NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:
Weighing/Load Receiving Element
Platform Scale, Livestock Scale, Low Profile-Load Cell
Electronic
Models: HP and SLV Series
n_{max}: (see page 2)
e_{min}: (see page 2)
Capacity: (see page 2)
Platform: (see page 2)
Accuracy Class: III

Rice Lake Weighing Systems
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Standard Features and Options

The weighing elements covered by this certificate are identified by XxXHP-YYK or XxXSLV-YYK, where XxX is the platform dimensions in feet and YY is the capacity in thousand pounds.

Construction:

- HP Series Designates Carbon Steel Deck Construction
- HPSS Series Designates Stainless Steel Deck Construction
- HPHE Series Designates Stainless Steel Deck Construction with Hermetically Sealed Load Cells
- SLV Series Designates Carbon Steel Deck Construction Livestock Scale

The Following Models May Be Constructed of Mild or Stainless Steel:

- HPQC Series designates scales with deck lifting mechanism
- HPFT Series designates scales with forklift channels
- HPSD Series designates scales with removable polyethylene deck
- HPLD Series designates light duty scale

Load Cells Used:

- Rice Lake RL30000A1 Series (Certificate of Conformance No. 90-159A1)
- Rice Lake RL30000C Series (Certificate of Conformance No. 98-042)
- Rice Lake RL35023 (Certificate of Conformance No. 91-045)
- Flintec Model SLB Series (Certificate of Conformance No. 97-061A1)
- Celtron Model SQB Series (Certificate of Conformance No.91-043A4)
- Sensortronics Model 65023 Series (Certificate of Conformance No. 86-044A2)
- or Metrologically Equivalent NTEP Approved Load cells

Temperature Range: -10 ºC to 40 ºC (14 ºF to 104 ºF)

This device was evaluated under the National Type Evaluation Program and was found to comply with the applicable technical requirements of "NIST Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Stephen Benjamin
Chairman, NCWM, Inc.

Kurt Floren
Chairman, National Type Evaluation Program Committee
Issued: January 31, 2013

Rice Lake Weighing Systems

Weighing/Load Receiving Element / HP and SLV Series

Application: For use as general-purpose floor scale or for weighing single heads of livestock (Model SLV) when interfaced with a compatible and NTEP Certified Indicating Element.

Identification: The required information is located on an approved label on the side of the scale base.

HP Series Weighing Element Sizes and Parameters:

Range of Platform Sizes		Range of Capacities (lb)		Range of e_{min} Values (lb)	
From	To	From	To	From	To
2' x 2'	8' x 10'	500 x 0.1	30 000 x 10	0.1	10

n_{max} not to exceed 5000 d
Length or width can be increased by 125% not to exceed maximum platform area: 80 sq. ft.

HPLD Weighing Element Sizes and Parameters:

Range of Platform Sizes		Range of Capacities (lb)		Range of e_{min} Values (lb)	
From	To	From	To	From	To
3' x 3'	-	2000 x 0.5	-	0.5	-
4' x 4'	-	2000 x 0.5	10 000 x 2	0.5	2
4' x 5'	5' x 5'	5000 x 1	10 000 x 2	1	2

n_{max} not to exceed 5000 d
Length or width can be increased by 125% not to exceed maximum platform area: 25 sq. ft.

SLV Livestock Scale:

Sizes	Range of Capacities (lb)	Section Capacity (lb)	Range of e_{min} Values (lb)
Up to 4' x 8'	4 000	4 000	1

n_{max} not to exceed 4000
Length or width can be increased by 125% not to exceed maximum platform area: 32 sq. ft.

Sealing: The load cell junction box is on the side of the weighing element or remotely mounted. Undetected access to the load cell junction box can be prevented by threading a wire security seal through holes in two screws in the cover to the junction box, through tabs on the junction box or with pressure sensitive seals over the joint of the junction box.

Test Conditions: This Certificate supersedes Certificate of Conformance No. 92-001A9 and is issued to recognize use of the SLV model as a multiple animal livestock scale because of the size of the weighing element. Although designated as a Class III device, NIST Handbook 44 allows the use of a higher Class device for lower Class weighing. The device was already tested for use with animals so no additional testing was deemed necessary. Pervious test conditions are listed below for reference.

Certificate of Conformance Number 92-001A9: This Certificate supersedes Certificate of Conformance No. 92-001A8 and is issued to include the SLV Series and to clarify the maximum platform area allowed in the tables above. The emphasis of the evaluation of the SLV Series was on the device design and operation. For the purpose of this evaluation, the Model 4x8SLV-4k (4000 lb x 1 lb capacity) weighing element was interfaced with a Rice Lake Model IQ+355-2A indicating element (Certificate of Conformance No. 97-130A2). The load cells used were Sensortronics model 65023A2.5k (Certificate of Conformance No. 86-044A2). The initial evaluation included discrimination tests, increasing/decreasing distributed load tests using 4000 lb of test weights, corner tests at 1000 lb, and shift tests at 1000 lb. The device was sealed to meet the minimum use requirements of 30 days and 300 weighments of livestock. Permanence testing consisted of discrimination tests, increasing/decreasing distributed load test using 4000 lb of test weights, and shift tests over corners using 1,000 lb of test weights.

Certificate of Conformance Number 92-001A8: This Certificate supersedes Certificate of Conformance Number 92-001A7 and is issued without additional testing to correct platform size in the table on page two.

Certificate of Conformance Number 92-001A7: This Certificate supersedes Certificate of Conformance Number 92-001A6 and is issued to include additional models in the HP Series. The emphasis of the evaluation was on the device design and operation. For the purpose of this evaluation, the Model 5' x 5' HPLD (10 000 lb x 2 lb capacity) weighing element was interfaced with a Rice Lake Model IQ+310A indicator (Certificate of Conformance Number 91-123A3). Several increasing/decreasing load tests were conducted

Rice Lake Weighing Systems

Weighing/Load Receiving Element / HP and SLV Series

with 10 000 lb test weights. In addition, a corner tests at 2500 lb and shift tests at 5000 lb were conducted. These tests were repeated approximately 30 days later. The Model 4' x 4' HPLD (2000 lb x 0.5 lb) interfaced with a Rice Lake Model IQ+310 indicator (Certificate of Conformance Number 91-123A3) was also submitted for lab evaluation and tested for accuracy over a temperature range of –10 °C to 40 °C (14 °F to 104 °F). A load of approximately one quarter capacity was applied over 100 000 times. Increasing/decreasing load, shift and corner tests were conducted periodically during this time.

Certificate of Conformance Number 92-001A6: This Certificate supersedes Certificate of Conformance Number 92-001A5 and is issued to change the contact information. No additional testing was required.

Certificate of Conformance Number 92-001A5: This Certificate supersedes Certificate of Conformance Number 92-001A4 and is issued to include additional models in the HP Series. The emphasis of the evaluation was on the device design and operation. For the purpose of this evaluation, an HPQC (4' x 4', 5000 lb x 1lb) and an HPSD (4' x 4', 5000 lb x 1 lb) load-receiving element were submitted and interfaced with a RLWS IQ+310A indicator (Certificate of Conformance Number 91-123A3). Several increasing/decreasing load and shift tests were performed. An HPFT (4' x 4', 5000 lb x 1 lb) load-receiving element was also evaluated for portable applications. The scale was interfaced with a RLWS IQ+310A indicator (Certificate of Conformance Number 91-123A3). Several increasing/decreasing load and shift tests were performed. The scale was moved several times and retested after each move. No further testing was deemed necessary.

Certificate of Conformance Number 92-001A4: This Certificate superseded Certificate of Conformance Number 92-001A3 and was issued to include additional models, capacities, and platform sizes in the HP Series. The emphasis of the evaluation was on the device design and operation. For the purpose of this evaluation, a 3' x 3' (500 lb x 0.1 lb capacity), a 3' x 3' (1000 lb x 0.2 lb capacity), and a 5' x 7' (1000 lb x 0.2 lb capacity) HP Series bases were submitted for evaluation and interfaced with a RLWS IQ+310 indicator (Certificate of Conformance Number 91-132A3). Several increasing/decreasing load and shift tests were performed. A load approximately one-half capacity was applied to the 500 lb (3' x 3'), and the 1000 lb (3' x 3') scale 100 160 times. The scales were tested periodically during this time.

Certificate of Conformance Number 92-001A3: This Certificate superseded Certificate of Conformance Number 92-001A3 and was issued to include additional models and capacities in the HP Series. The emphasis of the evaluation was on the device design, operation and marking requirements. For the purpose of this evaluation, the Model 8x10HP-30KHP base (30 000-lb x 10-lb capacity) was interfaced with a RLWS IQ+310 indicator (Certificate of Conformance Number 91-132A3). Several increasing/decreasing load and shift tests were performed. The scale was used for over 30 days with the minimum use criteria required by NTEP and then tested again.

Certificate of Conformance Number 92-001A2: This Certificate superseded Certificate of Conformance Number 92-001A1 and was issued to correct a typographical error in the model number table.

Certificate of Conformance Number 92-001A1: This Certificate superseded Certificate of Conformance Number 92-001 and was issued to include additional models and capacities in the HP Series.

Certificate of Conformance Number 92-001: The Model 5' x 7' HP-10K (10 000 lb x 1 lb capacity) weighing element was installed with a Rice Lake Model IQ700HB indicator for the evaluation. Two increasing/decreasing load tests were conducted with 10 000 lb test weights. In addition, a corner test at 2500 lb and two shift tests at 5000 lb were conducted. These tests were repeated approximately 30 days later. The Model 3' x 3' HP-2 K (2000 lb x 0.5 lb) was also submitted for lab evaluation and tested for accuracy over a temperature range of –10 °C to 40 °C (14 °F to 104 °F). A load of approximately one quarter capacity was applied over 105 000 times to the Model 3' x 3' HP-2 K weighing element. Increasing/decreasing load, shift and corner tests were conducted periodically during this time.

Evaluated By: Gary Castro (CA) 92-001; W. West (OH) & M. Buccelli (MN) 92-001A3; W. West (OH) 92-001A4; E. Matthews (OH) 92-001A5; A. McCoy (OH), Craig Parker & Tom Maynard (City of Columbus) 92-001A7; D. Onwiler (NE) 92-001A9

Type Evaluation Criteria Used: NIST, Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices, 2013. NCWM, Publication 14: Weighing Devices, 2012.

Rice Lake Weighing Systems

Weighing/Load Receiving Element / HP and SLV Series

Conclusion: The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

Information Reviewed By: T. G Butcher (NIST) 91-001A1; L. Sebring (NIST) 91-001A2; S. Patoray (NCWM) 92-001A6, 92-001A7, 92-001A8, 92-001A9; L Bernetich (NCWM) 92-001A7, 92-001A8, 92-001A9; J. Truex (NCWM) 92-001A10

Examples of Device:

HPQC

HP

SLV

NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:
Indicating Element
Digital Electronic
Models: IQ+390-DC, IQ+590-DC and 390HE-Y*
n_{max}: 10 000
Accuracy Class: III / III L

***Submitted By: Contact Info. Updated January 2010**
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Standard Features and Options

Standard Features:
- Semi-automatic (push-button) Zero
- Automatic Zero Setting Mechanism
- Initial Zero Setting Only During Calibration
- Semi-automatic (push-button) Tare
- AC/DC Adaptor
- Remote Printer Capability
- Gross/Net Display
- lb/kg/g/oz/tons/metric tons Unit Capability
- RS 232 Connector
- Battery Operation
- Standby Mode*(see page 2 for operation)

Model 390HE:
- Housed In A FRP (Fiberglass Reinforced Polyester) Enclosure
- *The Y In the Model Designation Represents Input Power and Will be a Letter, A: 115VAC, B: 230VAC

Model IQ+590-DC Additional Features:
- Keyboard Tare
- 19 Button Keyboard

Temperature Range: -10 ºC to 40 ºC (14 ºF to 104 ºF)

This device was evaluated under the National Type Evaluation Program and was found to comply with the applicable technical requirements of "NIST Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Randy Jennings
Chairman, NCWM, Inc.

Judy Cardin
Chairman, National Type Evaluation Program Committee
Issued: May 10, 2000

1135 M Street, Suite 110 / Lincoln, Nebraska 68508

Rice Lake Weighing Systems

Indicating Element / IQ+390-DC, IQ+590-DC and 390HE-Y

Application: A general purpose indicator to be interfaced with an approved compatible weighing element.

Identification: The capacity by division statement and, where applicable, the CLC will appear on an adhesive label on the front of the indicator. The other required information appears on an adhesive label on the side of the indicator.

Sealing:
390HE: A drilled head screw that secures the front panel to the indicator housing is located in the upper right corner. A wire security seal can be threaded through this screw and a small hole located in the upper right side of the housing behind the drilled screw head and back housing come together. This prevents undetected access to a switch that must be depressed to enter the setup and calibration mode.

IQ+390-DC and IQ+590-DC: A drilled head screw covers and prevents undetected access to a switch that must be depressed to enter the setup and calibration mode. It is on the lower right side of the back of the indicator. A wire security seal can be threaded through this screw head and another drilled head screw that secures the back cover of the indicator.

Operation: Standby mode is a configurable low power mode used to lengthen battery life when the indicator is inactive. The standby feature works like Auto-Off except that some power is supplied to the processor and the indicator displays the letters "STNDBY." To exit the standby mode and return to active mode, press any key on the indicator.

Test Conditions: This Certificate supersedes Certificate of Conformance Number 98-203A1 and is issued to add the model 390HE housed in an FRP (Fiberglass Reinforced Polyester) enclosure for harsh environments. The emphasis of the evaluation was based on the new housing. A model 390HE indicator was submitted for evaluation interfaced with a Rice Lake Model BM1212-100 weighing element. Several tests were conducted to confirm the structure of the FRP housing. No further testing was deemed necessary. Previous test conditions are listed below for reference.

Certificate of Conformance Number 98-203A1: This Certificate superseded Certificate of Conformance Number 98-203 and was issued to add the model IQ+ 590-DC with keyboard tare capability. It was also issued to remove the "initial zero setting mechanism" standard feature and replace it with "initial zero during calibration." The emphasis of the evaluation was on keyboard tare entry. A model IQ+590-DC Indicator was submitted for evaluation interfaced with a Rice Lake Model BM1212-50 weighing element. Several tests were conducted to confirm the operation of the keyboard tare option. No further testing was deemed necessary.

Certificate of Conformance Number 98-203: The emphasis of the evaluation was on the device design, operation and compliance with influence factor requirements. Several performance tests were conducted with the indicator interfaced with a Rice Lake Model BM1212-100 scale base. A load cell simulator and was also used for the evaluation. The indicator was tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). Additionally, tests were conducted using power supplies of 100 VAC and 130 VAC, and of 5.6 VDC and 10.0 VDC.

Evaluated By: W. West (OH) 98-203; W. West (OH) 98-203A1; T. Lucas (OH), W. West (OH) 98-203A2

Type Evaluation Criteria Used: NIST, Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices, 2000. NCWM, Publication 14: Weighing Devices, 2000.

Conclusion: The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

National Conference on Weights and Measures

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National Type Evaluation Program
Certificate of Conformance
for Weighing and Measuring Devices

For:
Indicating Element
Digital Electronic
Model: 420-XY*, 420HE-XY*, 420 Plus-XY*, and Tracer AV
n_{max}: 10 000

Accuracy Class: III / III L

Submitted by:
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Standard Features and Options

Model: 420-XY*, 420HE-XY*, 420 Plus-XY*

Semi-automatic (push button) zero	Remote printer capability
Automatic zero tracking (AZT)	Gross/net display
Initial zero setting only during calibration	LED display
Keyboard tare	RS232 connector
Semi-automatic (push button) tare	4-20mA Loop
AC power supply	Two set points (e.g. Target wt, overfill, underweight, etc)
DC power supply	Wireless communication

Model: Tracer AV

Semi-automatic (push button) zero	Unit switching (push button) (lb and kg)
Initial zero setting mechanism (IZSM)	RS232 connector
AC power supply	Remote LED Customer Display

*The model suffixes XY designate the following:
X= Enclosure Type; 1= Plastic, 2= Stainless Steel, 3= Panel mount
Y= Power Input; A= AC voltage, D= 9 – 36 VDC, E= 10 – 60 VDC

Temperature Range: -10 ˚C to 40 ˚C (14 ˚F to 104 ˚F)

This device was evaluated under the National Type Evaluation Program (NTEP) and was found to comply with the applicable technical requirements of Handbook 44, "Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Judith L. Cardin
Chair, NCWM, Inc.

Don Onwiler
Chairman, National Type Evaluation Program Committee

Issue Date: November 20, 2007

Rice Lake Weighing Systems
Indicating Element
Model: 420-XY, 420HE-XY, 420 Plus-XY, and Tracer AV

Application: A general purpose indicating element to be interfaced with an approved compatible weighing element and/or as a single draft hopper controller.

Identification: The capacity by division statement and, where applicable, the CLC or Section Capacity will appear on an adhesive label on the front bezel plate of the indicator. The other required information appears on an adhesive label on the side of the indicator.

Sealing: The Model 420-XY, 420HE-XY and 420 Plus-XY wire security seal can be threaded through two drilled head screws that secure the back cover of the indicator to prevent undetected access to a switch that must be depressed to enter the set-up and calibration mode, on the bottom side of the indicator. The Model Tracer AV requires two wire security seals, one of which goes through two drilled head screws on the top right side and through two holes drilled in the lid/front and lid/back near each screw, and the other wire security seal goes through two drilled head screws on the top left side and through one drilled head screw on the back left side.

Test Conditions: This certificate supersedes Certificate of Conformance Number 04-076A4 and is issued to add the power input range of 10 – 60 VDC which is suffix letter E. A model 420 Plus – 2E was submitted for DC input power testing and was interfaced to a 10 000 division load cell simulator. An increase/decrease test was run at 10 VDC and 60 VDC input power. No further testing was deemed necessary. Previous test conditions are listed below for reference.

Certificate of Conformance Number 04-076A4: This certificate supersedes Certificate of Conformance Number 04-076A3 and is issued to include model Tracer AV, which is electrically identical to the models 420-XY, 420HE-XY, and 420 Plus-XY. Model Tracer AV has up to two remote keypads and only has two basic keys for Zero and Units. Model Tracer AV has a metal enclosure with up to two remote displays. The only tests deemed necessary were the RFI test and the Generic Increase/Decrease with Repeatability since the Tracer AV is electrically identical to the models 420-XY, 420HE-XY, and 420 Plus-XY. Previous test conditions are listed below for reference.

Certificate of Conformance Number 04-076A3: This Certificate supersedes Certificate of Conformance 04-076A2 and is issued to include a wireless communication indicating element and the option of wireless output and wireless remote control for the 420 and family of indicating elements. For the purpose of this evaluation, two model iQube Indicating Elements – Active Junction Boxes with load cell simulators – were set up in the laboratory, both with wireless communication. Several tests were conducted to verify that the signal from the iQube Active Junction box was sent to the correct indicator and that there was no interference between the two iQubes. Tests were also conducted to determine how the indicator reacted when the signal was interrupted between the iQube Active Junction box and the indicating element. Previous test conditions are listed below for reference.

Certificate of Conformance Number 04-076A2: This Certificate supersedes Certificate of Conformance 04-076A1 and is issued to include the models 420-XY & 420HE-XY, which are electrically identical to the model 420 Plus-XY. The model 420Plus-XY has a full keypad and the models 420-XY & 420HE-XY only have the 5 basic keys for Zero, Gross/Net, Tare, Units and Print. The 420HE-XY has a plastic enclosure with a larger display that has been previously evaluated on other Rice Lake Weighing Systems indicators. Evaluation verified that Tare functions as required with only Push Button (Platter) Tare and no Keyboard Tare. No further testing was deemed necessary. Changed the designation for DC Voltage from a "B" to a "D"

Certificate of Conformance Number 04-076A1: This Certificate supersedes Certificate of Conformance 04-076 and is issued without additional testing to change the model number from 420-XY to 420 Plus-XY. No metrological features were changed on the device.

Certificate of Conformance Number 04-076: The emphasis of the evaluation was on design, operation, performance, marking and compliance with influence factor requirements. A model 420-2A indicator was fully evaluated and a model 420-2B indicator was used for VDC evaluation. The indicator was interfaced with a Rice Lake Model CW 80 Weighing/Load Receiving Element (Certificate of Conformance of Conformance Number 96-107) and a generic printer to evaluate center of zero, discrimination, zone of uncertainty, motion detection, and print format. A load cell simulator was used to do performance testing. The indicator was tested over a temperature range of -10 ˚C to 40 ˚C (14 ˚F to 104 ˚F). Additionally, tests were conducted using power supplies 86 to 265 VAC and 9 to 36 VDC.

Rice Lake Weighing Systems
Indicating Element
Model: 420-XY, 420HE-XY, 420 Plus-XY, and Tracer AV

Evaluated By: A. McCoy (OH) & T. Lucas (OH) 04-076, W. West (OH) 04-076A2, W. West (OH) & J. Bigrigg (OH) 04-076A3, J. Morrison (OH) 04-076A4, 04-076A5

Type Evaluation Criteria Used: NIST Handbook 44, 2007 Edition; NCWM Publication 14, Edition 2007

Conclusion: The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

Information Reviewed By: S. Patoray (NCWM), L. Bernetich (NCWM) 04-076, 04-076A1, 04-076A2, 04-076A3, 04-076A4, 04-076A5

Example of Model 420-XY:

Example of Model 420 Plus-XY:

Example of Model 420 HE:

Example of Tracer AV:

NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:
Indicating Element
Digital Electronic
Model: 480 & 482 Series
n_{max}: 10 000
Accuracy Class: III / III L

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Standard Features and Options

Model	Screen Type	Enhanced Features	Suffix XY (X = Enclosure Type and Y = Power Input)
480-XY	LED	No, 7 keys	X = 2 (Stainless Steel) Y = A (AC Voltage)
480Plus-XY	LED	Yes, 19 keys	X = 2 (Stainless Steel) Y = A (AC Voltage)
482-XY	LCD	No, 7 keys	X = 2 (Stainless Steel) Y = A (AC Voltage)
482Plus-XY	LCD	Yes, 19 keys	X = 2 (Stainless Steel) Y = A (AC Voltage)

- Semi-Automatic (push-button) Zero (SAZSM)
- Automatic Zero Tracking (AZT)
- Initial Zero Setting Mechanism (IZSM)
- Semi-Automatic (push-button) Tare
- Keyboard Tare / Programmable Tare / Tare Save Key
- Gross/Net Display / LED Display
- LED Display (Model 480) / LCD Display (Model 482)
- Annunciators (Units, Gross, Net, Motion, Center of Zero, Tare, Present Tare)
- Printer Interface
- Unit Conversion (kg, g, lb,oz, Ton Metric, Short Ton)
- AC Power / DC Power
- Local/Remote Operation
- Category 2 Audit Trail / Remote Calibration / 2 Point Calibration
- 20 mA Current Loop / RS-232 Ports (2) / USB / Ethernet TCP/IP
- Wireless Communications
- Sleep Mode

Temperature Range: -10 °C to 40 °C (14 °F to 104 °F)

This device was evaluated under the National Type Evaluation Program and was found to comply with the applicable technical requirements of "NIST Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Ronald Hayes
Chairman, NCWM, Inc.

John Gaccione
Committee Chair, National Type Evaluation Program Committee
Issued: April 9, 2015

Rice Lake Weighing Systems, Inc.
Indicating Element / 480 & 482 Series

Application: A general purpose indicating element to be interfaced with an approved and compatible weighing element.

Identification: The identification badge is located on the side of the indicator.

Sealing: The indicator can be sealed with a lead and wire seal threaded through three drill head screws in the left side of the indicator.

This unit includes a Category 2 Audit Trail. The device may still be sealed with a physical seal as described above or the inspector may record the audit trail event counters at the time of test. To view the Calibration and Configuration Counters press the [MENU] key, then press the Left Arrow [UNIT] key, then press the Down Arrow [GROSS/NET] key twice. This will display "CALib". To view the Calibration Counter press the Down Arrow [GROSS/NET] key twice. To view the Configuration Counter press the Up Arrow [ZERO] key twice, then press the Right Arrow [PRINT] key. This will display "ConFiG". To view the Configuration Counter press the Down Arrow [GROSS/NET] key twice. To exit, press the Up Arrow [ZERO] key four times then press the Right Arrow [PRINT] key, then press the UP Arrow [ZERO] key.

Test Conditions: This Certificate supersedes Certificate of Conformance Number 12-123A1 and is issued to correct omissions from the previous certificate and add the DC power and sleep mode features. Both the DC power and sleep mode features were evaluated by NTEP in the NTEP laboratory. Previous test conditions are listed below for reference

Certificate of Conformance Number 12-123A1: This Certificate supersedes Certificate of Conformance Number 12-123 and is issued to add models 480Plus-XY, 482-XY, and 482Plus-XY. For the purpose of this test, one 480Plus-2A, one 482-2A, and one 482Plus-2A were submitted for evaluation. The emphasis of this evaluation was on the device design, operation, performance, and compliance with influence factor requirements. The 482Plus-2A was interfaced with a load cell simulator and it was tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). Additionally, tests were conducted using power supplies of 115 and 230 VAC.

Certificate of Conformance Number 12-123: The emphasis of this evaluation was on the device design, operation, performance, and compliance with influence factor requirements. Two 480-2A indicators were submitted for evaluation. One was interfaced with a load cell simulator. The indicator was tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). Additionally, tests were conducted using power supplies of 115 and 230 VAC. A scale base was connected to the 480-2A to conduct the discrimination test. Local / Remote operation was tested with two 480-2A's using wireless communication. Two 720i were setup as a Local / Remote operation using wireless communication to test the wireless communication per Pub 14.

Evaluated By: C. Harris (OH) 12-123; J. Morrison (OH) 12-123A1, 12-123A2

Type Evaluation Criteria Used: *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2014 Edition. *NCWM Publication 14 Measuring Devices*, 2014 Edition.

Conclusion: The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

Information Reviewed By: J. Truex (NCWM) 12-123, 12-123A1, 12-123A2

Rice Lake Weighing Systems, Inc.
Indicating Element / 480 & 482 Series

Examples of Device: