State of California
Department of Food and Agriculture
Division of Measurement Standards

Certificate Number: 5383(a)-05

California Type Evaluation Program
Certificate of Approval
for Weighing and Measuring Devices

For:
System Controller
Vehicle Scale and/or Meter Terminal Automation System Application
Models: 65
Guardian 2 (Version 3.05 and Greater)
Guardian 3, Version 2005.12.1 (Build 2180) and greater

Submitted by:
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Standard Features and Options

Models: 65 and Guardian 2 are for meter terminal automation system applications only
Model: Guardian 3 controls vehicle scales, meter terminal automation systems or both simultaneously

Diamond Control system's card reader (mag stripe)
RS232/RS422 converter
Multiple load receiving element capabilities
Bill of lading and weight ticket printing system
Vehicle, customer, and product ID
Card reader: Models HC05 or HC12

Minimum System Requirements:	CRT video monitor Alphanumeric keyboard Printer, mouse
Operating System:	Windows NT, 2000, XP, or newer
Program Language:	Delphi
Hardware:	Pentium II Processor, 450 Mhz, 128MB RAM/6GB HD

This device was evaluated under the California Type Evaluation Program (CTEP) and was found to comply with the applicable technical requirements of California Code of Regulations for "Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Effective Date: December 21, 2005

Mike Cleary, Director

Dtn Diamond Control
System Controller
Models: 65, Guardian 2, and Guardian 3

Application: System controller for use with certified and compatible weight indicators and vehicle scales and/or wholesale meter terminal automation systems.

Identification: Each model is identified as follows:

65: An ID tag with the required information is attached to the Model 65 enclosure and the card reader and will be visible after installation.

Guardian 2: Model designation and software version viewable on Guardian 2 welcome screen. This screen appears after system login is complete and can be viewed at any time by closing all open Guardian 2 application windows.

Guardian 3: Model designation and software version viewable on Guardian 3 login screen and at any time by selecting "Help-About" from the main menu bar.

Sealing: The Model 65 audit trail information may be printed. The information contains configuration data.

The Guardian 2 and 3 systems use a Category 3 audit trail to track metrological changes. Printed information contains the following: Event counter data, date and time, parameter ID, and API gravity value [entered into the computer for the fuel storage tank which is assigned to the delivery meter(s)].

For weighing operations (Guardian 3 only), the software requires no provision for sealing and is protected by a password retained by the manufacturer. Provisions for sealing metrological parameters are provided by the certified weight indicator(s).

Accessing audit trail (log) information – Guardian 2 and Guardian 3:

Guardian 2: From the menu bar, select "Activity", then "Audit Log". Press the "Filter ID" button, then enter "WMEDIT" (case sensitive) into the window. Filter will apply to all audit log messages, and only WMEDIT (Weights and Measures Edit) messages will be displayed.

Guardian 3: From the menu bar, select "Activity", then "Audit Log. Enter "WMEDIT" (case sensitive) into the "Filter" window. Filter will apply to all audit log messages, and only WMEDIT (Weights and Measures Edit) messages will be displayed.

Operation: The guardian terminal Model 65, Guardian 2, and Guardian 3 are independent systems. Each system monitors loading rack operations, prints bills of lading (BOLs) and reports, and controls access via the HC05/HC12 card reader. Metrological functions used with the progressively newer operating systems in the Guardian 2 and the Guardian 3 have not changed. The systems acquire the gross meter reading and temperature from an approved wholesale meter. The product API value is stored in the system's database. This information is used to determine net delivery and is printed on the BOL with all other required information.

The Guardian 3 is designed to control weighing and metering operations simultaneously or individually. For weighing operations, the driver pulls the vehicle onto the scale, exits the vehicle, proceeds to the card reader, and follows instructive prompts throughout the weighing operation.

Dtn Diamond Control
System Controller
Models: 65, Guardian 2, and Guardian 3

Test Conditions: This certificate supersedes Certificate of Approval Number 5383-04 and is issued to certify that the Guardian 3 system can control vehicle scales, terminal automation systems or both simultaneously. The vehicle and terminal systems had been evaluated separately on previous occasions and an on-site evaluation was performed on a combined system. The system controller was interfaced with a Mettler-Toledo and a Fairbanks certified indicator and two vehicle scales. The system controller was also interfaced with a Smith Meter Model F4-V1 meter and a Smith Meter Model S-XP-ALD1-A20000 loading control system for testing a wholesale loading rack system. The emphasis of the evaluation was on proper system operation, printed information, API table calculations, audit trail information, and conformance with marking requirements. Previous test conditions are listed below for reference.

Certificate of Approval Number 5383-04: This certificate superseded Certificate of Approval Number 3891-91 and was issued to include Models Guardian 2 and Guardian 3 systems. The Guardian 2 and Guardian 3 systems are the same metrologically as the Model 65 system but are used on newer operating systems. The Guardian 2 system uses Microsoft Windows NT and the Guardian 3 uses Microsoft Windows 2000 and XP operating systems. The systems identification, audit trail, and required printed ticket information (BOL) were reviewed for compliance. The Guardian 3 system was tested in the field to verify no metrological changes were made to the original base system that is still used with the newer operating systems.

Certificate of Approval Number 3891-91: The guardian system was installed at a loading rack terminal for type approval evaluation. After review of information supplied by the manufacturer and data from a field test, the results indicate the system complies with the code requirements.

The results of the evaluations indicate the systems comply with applicable requirements.

Type Evaluation Criteria Used: Title 4, California Code of Regulations, 2005 Edition

Tested By: R. Malloy (CA) 3891-91, D. Reiswig (CA) 5383-04, K. Jones (CA), J. Roach (CA), S. Muñoz (CA) 5383(a)-05