Waste Dump Station

FULL SPECIFICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. The CONTRACTOR shall furnish, install, and place into operation a complete Waste Receiving System that shall enable the facility to manage waste delivered by haulers from remote sites. This specification outlines the required control system and software that shall, at a minimum, identify permitted haulers and automatically transfer the transaction data to the administrator's office PC and other networked PCs.

1.2 QUALITY ASSURANCE

A. The control system and software furnished under the section shall be provided by a manufacturer who has been regularly engaged in the design and manufacture of waste receiving systems for at least 10 years.

B. The approved manufacturer of the control system and software shall be required to demonstrate a fully functional system that complies with this specification. The manufacturer shall provide a WEB presentation to show how the control system and software shall work.

C. The control system shall be manufactured in accordance with all local and applicable standards and shall be inspected as an "Industrial Control Assembly" with either UL508A or CSA label identification.

D. The manufacturer shall provide documentation necessary for the installation and operation of all associated components of the control system.

E. The control system and software shall be furnished complete. All features outlined in this specification shall not impose any obligation to the SCADA supplier or the owner of the facility. Any control systems and software that reference these features as being provided by SCADA shall not be accepted on this project.

1.3 WARRANTY

A. The manufacturer shall guarantee all components furnished as part of this specification for a period of two (2) years from date of shipment.

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B. The manufacturer shall provide software updates and phone support services for a period of two (2) years from date of shipment.

1.4 APPROVED MANUFACTURER

A. The control system and software shall be the *PortALogic System* supplied by EleMech Inc of Aurora, IL.

1.5 TRAINING AND FIELD SERVICE

A. The manufacturer shall provide a minimum of eight (8) hours of online orientation and WEB-based training for initial software installation and configuration.

B. The manufacturer shall provide one service (1) trip if deemed necessary by the manufacturer. The trip shall include two (2) days of onsite service for administrative training, field configuration, and testing of the system.

1.6 USAGE AND LICENSING

A. The manufacturer shall provide a multi-user software license to the facility. The license shall allow the software to be installed on multiple PCs at no additional cost.

PART 2 – CONTROL SYSTEM AND SOFTWARE

2.1 HAULER ACCESS STATION

A. The manufacturer shall provide a secured Hauler Access Station that shall identify waste haulers and be configurable to interface with associated equipment such as doors, gates, valves, samplers, and screens & washers.

B. Hauler access shall be established using a keypad, magnetic-stripe card, non-insertion proximity card, or long-range proximity card.

C. The Hauler Access Station shall be constructed with an outer door that can be closed to enable a wash down of the area without damaging the internal mounted devices.

D. The Hauler Access Station the station by opening the door to the enclosure and entering a truck ID number using the keypad or by using an assigned card. The card type shall be magnetic-striped or non-insertion proximity card.

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E. If additional security measures are required by the facility, haulers shall use an additional card or pin number to access the front gate or door of the facility.

F. The Hauler Access Station shall include a daylight visible display and outdoor-rated robust keypad with integral 2-track card reader. The display shall provide log-on instructions for the hauler and prompt the hauler for additional information such as waste type.

G. The Hauler Access Station shall include a receipt printer and integral light. The printer shall quickly print and cut each receipt and the integral light shall inform the hauler that a receipt has been printed. A journal copy of hauler transactions shall be stored and printed upon request. A low paper alarm shall be configured with the management software to alert personnel that the receipt paper roll must be changed.

H. Each printed receipt shall include the following:

1. Date and Time of Transaction
2. Station ID and Ticket Number
3. Hauler ID number
4. Volume Unloaded
5. Elapsed Time
6. pH Reading (If configured)
7. Alarm ID
8. Waste Type
9. Capacity Balance (If configured for debit-based accounting).

I. The Hauler Access Station shall continue to function normally even without a network connection to the office. All hauler transaction data shall be stored in non-volatile memory. If a network connection is established, all transaction data shall be automatically synchronized and stored securely in an IT managed SQL database.

J. The hauler access station shall be maintained without requiring Arc Flash protective clothing. All permitted personnel shall be able to access the Hauler Access Station without high risk. Activities such as changing the receipt paper shall be simple and possible by all permitted personnel. Motor Starters or other high voltage devices must be located in a separate control panel. Control circuits greater than 24VDC shall not be accepted.

K. Optional Waste Features:

1. The Hauler Access Station shall divert the waste to a special holding tank

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2. The Hauler Access Station shall be configured to set operational parameters to process thicker waste in shorter time to decrease the hauler's unloading time.

L. The Hauler Access Station shall include the following components:

1. Enclosure
    a. NEMA 4X Stainless Steel
    b. Internal Swing-out Door (Stainless Steel)
    c. Lockable Full-Grip Handle with 3-Point Latch
    d. Drip Shield
    e. Thermally Protected for Severe Cold Weather Installations
    f. Instruction Decals
    g. Optional Sun Shield and Pedestal

2. Access Keypad / Card Reader
    a. Secure, Robust, and Outdoor Rated
    b. Clear, Backlit LCD Display, Visible in All Levels of Light
    c. Compliant with Local and Global Security Standards
    d. Advanced Tamper-Proof Design

3. Programmable Logic Controller, PLC, Including:
    a. Ethernet Connection to PortALogic Software
    b. Configurable Spare Analog and Digital I/O
    c. Printer Interface
    d. Detachable Terminals
    e. Non-Volatile Memory

4. Printer Terminal
    a. Compact Thermal Printer
    b. Exclusive Anti-Paper-Jam System (Self feeding, Self Correcting)
    c. Integral Auto-cutter
    d. Backlit Receipt Dispenser
    e. Printed Receipt for Each Hauler
    f. RS232 and USB Data Port

5. Pilot Devices
    a. Heavy Duty, 30mm. AB Type 800H or Equal
    b. 2-Position Switch with Done-Start Legend
    c. Green Light with System Ready Legend

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6. 24VDC Power Supply

7. Ethernet Switch (Non-Managed)

2.2 MANAGEMENT SOFTWARE

A. The necessary management software shall be installed on one or more site owned PCs. The PC(s) must have a network card to communicate with Hauler Access Stations. The PC(s) must have Windows XP Pro OS or Windows 7 OS.

B. The software shall allow local or remote networked PCs to seamlessly interface with one or more Hauler Access Stations at one or more receiving sites using an Ethernet Connection.

C. The software shall monitor the Hauler Access Station(s) and automatically upload hauler transaction data to the networked office PC(s).

D. The data from each hauler transaction shall be collected and stored in a secure SQL database. The following data shall be collected:

1. Site ID
2. Station ID
3. Ticket Number (On Hauler Receipt)
2. Hauler ID
3. Date and Time of Transaction
4. Volume Unloaded
5. pH (if configured)
6. Waste ID
7. Alarm ID
8. Sample Information (if configured)
9. Volume remaining (if using debit-based account)
10. Five (5) additional fields will be available for the administrator to define

E. The software shall be used to configure the hauler's pin number, magnetic-striped card, and/or proximity card used at the Hauler Access Station(s).

F. The software shall be used to configure any devices that will measure the volume or pH. The software shall be used to configure any samplers. If other analog devices are installed, they shall be configured with the software.

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G. A user-friendly interface shall be provided to allow the facility to view hauler transaction data and enter/edit information when necessary. The software shall have a built in sorting tool that allows the user to create multiple data views. The software shall have a "Main Screen" view that displays all transaction data divided into the following sections:

1. Transaction Log
2. Customers
3. Truck Status
4. Customer Balances
5. Link to Reports

H. The software shall allow the facility to define the Hauler Access Station's operating time schedule. If the station is closed, a message will alert the hauler that the station is closed.

I. The software shall allow the facility to periodically initiate a vacuum sampler. Samples can be taken automatically for each transaction or randomly for each truck. The software will collect data to show specifically which load was sampled.

J. Customer (Hauler) and Truck Features:

1. The software shall allow the facility to create a list of customers that will be billed for use of the Hauler Access Station(s). The software shall not limit the facility as to the number of customer accounts that can be created.

2. The software shall allow the facility to create multiple truck accounts and link these accounts to the corresponding customers. The software shall not limit the facility as to the number of trucks that can be assigned to each customer.

3. The facility shall be able to enter customer ID numbers, pin numbers, and details regarding the truck including capacity, weight, and vehicle information into the system.

4. Each customer shall receive a Hauler ID number and 4-digit PIN number for each truck. PIN number assignment can be unique per owned truck or common to all owned trucks, depending on the facility and customer preference. The software shall auto-generate customer PIN numbers or shall allow the administrator to manually assign pin numbers to customers.

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5. The software shall allow the facility to enable or disable a truck's access privilege. Once disable, a hauler's access will immediately be denied at all sites. A message shall be displayed at log-in at the hauler station informing the hauler to contact the office.

K. Waste Type Features:

1. The software shall allow the facility to define a list of permitted waste types and an associated rate to be charged per 1000 units of waste unloaded. The software shall allow the facility to define these units. (Gallons, Liters, etc…) The facility shall also be able to set different rates for the same waste type. (Ex. Charging In-county customer vs. out-of-county customer)

2. When accessing the station, the customer shall be prompted at log-in to identify the waste type that shall be unloaded.

L. Status and Alarm Features:

1. The software shall allow the facility to monitor the Hauler Access Station in real-time. The facility shall be able to monitor the current customers/trucks total flow, waste types, valve status, equipment faults, and additional user-defined variables.

2. The software shall allow the facility to monitor alarms at the Hauler Access Station. Alarms make the station unusable or may prevent a hauler from unloading. These alarms include:
    a. E-Stop pressed
    b. Printer Low on Paper
    c. Equipment Fault
    d. Storage Tank at High Level
    e. Optional User-Defined Alarm (20 Available)

M. Reporting, Billing, and Payment Features:

1. The software shall allow the facility to manage each customer on a debit or credit basis. The facility shall choose whether customers shall pay prior to using the Hauler Access Station or after.

2. The software shall debit account balances automatically and auto-deactivate the truck's access privilege should the customer's balance drop below the set minimum. The facility shall be able to set the minimum.

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3. The software shall allow the facility to bill on a truck capacity basis, a metered basis (flow-meter or scale), or by manual entry.

4. The software shall allow the facility to enter payments if required. The total balance shall automatically recalculate once a payment is applied. A customer's account that is deactivated shall be automatically reactivated once money is received.

5. The facility shall be able to use the features of the software to substantiate the data recorded from each transaction and accurately calculate the total cost on a per customer basis.

6. The software shall have multiple pre-formatted reports that will, at a minimum, show activity with daily totals, statements, and customer and truck usage. The software shall also allow the facility to generate billing statements that can be exported for accounting use. The reports and billing statements shall be easily exported into Crystal Reports or as a PDF, Microsoft Excel spreadsheet, or Word document.

PART 3 – HAULER ACCESS STATION OPERATION

3.1 LOG-ON SEQUENCE

A. The hauler shall turn the selector switch to the "START" position.

B. The green "SYSTEM READY" pilot light will illuminate informing the hauler that access has been granted. The inlet valve will open.

3.2 LOG-OFF SEQUENCE

A. The hauler shall turn the selector switch to the "DONE" position.

B. The inlet valve shall then close and a receipt will be printed for the hauler.

3.3 ALARM SHUTDOWN

A. The Log-off sequence will automatically be initiated if an alarm is triggered.

B. An alarm ID shall be printed on the receipt and shall be recorded into the system.

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