

Bid Specifications and General Description OPW FSC3000™ Fuel Site Controller-based System

Part 1. General

1.1 Summary

This document describes the specifications for a fuel site controller, which is the hardware/firmware in control of the system, and the option of housing the fuel site controller in its own enclosure or with mounting ability inside a fuel island terminal (FIT) as specified in these following pages.

1.2 Approval and Certification

The terminal shall comply with all applicable Federal Communications Commission (FCC) requirements, including FCC Part 15, Class A.

The manufacturer shall maintain an ISO-9001 certification, ensuring quality management of design manufacturing.

The terminal must be certified as PCI-compliant (bank-card security compliance) by an independent third-party certifier.

1.3 Testing

The fuel site controller shall be tested by an independent third-party in accordance with test procedures of the applicable national and/or local standards. Tests performed will include, but will not be limited to, applicable sections, standards and requirements of the following agencies:

- Electronic Testing Labs (ETL), per Underwriter Laboratories UL 1238
- Electronic Testing Labs Canada (ETLC), per CSA C22.2 No. 142 & 157
- National Weights and Measures Certification

Part 2. System Description

The following technical specifications provide the specific parameters, requirements and capabilities to which the fuel site controller and supporting system components and/or optional FITs, shall comply.

The purpose of the device shall be to control dispensing equipment and provide accurate accounting of all fuel and related products being dispensed.

2.1 Technical Specifications

A. Dimensions

The cabinet for the external fuel site controller shall have a height of 2.25 in. (5.7 cm), a width of 10 in. (25.4 cm), and a depth of 8.25 in. (21.0 cm).

B. Power Requirements

The power supply for the fuel site controller shall be between a range of 85-240 VAC, 50/60 Hz; 25 watts maximum.

C. Operating Temp Range

The controller shall operate at a temperature range of 32°F to 122° F (0°C to 50°C).

D. Communication Ports & Protocol

The fuel site controller shall include the following ports for communication:

- USB
- Ethernet
- RS-485 (Petro-Net™)
- Six (6) RS-232 (Terminal/Printer/Modem/Pass-through/two (2) auxiliary ports)

2.2 Controller Specifications

The fuel site controller shall have the capacity to control up to 12 FITs. A fully expanded system shall be able to control thirty-two (32) hoses simultaneously. Both mechanical and electronic pumps shall be controllable by the controller.

The communication protocol between the fuel site controller and the fuel island terminal shall be RS-485 (Petro-Net™). The maximum wiring distance between the controller and the terminal shall be 5,000 feet (1,524 meters).

A 900-MHz wireless option shall be available to facilitate communication between the controller and the terminal without running physical wires. The Radio Frequency link shall be encrypted to ensure data security.

The controller shall also have six (6) RS-232 communication ports for communication with the following:

- Journal Printer (remote controller only)
- Local Terminal or PC
- Pass-through port for interfacing to a tank gauge (remote controller only)
- Dial-out modem for network authorization
- Two (2) auxiliary ports

The controller shall have three (3) options to facilitate remote communications: wireless 3G modem, Bluetooth® modem and 802.11 WiFi communication modem.

The controller shall have, as standard equipment, a USB flash drive that can be removed, allowing for transaction information to be downloaded to a separate PC for processing.

A 5 in. x 9 in. (12.7 cm x 22.9 cm) pin dot-matrix bi-directional journal printer located near the FSC to make hard copies of transaction data and reports is optional for a remote controller only. The printer shall be capable of operating at 180 cps (characters per second). The printer shall use standard 8.5 in. x 11 in. (21.6 cm x 27.9 cm) pin-feed paper and shall be capable of printing on 1, 2, or 3 part paper.

2.3 Accepted Fleet Fueling Cards

The controller shall also recognize a wide range of commercially available fleet-fueling cards. When these cards are used, the controller must dial out to the card authorizer for information on whether the transaction should be allowed.

Fleet cards accepted shall be as follows:

- CFN
- TCH
- Fuelman[®]/GASCARD
- Comdata
- FleetOne[®]
- Wright Express[®] (WEX)
- T-Chek[®]
- EFS
- Pacific Pride
- Irving Oil
- Kardall
- Company Card
- Intevecon
- Various bank cards

The controller shall provide self-test and diagnostic utilities for start-up and troubleshooting.

2.4 Memory

The controller shall be capable of storing the following data for each card record:

- Card Number (19 digits)
- Card Type - Single, Driver, Vehicle
- Status - Valid or Invalid
- Account Number (0 - 9999)
- Expiration Date - MM/DD/YY
- Monthly Allocation - \$NNNNNN.NN
- Daily Allocation - \$NNNNNN.NN
- Misc. Keyboard Entry - Off/On
- Personal Identification Number PIN (0 - 6 digits)
- Current Odometer (6 digits)
- Odometer Reasonability Code (up to 15 different levels)
- Pump Restriction (up to 15 different levels)
- Quantity Restriction Level (up to 15 different levels)
- Driver Name (9 characters)
- Language Code (1 digit)

The controller shall be capable of storing the following data for each account record:

- Account Number (0 - 9999)
- Status - Valid or Invalid
- Account Discount (0 - 99%)
- Expiration Date - MM/DD/YY
- Monthly Allocation - \$NNNNNN.NN
- Daily Allocation - \$NNNNNN.NN
- Quantity Restriction Level (up to 15 different levels)
- Pump Restriction (up to 15 different levels)
- Account Name (9 characters)

2.5 Card/Account Record Memory

The controller's card memory shall be expandable through memory upgrades to increase the number of card or account records that can be stored locally. The memory levels shall have the following capacity:

<u>Memory Level</u>	<u>Number of Card or Account Records</u>
CL2 (standard)	2,000
CL3	8,000
CL4	16,000 – 64,000 (depending on the options and card restrictions selected)
CL5	64,000+ (cards depending on configured options, requires second SIMM)

The controller shall be capable of storing the following data for each transaction record:

- Sequential Transaction Number
- Transaction Termination Code (i.e., Normal, Quantity Restriction, etc.)
- Account Name
- Driver Card Number
- Vehicle Card Number (omitted for single card transactions)
- Date and Time
- Fuel Type
- Pump Number
- Quantity Dispensed
- Unit Price
- Total Transaction Extended Monetary Amount
- Odometer Entry
- Misc. Keyboard Number
- Consumption Factor - Miles per Gallon or Liters/100 km
- Receipt Status - Issued/Not Issued (if available from FIT)

2.6 Transaction Record Memory

The controller's transaction memory shall be expandable through memory upgrades to increase the number of transaction records that can be stored locally. The memory levels shall have the following transaction capacity:

<u>Memory Level</u>	<u>Number of Card Records</u>
TL2 (standard)	500
TL3	1,000
TL4	2,000

Part 3. System Capabilities and Features

The following specifications provide the specific parameters and requirements to which the controller and supporting components shall comply.

A. General

The controller shall be capable of operating as a complete fuel management system without requiring a PC for normal fueling operations.

For dial-out transactions, the controller shall maintain a connection if there is another user attempting to use a card issued by the same authorizer.

The controller shall be manufactured using current microprocessor technology, and be easy and inexpensive to expand and adapt to the changing needs of the fuel site.

The controller shall include the option of an integrated FSC (in the FIT) to reduce installation costs and allow for use at fueling sites where no building or enclosure is available to house the FSC.

The controller shall have toll-free telephone support available directly from the factory during normal business hours (8 a.m. - 6 p.m. CST/CDT).

The controller shall be able to control multiple brands of dispensers with either mechanical or electronic registers.

The controller shall be upgradeable to a wireless, vehicle-mounted, RFID tag, non-intervention fueling systems.

The controller shall provide access by using various types of media including:

- Magnetic stripe cards¹
- Proximity cards¹
- Proximity keys
- Multi-programmable memory keys
- Manual entry of numbers via the keyboard.

The controller shall be of a modular design making it inexpensive to maintain.

The controller's operating software shall be stored in flash memory providing the ability to download software upgrades remotely without requiring a person at the site.

The controller shall record data for each transaction in non-volatile memory (standard default), on a removable USB flash drive and include the option of a journal printer.

The controller shall allow data to be stored on a removable USB flash drive or accessed and downloaded via dial-up, Bluetooth[®], WiFi, IP authorization converter for high-speed Internet, or 3G cellular.

The controller shall be capable of recording a field of up to ten (10) digits entered at the keyboard by the user.

The configuration utility shall have the ability to save the configuration settings for one or more fueling sites. Common configuration data for all sites shall be saved in a common database and unique site data shall be stored in individual site databases.

3.1 Security

A. Card Security

Access to products shall be restricted to people holding valid cards and who perform a predetermined series of data entry operations. The controller shall allow for immediate invalidation of any user.

¹ All references to "cards" in this document shall be interpreted to include any of these listed access methods.

The controller shall be able to recognize major credit cards and dial-out for authorization before the transaction is allowed.

The internal card file shall have the capability of limiting each user to a specific amount of fuel per transaction.

For dial-out transactions, the controller shall transmit completed transactions to the authorizer the next time a connection is established to authorize a card. In the event no other card for that authorizer is used within a certain time, the controller shall dial out at a pre-determined interval specifically to transmit the completed transaction.

The fuel site controller's PCI-compliance shall ensure cardholder security.

B. Administration

The operator shall be able to program a six (6) character, alphanumeric password that must be entered correctly to gain access to the controller either directly or via phone modem.

A site operator(s) shall be required to enter a password before gaining access to the system.

An authorized system administrator will have the ability to control any access to the controller by site operators (ability to change and maintain site operator passwords, etc.)

An authorized site operator shall be able to check and/or change controller operating parameters, as well as card and account data.

C. Open/Close

The controller shall have the capability of being placed in either an "Open" or "Closed" mode by authorized personnel. Fueling is not allowed in the "Closed" mode.

D. Personal Identification Numbers (PIN)

An internal electronic card file within the fuel management system contains the user's Personal Identification (PIN) number and shall hold user-specific data for each local card authorized to use the console.

The controller shall have the ability to recognize and verify PINs of up to four (4) digits when entered at the FIT. The following methods shall be available to select PIN's for each individual user:

- Individually program a PIN number for each user
- Automatically generate a random PIN number

E. Validation Status

The controller shall have the ability to allow authorized personnel to declare drivers, vehicles, or accounts invalid.

The controller shall be able to automatically invalidate a card after three (3) consecutive incorrect PIN entries.

The internal card file shall have the capability to restrict the type of product the user may obtain.

F. Inventory Control

The operator shall be able to program into controller memory up to eight (8) tank inventory balances. The inventory balance for each product shall be reduced automatically as each fueling transaction occurs. The operator shall be able to change this number to accommodate fuel deliveries. The controller shall be capable of displaying, on demand, the current inventory amount for each individual tank.

3.2 Fuel Type/Product

The operator shall be able to specify and store the price and description for up to 32 products.

The operator shall be able create a table of up to 15 combinations, or levels, of authorized products. The operator shall then be able to assign a level number to each individual user or account group.

The controller shall have the capacity to accumulate individual pump and product totals as well as track each pump's totalizer. The operator shall be able to enter an initial pump totalizer number into the controller for each

pump. This number will be incremented by the controller when product is dispensed and can be checked against the pump's totalizer to determine the accuracy and working status of the pulser.

3.3 Dual Language

The controller shall have the capability of storing two (2) sets of fuel island terminal display messages in two (2) different languages or two (2) separate sets of display prompts (i.e., Enter odometer: as opposed to Enter hub meter). When a card is read, the system shall display all messages in the correct language for that user.

3.4 Mileage Reasonability

For use at a single site, the controller shall have the capability of checking an odometer entry against the last odometer entry stored locally in the card record, plus the authorized range allowed for that vehicle. The controller shall be able to either record an error or deny access to fuel for an odometer entry that is not within the correct range.

For use at multiple sites, vehicle mileage will be stored on a key, which will be automatically checked against the entered odometer value for reasonability. Multiple mileage ranges shall be available.

3.5 DPC

The controller shall have the optional capability to include direct pump control, allowing the fuel site controller to communicate serially to electronic Gilbarco, Wayne or Gasboy dispensers.

3.6 DTC

The controller shall have the optional capability to be able to communicate with dispensers containing in-pump readers, such as Wayne CATs and Gilbraco CRINDs. These devices shall be able to be used in place of or in combination with the FITs.

Part 4. Configuration/Operation

4.1 Configuration

The controller shall be designed to offer a wide variety of configurable operational modes and provide maximum versatility without special programming or engineering changes.

The controller shall be configurable and programmable using a Windows®-based software utility.

The configuration utility shall have on-screen "Help" support for explanation of all functions. A single-line command mode should also be available.

Configuration settings shall be available for editing in an off-line mode via the configuration utility, and downloaded to the sites automatically.

4.2 Clock/Calendar

The controller shall keep an accurate accounting time and date, even in the event of a power failure. The date and time formats shall be user selectable (i.e., MMDDYYYY and HHMM). The controller shall be able to automatically correct for daylight savings time.

4.3 Quantity Restriction

The operator shall be able to create a table of quantity restriction levels. The operator shall then be able to assign a level number to each individual user or account group to limit the amount of fuel dispensed for each transaction.

4.4 Single or Dual Card/Key Operation

The operator shall be able to program the controller for card-less (manual entry via keyboard), single and/or dual card/key operation.

4.5 Pump Configuration

The operator shall be able to program operating parameters for each of the 32 hose positions. These parameters shall include:

- Pump Number
 - A two-digit pump number from 01 - 99 to be assigned to any available relay position.
- Fuel Type Number
 - The two-digit fuel type number (01 - 32) and operator-selectable description of the product being dispensed by the pump.
- Tank Number
 - The tank number (1 - 8) to be used by the inventory program.
- Quantity of Fuel per Transaction Limit.
- Total Transaction Time-Out
 - The controller shall be able to monitor a total transaction time, programmable for each hose between 1 - 999 seconds (an entry of '0' shall allow unlimited time). The controller shall turn off the pump if that time is exceeded.
- Pump Handle Time-Out
 - The controller shall monitor the time between authorization and activation of the pump handle which is programmable for each hose between 1 - 999 seconds (an entry of '0' shall allow unlimited time). If the device is selected but the pump handle not activated by the user before the end of this period, the transaction shall be terminated.
- First Pulse Time-Out
 - The controller shall monitor the time between the activation of the pump handle and the receipt of the first pulse which is programmable for each hose between 1 - 999 seconds (an entry of '0' shall allow unlimited time). The transaction shall be terminated if that time exceeds the programmed parameter.
- Missing Pulse Detector (MPD) Time-Out
 - A "Missing Pulse Detector" (MPD) shall be built into the circuit controlling each pump so that all power shall be removed from the pump if the pulses indicating fuel flow are not received at regular intervals. The length of the acceptable interval between pulses

shall be programmable for each hose between 1 - 999 seconds (an entry of '0' shall allow unlimited time).

- Pulser Divide Rate
 - The operator shall be able to program the controller to assign 1 - 9999 pulses per unit of fuel measure.
- Pump Deactivation Sentry
 - The operator shall be able to program the controller to automatically place a pump "out of service" after three (3) consecutive "zero quantity" fueling transactions occurring from that pump (zero quantity transactions may be an indication of a pump or pulser hardware failure). An "out of service", or other operator defined message, pump shall be indicated on the FIT display. This feature may be disabled for a particular pump.

4.6 Site Name

The controller shall have the provision to program a 12-character site name into memory. This is used when the controller is accessed via modem.

4.7 Manual Operation

The controller shall allow the operator the ability to place pumps in a "manual" mode, allowing manual operation of the pumps (without entering a card). This can be done directly, through the programming terminal, or remotely by modem. (There are 3 "manual" modes. 1) Using the programming terminal or remotely, you can enter the card number and other data and authorize one transaction at a time and capture all the information. 2) You can flip the bypass switches (only on mechanical pumps) and completely bypass the system in an emergency or if the system is down. 3) The PCM versions of mechanical pump control (not K800) can optionally record the fuel transactions that occur in bypass without card numbers or other data.

4.8 Display Prompts

All terminal display prompts shall be programmable by the operator. The controller shall use a set of standard default prompts at start-up.

4.9 Pump Handle Monitor

The controller shall monitor the pump handle to insure that it was turned to the "OFF" (reset) position before the pump can be reactivated. The operator shall be able to disable this feature.

4.10 Pass-Through Port

The controller shall have the capability of passing modem communications through to another RS-232 device connected to this port.

4.11 Account Group Discount

The controller shall have the capability to assign a discount, either in percent (0% - 99%) or in cents per gallon to each account. That discount will be reflected on the price of each transaction.

4.12 Interface

The controller shall have the ability to interface with a variety of data processing equipment. The data processing equipment may be located on-site or remotely. In the remote mode, all commands and functions normally performed on-site through the local terminal shall be executable remotely via standard telephone lines using modems or through an Intranet connection via Ethernet.

Part 5. PC Software Specifications (Optional)

Three versions of optional PC software shall be available to poll, process and maintain data collected or managed by the FSC.

The PC software shall be available in tiered packages with differing levels of functionality, as follows.

5.1 Standard Software

The PC software shall be a 32-bit Windows® application with a GUI interface.

The minimum PC requirements are as follows:

- Windows XP or Windows Vista® operating system
- 500 MHz processor speed
- 128mb of RAM
- 250MB hard disk space
- CD-ROM Drive
- 800 x 600 monitor
- An available serial port, modem or Ethernet connection depending on connection method to the FSC.

The PC software shall be able to communicate via direct serial connection, modem or Ethernet.

The PC software shall be available to automate the capture of data by establishing a connection to remote sites. The capture process shall be initiated either manually or automatically at a predefined time for up to 99 sites.

The PC software shall clear the controller's memory automatically after the fueling transactions are polled.

The PC software shall have a backup/restore function that allows the user to backup and restore all card and account records and controller configuration data.

The PC software shall have a data export utility capable of exporting transaction data in the following formats:

- Excel 5.0
- HTML
- dBase IV
- FoxPro 2.5
- Lotus 1-2-3 WK3
- Paradox 4.x
- ASCII CSV (comma separated variable width)
- ASCII SDF (space delimited fixed width)

The PC software shall include a card-management feature. The card management feature shall allow card records to be edited in an off-line mode at the PC and the updates sent to each site automatically after the transactions are polled.

The PC software shall have the ability to run more than 50 different reports, including:

- Department Usage History Report
- Cardlock Product Usage History
- Cardlock Site Usage History Report
- Vehicle report including mpg and cost per mile

Pump Reconciliation Report

- Card Master File Listing
- Vehicle Master File Listing
- Account Master File Listing
- Site Listing
- Product Listing
- Transaction History Report

- Fuel Summary Report

5.2 Software PREMIER

A PREMIER version of PC software shall be available that adds additional features and capabilities to the PLUS version of software.

The PREMIER version of software shall have the ability to poll data from most automated tank gauging (ATG) systems. Only one phone line shall be required to communicate to both the ATG and fuel site controller by using the fuel site controller's pass-through port.

The PREMIER version of software shall have the ability to check fuel inventories and generate reports based on the ATG data.

The PREMIER version of software shall have the ability to compare the inventory and delivery data from the ATG with the transaction data from the fuel site controller and generate reconciliation reports.

5.3 SQL Software

An SQL version of the software shall be available, and it shall use the following versions of Microsoft® SQL Server Database for storing and managing transaction data.

- SQL Server 2005 Express
- SQL Server 2005 Standard and Enterprise Editions
- SQL Server 2008 Express, Standard and Enterprise Editions

The SQL version of the software shall include complete site reconciliation on a browser-based system operating over a server. The content is delivered to users via browser.

The SQL version of the software shall be designed to poll multiple TCP/IP based fuel control systems and tank gauges simultaneously.

The SQL version of the software shall include terminal emulation and on-demand transaction polling for fuel control systems and tank gauges.

The SQL version of the software shall be browser enabled; supporting the following browsers:

- Internet Explorer 7 & 8
- Mozilla Firefox 3.5 & 3.6

The SQL version of the software shall provide simultaneous multi-user access.

The SQL version of the software shall provide centralized card database for multiple sites.

The SQL version of the software shall provide communications through modem, Ethernet or direct connection.

The SQL version of the software shall be compatible with multiple operating systems, including the following:

- Windows® XP
- Windows® Server 2003 (32/64-bit)
- Windows® Server 2008 R2 (64-bit)
- Windows® Server 2012
- Windows® Vista
- Windows® 7
- Windows® 8

The SQL version of the software shall have the ability to export transactions in the following formats:

- Excel
- CSV
- XML

The SQL version of the software shall offer multi-level access and security features.

The SQL version of the software shall allow for the creation of lists, typically related to geographic areas assigned to cards. These lists shall define rules as to where a card can fuel, as well as control the amount of cards that are managed at a specific site.

Part 6. Fuel Island Terminal Specifications (Optional)

There shall be a different FIT option for each of the following three scenarios:

- When a character-based display is needed and a receipt is not required. This will be referred to as "Option A".
- When a monochrome graphic display, dual card readers and/or a receipt printer is required. This will be referred to as "Option B".
- When a large color graphic display, and/or a receipt printer is required. This will be referred to as "Option C".

When a character-based display is needed and a receipt is not required, the FIT shall include the following standard features:

- An easy-to-read, backlit, 32-character, 2-line, alphanumeric liquid crystal display (LCD). This display shall be readable in bright sunlight.
- A 12-key metal keyboard with audible (tone) and tactile (keys move when pressed) feedback.
- The ability to control up to four (4) mechanical dispensers simultaneously from each FIT.
- The ability to program or reprogram memory keys.
- A thermostatically controlled heater to ensure operation in extreme cold.
- An optional see-through weather shield to protect the reader from blowing rain or snow.
- The ability to allow for an integrated (internal) FSC.
- A magnetic strip card reader.
- An optional HID proximity card/key reader.

When a graphic display, dual card readers and/or a receipt printer is required, The FIT shall include the following standard features:

- An easy-to-read, back-lit, graphics liquid crystal display to assist the user by showing instructions graphically as well as with text.
- A 12-key durable keyboard with audible (tone) and tactile (keys move when pressed) feedback.
- An optional alphanumeric keyboard.
- Each FIT shall be able to control up to eight (8) dispensers and be able to selectively access up to 32 hoses controlled by other FITs.
- The FIT shall have the capability of being equipped with two (2) different card/key reading devices to facilitate a combination of cards and/or keys. Most any combination of the following devices shall be available:
 - Push/pull magnetic card reader
 - Proximity card/key reader
 - Multi-programmable read/write key reader
- The FIT shall be capable of being equipped with an internal receipt printer. The receipt printer shall use thermal paper and have an integral paper cutter.
- An electronically controlled weather shield device shall protect the readers and receipt printer from the elements.
- The ability to allow for an integrated (internal) FSC.

When a large color graphic display, and/or a receipt printer is required, the FIT shall include the following standard features:

- A sunlight readable VGA color graphics liquid crystal display to assist the user by showing instructions graphically as well as with text.
- Ability to load customized graphic screen images from portable USB flash drives.
- Dual keypads that support alphanumeric and 12-key durable keyboard with audible (tone) and tactile feedback (keys move when pressed).
- Each FIT shall be able to control up to eight (8) dispensers and be able to selectively access up to 32 hoses controlled by other FITs.
- The FIT shall be capable of being equipped with an internal auto-loading receipt printer. The receipt printer shall use thermal paper and have an integral paper cutter.

- The FIT shall have a locking door for changing the receipt paper without allowing access to the other system components.
- A dual-head magnetic strip card reader.
- The ability to allow for an integrated (internal) FSC.

The FIT, in any case, shall be contained in a weatherproof cabinet. A pedestal for mounting the FIT shall be standard equipment.

Each "Option A" FIT is capable of controlling four (4) mechanical pumps. Each "Option B" FIT is capable of controlling eight (8) mechanical pumps, and each "Option C" FIT is capable of controlling eight (8) mechanical pumps. The system can be expanded to control additional mechanical pumps. These devices shall normally be located in the FITs.

A remote PCM enclosure shall be available in cases where the pump wiring is not in close proximity to the FITs. A remote enclosure shall be able to control up to four (4) pumps.

The system shall control electronic dispensers by connecting directly to the dispensers or to the distribution box provided by the dispenser manufacturer. No third-party interface shall be required.

For FITs that require a remote FSC, the system shall be able to interface to the following pump controllers for applications where transactions must be initiated either at the FIT or by an attendant via the pump controller. This interface shall be provided by means of a Universal Pump Controller (UPC).

- Gilbarco TS-1000
- Wayne HyperPIB or Fusion
- Tokheim VX100 or DHC

6.1 Dispenser Terminal Controller

The controller shall include the ability to utilize Gilbarco CRIND and/or Wayne CAT in-dispenser card terminals in place of or in addition to a fuel island terminal.

The controller allows communication to a maximum of 12 in-dispenser card terminals or readers.

Part 7. Manufacturers Support and Service

- 7.1** The manufacturer shall provide technical phone support to Authorized Warranty Service Organizations, Authorized Distributors and their service personnel.
- 7.2** The manufacturer shall require training and certification for all of its authorized distributors and installers.
- 7.3** The manufacturer shall provide certification information on authorized distributors and installers.
- 7.4** The manufacturer shall offer re-certification training to keep authorized distributors and installers updated with current product information, installations and procedures.
- 7.5** The distributor or service organization shall be available to offer on-site training of company maintenance personnel on installation, programming and troubleshooting of the system.
- 7.6** The manufacturer shall offer replacement parts to authorized service organizations for servicing systems.
- 7.7** The manufacturer shall offer overnight shipping on replacement parts to minimize system downtime.
- 7.8** The manufacturer will supply, upon request, a formal list of all authorized and certified distributors and service contractors for sales, support and installation.

Part 8. Warranty

- 8.1** OPW Fuel Management Systems warrants that all OPW Tank Gauge and Petro Vend Fuel Control systems supplied by OPW Fuel Management Systems to the Original Purchaser will be free from defects in material and/or workmanship under normal use and service for a period of 12 months from the date of installation or 15 months from the date of shipment from OPW. Additionally, OPW Fuel Management Systems warrants that all upgrades and replacement parts (new and remanufactured) supplied by OPW Fuel Management Systems will be free from defects in material and workmanship under normal use and serviced for a period of 90 days from the date of installation or for the remainder of the system's original warranty, whichever is greater, as set forth in the first sentence of this statement. The foregoing warranties will not extend to goods subjected to misuse, neglect, accident, or improper installation or maintenance or which have been altered or repaired by anyone other than OPW Fuel Management Systems or its authorized representative. The buyer's acceptance of delivery of the goods constitutes acceptance of the foregoing warranties and remedies, and all conditions and limitations thereof.