PROCESS SOLUTIONS

Partnerships in Cement

Process Solutions Canada Limited
16240 – 116 Avenue
Edmonton, Alberta
Canada T5M 3V4
Ph: (780) 452-2227
Fax: (780) 488-5449
Toll Free Australia 1-800-006-532

Self-Service Loading

A Key Tool for Customer Service and Resource Optimization

Self-Service Loading from Process Solutions is the way to provide customers and contract carriers with convenient 24/7 access to loading of bulk materials, while freeing up staff to concentrate on other duties.

Self-Service Loading kiosk systems may be provided in stand-alone mode, but are most effective when linked directly to the producer's financial and/or Bill of Lading system. When provided as an order fulfillment extension to Process Solutions' **Cement Distribution Management** suite, *Self-Service Loading* becomes a crucial component of a complete distribution logistics solution.

The Self-Service Loading Process

The keys to an effective automated self-service loading process are:

- Security of access
- Simplicity of operation
- Ensured accuracy of data
- Effective problem handling

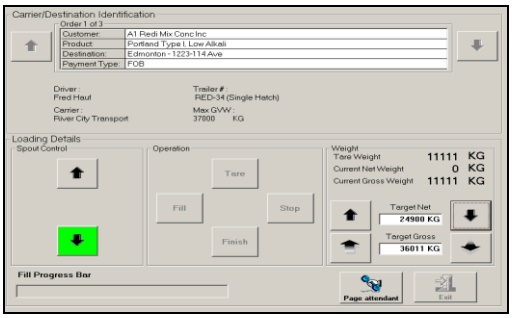
Security of Access

Access to *Self-Service Loading* is provided through an encoded Radio Frequency Identification (RFID) card, optionally supplemented by PIN number entry. Each valid RFID card is encoded to be recognized specifically by readers only at the specified loading location. The unique identification number on the RFID card is 'linked' to its holder within a secure *Self-Serve Administration* application. The registered holder of the card may be an individual (normally a truck driver), a carrier or a customer. In order to gain access to *Self-Service Loading*, the card holder must have at least one valid, allocated order recorded in the system.

The same RFID card may also be used to provide holders with access to the site or to the room from which loading is controlled.

Simplicity of Operation

Process Solutions' *Self-Service Loading* system 'walks' the user through a simple and intuitive set of process steps. The primary input mechanism is a touch-sensitive screen.



Self-Service Loading User Screen

Once authorized through recognition of the card ID, the user follows a simple and logical sequence to complete loading of an order. The next logical action to be taken is highlighted in **green**.

- Select from the available rigs configured to the card or enter a custom generic rig.
- Select among the available orders to be loaded by touching the **up or down arrows** on either side of the order display at the top of the screen.
- Touch **'Tare'** to capture the tare weight of the vehicle to be loaded. This will 'lock in' the order selection.
- Confirm the target weight of product to be loaded as displayed at the lower right. The default is full capacity of the vessel being loaded, but target may be decreased by touching a down arrow.
- Touch the spout control **'down' arrow** until the spout is seated in the loading hatch.
- Touch the **'Fill'** button. The 'Current Weight' fields will display the incrementing of the weight, and the Fill Progress Bar will indicate how far filling has progressed toward the target.

(If necessary), touch the **'Stop'** button at any time during filling to momentarily stop the flow. Until the automatic cutoff setpoint has been reached, loading may be resumed by touching the 'Fill' button again.

- When the cutoff setpoint is reached, the silo valve will close automatically, and a message in red appears on the SSL screen.
- At this point, only material remaining in the airslide can flow into the truck. If the setback was set too low, a knife gate or butterfly valve can be activated to prevent overloading.
- Before the spout can be raised, it will lift slightly and vibrate, to loosen any retained material.
- Touch the green **'up' arrow** to raise the spout, holding it until a limit switch is triggered.
- Touch the **'Finish'** button. A screen will pop up, prompting the user to sign on the touch screen. The signature is printed on the Bill of Lading.

Ensured Accuracy of Data

All data captured by the *Self-Service Loading* system is either selected from options set up through the *Self-Serve Administration* application, or retrieved directly from instruments, such as the scale weight indicator. With no manual entry options available, invalid or incorrect data is virtually eliminated.

All data relating to customers, ship-to locations, carriers and materials will normally be derived directly from the 'master data' source, probably the financial or ERP system. Site-specific data such as silo storage locations and the names of individuals authorized to use the system will be entered into the Self-Serve Administration database, and controlled by a local administrator.

The format and content of Bills of Lading and of records of shipment to be submitted to the financial system will be customized for the cement producer. Specific Bill of Lading requirements, such as state certification stamps or weighmaster certificates may be added through defined 'business rules'.

Effective Problem Handling

The *Self-Service Loading* system has been designed to identify and handle a wide variety of problem situations. When the system is unattended, the system can be configured to send a telephone page to a designated attendant, either automatically or at the initiation of the kiosk user.

Physical Description & Specifications

The *Self-Service Loading* system is provided in a pre-packaged 'kiosk' format, as illustrated below. The kiosk may be installed on or through a wall, and may be located in a loadout office area, OR in the loading bay itself. When located outside, the kiosk will require protection from rain and from direct sunlight. The kiosk itself is climate controlled.

Process control interface may be through an existing PLC, or through a pre-wired PLC installed in a dustproof cabinet, supplied by Process Solutions. The kiosk requires a 120 volt, 15 amp 3 wire power source, and will normally require a telephone line (for paging and modem communication) and a network access point for interface with the financial system.

Self - Service Loading Kiosk

For More Information

Luis Ramirez
Manager, Cement Distribution Solutions
Telephone: (780) 452-2227 ext. 5272
E-mail: luis.ramirez@pscl.com
Visit our web site at www.pscl.com