use when criticality, or volume of fabrication is such that full time quality surveillance is deemed necessary.

- **Prefabrication Meeting**

When specified on the Quality Surveillance Plan a Prefabrication Meeting will be scheduled by the Owner's representative prior to the start of manufacturing. The Prefabrication Meeting will cover review of the purchase order specifications and quality control requirements. The Supplier's management personnel responsible for quality control shall participate in the Prefabrication Meeting. **Production is not to commence until this meeting is held.**

2.2 Scope

Equipment on this order will be subject to inspection by the Owner's representative who shall be granted free access to any and all parts of the Supplier's Plant(s) or Subsupplier's plant(s) engaged in the manufacture or process of this order for the purpose of quality surveillance.

The Owner's representative shall be allowed access to Supplier's or Subsupplier's quality process control and quality verification records for the purpose of verifying compliance to the purchase order requirements.

The Supplier's quoted price shall take into account all inspection and quality surveillance requirements. No request for cost extras will be entertained due to inspection or quality surveillance requirements.

The Supplier shall furnish the names and addresses of all Subsuppliers of plates, forgings, pressure containing parts and fabricated sub-assemblies requiring welding or non destructive examinations during the Prefabrication Meeting.

The Supplier shall provide qualification papers for all welding and non destructive examination personnel, for the Owner's representative's review.

The Supplier shall not ship any material or equipment without a "release to ship" having been granted by the Owner's representative.

2.3 Shop Testing

When specific shop and/or performance tests are specified in the scope of the work, technical specifications or data sheets, they shall be in addition to the Supplier's standard if the Supplier's standard shop and performance testing do not include these. If the Supplier does not have adequate facilities for the required testing, it shall be so stated in the proposal and alternative test methods shall be proposed.

2.4 Quality Surveillance Plan

The attached Quality Surveillance Plan identifies the minimum Verification and Hold Point notifications required to be communicated by the Vendor. The Quality Surveillance Plan is subject to change at the Owner's discretion based on Vendor performance.

END OF SECTION