Checklist for testing electronic digital indicators with simulated pulses 2/6/08

This checklist is used for Technical Policy **U. Evaluating electronic digital indicators submitted separate from a measuring element.**

Code Reference: G-S.1. Identification

All equipment shall be clearly and permanently marked on an exterior visible surface after installation. It must contain the following information (prefix lettering may be initial capitals, all capitals, or all lower case):

1.1. Name, initials, or trademark of the manufacturer. **Yes ☐ No ☐ N/A ☐**

1.2. A model designation that positively identifies the pattern or design. The Model designation shall be prefaced by the word "Model", "Type", or "Pattern". These terms may be followed by the term "Number" or an abbreviation of that word. The abbreviation for the word "Number" shall, at a minimum, begin with the letter "N" (e.g., No or No.) The abbreviation for the word "Model" shall be "Mod" or "Mod.". **Yes ☐ No ☐ N/A ☐**

1.3. Except for not built-for-purpose, software-based devices, a nonrepetitive serial number. The serial number shall be prefaced by words, an abbreviation, or a symbol, that clearly identifies the number as the required serial number. Abbreviations for the word "Serial" shall, as a minimum, begin with the letter "S," and abbreviations for the word "Number" shall, as a minimum, begin with the letter "N" (e.g., S/N, SN, Ser. No, and S No.). **Yes ☐ No ☐ N/A ☐**

1.4. For not built-for-purpose, software-based devices the current software version or revision designation. The version or revision identifier shall be prefaced by the word "Version" or "Revision" as appropriate and either word may be followed by the word "Number." The abbreviations for the word “Version” shall, as a minimum, begin with the letter "V". The abbreviation for the word “Number” shall, as a minimum, begin with the letter "N" (e.g., No or No.). **Yes ☐ No ☐ N/A ☐**

Code Reference G-S.1. (e).

1.5. The NTEP Certificate of Conformance (CC) Number or a corresponding CC addendum number for devices that have a CC. The number shall be prefaced by the terms "NTEP CC", "CC", or "Approval". These terms may be followed by the word "Number" or an abbreviation for the Word "Number". The abbreviation shall as a minimum begin with the letter "N" (e.g., No or No.). **Yes ☐ No ☐ N/A ☐**

The device must have an area, either on the identification plate or on the device itself, suitable for the application of the Certificate of Conformance Number. If the area for the CC Number is not part of an identification plate, then note its intended location below and how it will be applied.

Location of CC Number if not located with the identification:

_____

_____

Code Reference: G-S.1.1. Location of Marking Information for Not Built-for-Purpose, Software-Based Devices Not Built-for-Purpose Devices, Software-Based

1.6. For not built-for-purpose, software-based devices the following shall apply:

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1.6.1. The required information in G-S.1 Identification. (a), (b), (d), and (e) shall be permanently marked or continuously displayed on the device; or

1.6.2. The Certificate of Conformance (CC) Number shall be:

- permanently marked on the device; or
- continuously displayed; or
- accessible through an easily recognized menu and, if necessary, a submenu. Examples of menu and submenu identification include, but are not limited to "Help," "System Identification," "G-S.1. Identification," or "Weights and Measures Identification."

Note: For (1.6.2.), clear instructions for accessing the information required in G-S.1. (a), (b), and (d) shall be listed on the CC, including information necessary to identify that the software in the device is the same type that was evaluated.

1.7. The identification badge must be visible after installation. **Yes ☐ No ☐ N/A ☐**

1.8. The identification badge must be permanent. **Yes ☐ No ☐ N/A ☐**

Code Reference: G-S.2. Facilitation of Fraud

This applies to all metering system indicators installed at a fixed location or vehicle tank meter applications and controlled remotely or within the device itself.
This requirement addresses the process of changing the unit price or unit prices set in a metering system.

1.9. The system shall prevent a change of unit price during a delivery. **Yes ☐ No ☐ N/A ☐**

Code Reference: G-S.3. Permanence

Equipment shall be of such materials, design, and construction that, under normal service conditions:

1.10. Accuracy will be maintained. **Yes ☐ No ☐ N/A ☐**

1.11. Operating parts will continue to function as intended, **Yes ☐ No ☐ N/A ☐**

1.12. Adjustments will remain reasonably permanent. **Yes ☐ No ☐ N/A ☐**

Code Reference: G-S.4. Interchange or Reversal of Parts

If a metering system has parts that may be interchanged or reversed in normal field assembly, the system shall either be constructed so that reversal will not affect the accuracy of the system or the parts must be marked to indicate their proper position. For most metering devices, this applies only to the reversal of connectors of cables to peripheral devices.

If a metering system has any parts that may be interchanged or reversed in normal field assembly, the parts must either be:

1.13. Constructed so that reversal will not affect performance, **Yes ☐ No ☐ N/A ☐**

1.14. Marked or keyed to indicate their proper positions. **Yes ☐ No ☐ N/A ☐**

2. Indications, and Recorded Representations

Code Reference: G-S.5.1. Indicating and Recording Elements

Several general requirements facilitate the reading and interpretation of displayed values. Each display for quantity or total price must be appropriate in design and have sufficient capacity for particular applications to be suitable for the application. Metering devices must be capable of indicating the maximum quantity and money values that can normally be expected in a particular application.

2.1. **Minimum quantity value indications.**

2.1.1. Display is capable of 1.0 **Yes ☐ No ☐ N/A ☐**

2.1.2. Display is capable of 01 **Yes ☐ No ☐ N/A ☐**

2.1.3. Display is capable of 0.01 **Yes ☐ No ☐ N/A ☐**

2.1.4. Display is capable of 0.001 **Yes ☐ No ☐ N/A ☐**

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2.1.5.	Display is capable of other (fill in blank):	**Yes ☐ No ☐ N/A ☐**
2.2.	**Money value display**	
2.2.1.	Money value is properly displayed	**Yes ☐ No ☐ N/A ☐**
3.2.	**The indications must be clear, definite, and accurate.**	
2.2.1.	Values must be clear, definite, and accurate	**Yes ☐ No ☐ N/A ☐**
2.2.2.	Unit of measure is programmable Gallon, Liter, Pound	**Yes ☐ No ☐ N/A ☐**
2.2.2.	Unit of measure is applied by permanent marking on indicator housing	**Yes ☐ No ☐ N/A ☐**
2.3.	The indications must be easily read under normal operating conditions.	**Yes ☐ No ☐ N/A ☐**
2.4.	Symbols for decimal points shall clearly identify the decimal position. (Generally acceptable symbols are dots, small commas, or x.)	**Yes ☐ No ☐ N/A ☐**
2.5.	**The zero indication must consist of at least the following minimum indications as appropriate:**	
2.5.1.	One digit to the left and all digits to the right of a decimal point.	**Yes ☐ No ☐ N/A ☐**
2.5.2.	If a decimal point is not used, at least one active decade must be displayed.	**Yes ☐ No ☐ N/A ☐**
2.6.	Totalizer values must be accurate to the nearest minimum interval with decimal points displayed or subordinate digits adequately differentiated from others, if applicable.	**Yes ☐ No ☐ N/A ☐**

Code Reference: G-S.5.2.2. Digital Indication and Representation

Basic operating requirements for devices:

2.7.	All digital values of like value in a system shall agree with one another.	**Yes ☐ No ☐ N/A ☐**
2.8.	A digital value coincides with its associated analog value to the nearest minimum graduation.	**Yes ☐ No ☐ N/A ☐**
2.9.	Digital values shall round off to the nearest minimum unit that can be indicated or recorded.	**Yes ☐ No ☐ N/A ☐**
2.10.	When a digital zero display is provided, the zero indication shall consist of at least one digit to the left and all digits to the right of the decimal point.	**Yes ☐ No ☐ N/A ☐**

Agreement of indications shall be checked for several deliveries. The totalizer shall be checked for accuracy and agreement with individual deliveries and with other totalizers in the system.

2.11.	All digital values of like value in a system agree with one another.	**Yes ☐ No ☐ N/A ☐**
2.12.	Digital values coincide with associated analog values to the nearest minimum graduation. We do not request to test a digital indicator with an analog register. This sounds like a field enforcement test?	**Yes ☐ No ☐ N/A ☐**
2.13.	Digital values "round off" to the nearest minimum unit that can be indicated or recorded.	**Yes ☐ No ☐ N/A ☐**
2.14.	The device totalizer shall agree with the total of the individual deliveries and with other totalizers in the system.	**Yes ☐ No ☐ N/A ☐**

Code Reference: G-S.5.2.3. Size and Character

Digits used for comparable values must be uniform in size and character, but subordinate values may be displayed in different and less prominent digits than more significant values. The latter more likely occurs on analog devices. In digital indications, the digits are usually of uniform size throughout a particular display. The size of digits may differ for different quantities, for example, the quantity and unit price digits may be smaller than the total price digits.

2.15.		**Yes ☐ No ☐ N/A ☐**
2.16.	Indications and recorded representations shall be appropriately portrayed or designated.	**Yes ☐ No ☐ N/A ☐**

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Code Reference: G-S.5.2.4. Values Defined

2.17. Values shall be adequately defined by a sufficient number of figures, words, symbols, or combinations, which are uniformly placed so that they do not interfere with the accuracy of the reading. **Yes ☐ No ☐ N/A ☐**

Code Reference: G-S.5.2.5. Permanence

2.18. Indications, or recorded representations and their defining figures, words, and symbols shall be of such character that they will not tend to easily become obliterated or illegible. **Yes ☐ No ☐ N/A ☐**

Code Reference: G-S.5.3., G-S.5.3.1. Values of Graduated Intervals or Increments

2.19. Digital indications, and recorded representations shall be uniform in size, character, and value throughout any series. Quantity values shall be defined by the specific unit of measure in use. **Yes ☐ No ☐ N/A ☐**

2.20. Indications shall be uniform throughout any series. **Yes ☐ No ☐ N/A ☐**

2.21. Quantity values shall be identified by the unit of measure. **Yes ☐ No ☐ N/A ☐**

Code Reference: G-S.5.4. Repeatability of Indications

The quantity measured by a device shall be repeatable within tolerance for the same indication. One condition that may create a problem is that the value of the quantity division may be large relative to the tolerance. A delivery must be within tolerance wherever the delivery is stopped within the nominal indication of the test draft. Meters that may be at the tolerance limit may be out of tolerance at an extreme limit of the nominal quantity indication.

2.22. When a digital indicator is tested, the delivered quantity shall be within tolerance at any point within the quantity-value division for the test draft. **Yes ☐ No ☐ N/A ☐**

Code Reference: G-S.5.6. Recorded Representations

2.23. All recorded values shall be digital. (See also G-UR.3.3.) **Yes ☐ No ☐ N/A ☐**

Code Reference: G-S.5.7. Magnified ~~Graduations and~~ Indications

2.24. Magnified indications shall conform to all requirements for ~~graduations and~~ indications. **Yes ☐ No ☐ N/A ☐**

Code Reference: G-S.6. Marking, Operational Controls, Indications, and Features

All operational controls, indications, and features shall be clearly and definitely identified. Nonfunctional keys and annunciators shall not be marked because their marking implies that the key or annunciator is functional and should be inspected or tested by the enforcement official. Keys and operator controls that are visible to a customer in a direct sale transaction shall be marked with words or symbols to the extent that they can be understood by the customer and aid in understanding the transaction. Keys that are visible only to the console operator need to be marked only to the extent that a trained operator can understand the function of each key.

2.25. All operational controls, indications, and features including switches, lights, displays, and push buttons shall be clearly and definitely identified. **Yes ☐ No ☐ N/A ☐**

2.26. All dual function (multi-function) keys or controls shall be marked to clearly identify all functions. **Yes ☐ No ☐ N/A ☐**

2.27. Non-functional controls and annunciators shall not be marked. **Yes ☐ No ☐ N/A ☐**

Code Reference: G-S.7. Lettering, Readability

2.28. Required markings and instructions shall be permanent and easily read. **Yes ☐ No ☐ N/A ☐**

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Code Reference: G-S.8. Sealing Electronic Adjustable Components, and Provision for Sealing of Adjustable Components or Audit Trial

2.29. Electronic adjustable components that affect the performance of a device shall provide for an approved means of security (e.g. data change audit trail) or for physically applying a security seal. These components include the following: (1) mechanical adjustment mechanism for meters, (2) the electronic calibration factor and automatic temperature compensator for electronic meter registers, (3) selection of pressure for density correction capability and correction values, and (4) pulser setting and gallon/liter conversion switches when they may accidentally or intentionally be used to perpetrate fraud. **Yes □ No □ N/A □**

The following philosophy and list of sealable parameters applies to provision for sealing all liquid-measuring devices.

An electronic data audit trail is a means of allowing a weights and measures inspector to review how many times any electronic adjustment, which affects the accuracy of a volume measurement has been changed. The information contained in the audit trail shall consist of a cumulative and non-destructible number (even if a power failure occurs) which increments each time any of the adjustments required to be sealed have been changed. The electronic data audit trail information shall be capable of being recalled by the official on the main display of the device.

As a minimum, devices which use an audit trail to provide security for sealable parameters shall satisfy the following criteria and shall use the format set forth in Appendix A of the checklist for Liquid-Measuring Devices.

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Philosophy for Sealing
Typical Features to be Sealed

Principles for Determining Features to be Sealed

The need to seal some features depends upon:

- The ease with which the feature or the selection of the feature can be used to facilitate fraud; and
- The likelihood that the use of the feature will result in fraud not being detected.

Features or functions which the operator routinely uses as part of device operation, such as setting the unit prices on dispensers and maintaining unit prices in price look-up codes stored in memory, are not sealable parameters and shall not be sealed.

If a parameter (or set of parameters) selection would result in performance that would be obviously in error, such as the selection of parameters for different countries, then it is not necessary to seal the selection of these features.

If individual device characteristics are selectable from a "menu" or a series of programming steps, then access to the "programming mode" must be sealable. (Note: If an audit trail is the only means of security, then the audit trail shall update only after at least one sealable parameter has been changed; simply accessing the sealable parameters via a menu shall not update the audit trail.)

If a physical act, such as cutting a wire is required to change a parameter setting and physically repairing the cut is required to reactivate the parameter, then this physical repair process would be considered an acceptable way to select parameters without requiring a physical seal or an audit trail.

Typical Features and Parameters to be Sealed

The following provides examples of configuration and calibration parameters that are to be sealed. The examples are provided for guidance and are not intended to cover all possible parameters.

Calibration Parameters: Calibration parameters are those parameters whose values are expected to change as a result of accuracy adjustments. Examples include the following.

1. Measuring element adjustments where linearity corrections are used, e.g., flow rate 1 and meter factor 1, flow rate 2 and meter factor 2, etc.
2. Mass flow meter adjustments for zero adjustments (not simply setting the display to zero) and span settings.

Configuration Parameters: Configuration parameters are those parameters whose values are expected to be entered only once and not changed after all initial installation settings are made. Examples include the following.

1. Octane or other blend setting ratios (optional in Canada at this time)
2. Temperature, pressure, density, and other sensor settings for zero, span, and offset values
3. Measurement units (in Canada, only if not displayed or printed on the primary register)
4. Temperature compensation table, liquid coefficient of expansion, or compressibility factors or tables
5. Liquid density setting (in Canada, only if not displayed or printed on the primary register) and allowable liquid density input range
6. Vapor pressures of liquids if used in calculations to establish the quantity
7. Meter or sensor temperature compensation factors
8. False or missing pulse limits for dual pulse systems (Canada only)
9. On/off status of automatic temperature, pressure, or density correction
10. Automatic or manual data input for sensors
11. Dual pulse checking feature status on or off
12. Flow control settings (optional in Canada)
13. Filtering constants

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Liquid-Measuring Device Features and Parameters	
Typical Features or Parameters to be Sealed	**Typical Features or Parameters Not Required to be Sealed**
Measuring element adjustment (both mechanical and electronic)	Analog-to-digital converters
Linearity correction values	Quantity division value (display resolution)
Measurement units (e.g., gallons to liters)	Double pulse counting
Octane blend setting for retail motor-fuel dispensers	Communications
Any tables or settings accessed by the software or manually entered to establish the quantity (e.g., specific gravity, pressure, etc.)	
Density ranges	
Pulsers	
Signal pick-up (magnetic or reluctance)	
Temperature probes and temperature offsets in software	
Pressure and density sensors and transducers	
Flow control settings, e.g., flow rates for slow-flow start, quantity for slow-flow start and stop	
Temperature compensating systems (on/off)	
Differential pressure valves	
As a point of clarification, the flow control settings referenced above are those controls typically incorporated into the installations of large-capacity meters (wholesale meters). The reference does not include the point at which retail motor-fuel dispensers slow product flow during a prepaid transaction to enable the dispenser to stop at the preset amount.	

Note: The above examples of adjustments, parameters, and features to be sealed are to be considered "typical" or "normal." This list may not be all inclusive. Some parameters other than those listed, which affect the metrological performance of the device, must be sealed. If listed parameters or other parameters, which may affect the metrological function of the device, are not sealed, the manufacturer must demonstrate that all settings comply with the most stringent requirements for the application of the device (i.e., the parameter does not affect compliance with Handbook 44).

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Category 1 Devices (Devices with No Remote Configuration Capability):

- The device is sealed with a physical seal or it has an audit trail with two event counters (one for calibration, the second for configuration). **Yes ☐ No ☐ N/A ☐**
- A physical seal must be applied without exposing electronics. **Yes ☐ No ☐ N/A ☐**
- Event counters are non-resettable and have a capacity of at least 000 to 999. **Yes ☐ No ☐ N/A ☐**
- Event counters increment appropriately. **Yes ☐ No ☐ N/A ☐**
- The audit trail information must be capable of being retained in memory for at least 30 days while the device is without power. **Yes ☐ No ☐ N/A ☐**
- Accessing the audit trail information for review shall be separate from the calibration mode. **Yes ☐ No ☐ N/A ☐**
- Accessing the audit trail information must not affect the normal operation of the device. **Yes ☐ No ☐ N/A ☐**
- Accessing the audit trail information shall not require removal of any additional parts other than normal requirements to inspect the integrity of a physical security seal. (e.g., a key to open a locked panel may be required). **Yes ☐ No ☐ N/A ☐**

Category 2 Devices (Devices with Remote Configuration Capability but Controlled by Hardware):

- The physical hardware enabling access for remote communication must be on-site. **Yes ☐ No ☐ N/A ☐**
- The physical hardware must be sealable with a security seal or **Yes ☐ No ☐ N/A ☐**
- The device must be equipped with at least two event counters: one for calibration, the second for configuration parameters
  - calibration parameters event counter
  - configuration parameters event counter **Yes ☐ No ☐ N/A ☐**
- Adequate provision must be made to apply a physical seal without exposing electronics. **Yes ☐ No ☐ N/A ☐**
- Event counters are non-resettable and have a capacity of at least 000 to 999. **Yes ☐ No ☐ N/A ☐**
- Event counters increment appropriately. **Yes ☐ No ☐ N/A ☐**
- Event counters may be located either:
  - at the individual measuring device or
  - at the system controller **Yes ☐ No ☐ N/A ☐**
- If the counters are located at the system controller rather than at the individual device, means must be provided to generate a hard copy of the information through an on-site device. **Yes ☐ No ☐ N/A ☐**
- An adequate number (see table below) of event counters must be available to monitor the calibration and configuration parameters of each individual device. **Yes ☐ No ☐ N/A ☐**
- The device must either:
  -clearly indicate when it is in the remote configuration mode or
  -the device shall not operate while in the remote configuration mode. **Yes ☐ No ☐ N/A ☐**
- If capable of printing in the calibration mode, it must print a message that it is in the calibration mode. **Yes ☐ No ☐ N/A ☐**
- The audit trail information must be capable of being retained in memory for at least 30 days while the device is without power. **Yes ☐ No ☐ N/A ☐**
- The audit trail information must be readily accessible and easily read. **Yes ☐ No ☐ N/A ☐**

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Minimum Number of Counters Required		
	Minimum Counters Required for Devices Equipped with Event Counters	**Minimum Event Counter(s) at System Controller**
Only one type of parameter accessible (calibration or configuration)	One (1) event counter	One (1) event counter for each separately controlled device, or one (1) event counter, if changes are made simultaneously.
Both calibration and configuration parameters accessible	Two (2) event counters	Two (2) event counters for each separately controlled device, or two (2) or more event counters if changes are made to all controlled devices simultaneously.

Category 3 Devices (Devices with Unlimited Remote Configuration Capability):

Category 3 devices have virtually unlimited access to sealable parameters or access is controlled though a password.

- For devices manufactured after January 1, 2001, the device must either: **Yes ☐ No ☐ N/A ☐**
  - Clearly indicate when it is in the remote configuration mode, or
  - The device shall not operate while in the remote configuration mode
- The device is equipped with an event logger **Yes ☐ No ☐ N/A ☐**
- The event logger automatically retains the identification of the parameter changed, the date and time of the change, and the new value of the parameter. **Yes ☐ No ☐ N/A ☐**
- Event counters are nonresettable and have a capacity of at least 000 to 999. **Yes ☐ No ☐ N/A ☐**
- The system is designed to attach a printer, which can print the contents of the audit trail. **Yes ☐ No ☐ N/A ☐**
- The audit trail information must be capable of being retained in memory for at least 30 days while the device is without power. **Yes ☐ No ☐ N/A ☐**
- The event logger must have a capacity to retain records equal to ten times the number of sealable parameters in the device, but not more than 1000 records are required. **Yes ☐ No ☐ N/A ☐**
- The event logger drops the oldest event when the memory capacity is full and a new entry is saved. **Yes ☐ No ☐ N/A ☐**
- Describe the method used to seal the device or access the audit trail information.

_____

_____

Code Reference: G-UR.1.1. Suitability of Equipment

A device must be properly designed and have sufficient capacity to be suitable to use in a particular application. A device must measure the appropriate characteristics of a commodity to accurately determine the quantity, have the necessary components (e.g. vapor eliminator) to eliminate factors that may cause measurement errors during normal use, have sufficient capacity to indicate the quantity measured and the associated total price if it is a computing device. The meter must have the proper flow rate capacity to operate over the actual flow rates for the application, and the device must have a quantity division appropriate for the application. Some specific requirements for device characteristics are given in the specific codes for particular devices.

2.24. The equipment is suitable for its intended application. **Yes ☐ No ☐ N/A ☐**

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2.25.	Equipment shall be suitable for use in the environment in which it will be used. Suitability with respect to environment includes the effects of wind, weather, temperature variations, and radio frequency interference. A device must work and remain accurate under its actual conditions of use.		**Yes ☐ No ☐ N/A ☐**
2.26.	**Simulator tests: All tests shall have a minimum of 10,000 pulses applied to the device for each test. Test with a minimum of two API/Density settings.**		
Product:		**Meter Factor:**	**K Factor:**
1	Test at a temperature between 55 – 65 degrees F at the manufactures rated maximum frequency/pulse rate.	API Gravity: Temperature:	**Yes ☐ No ☐ N/A ☐**
2	Test at a temperature between 55 – 65 degrees F at manufactures rated minimum frequency/pulse rate.	API Gravity: Temperature:	**Yes ☐ No ☐ N/A ☐**
3	Test at a temperature below 35 degrees F at manufactures rated maximum frequency/pulse rate.	API Gravity: Temperature:	**Yes ☐ No ☐ N/A ☐**
4	Test at a temperature below 35 degrees F at manufactures rated minimum frequency/pulse rate.	API Gravity: Temperature:	**Yes ☐ No ☐ N/A ☐**
5	Test at a temperature above 100 degrees F at manufactures rated maximum frequency/pulse rate.	API Gravity: Temperature:	**Yes ☐ No ☐ N/A ☐**
6	Test at a temperature above 100 degrees F at manufactures rated minimum frequency/pulse rate.	API Gravity: Temperature:	**Yes ☐ No ☐ N/A ☐**
7	Test at a temperature between 55 – 65 degrees F at the manufactures rated maximum frequency/pulse rate.	API Gravity/Density: Temperature:	**Yes ☐ No ☐ N/A ☐**
8	Test at a temperature between 55 – 65 degrees F at manufactures rated minimum frequency/pulse rate.	API Gravity/Density: Temperature:	**Yes ☐ No ☐ N/A ☐**
9	Test at a temperature below 35 degrees F at manufactures rated maximum frequency/pulse rate.	API Gravity/Density: Temperature:	**Yes ☐ No ☐ N/A ☐**
10	Test at a temperature below 35 degrees F at manufactures rated minimum frequency/pulse rate.	API Gravity/Density: Temperature:	**Yes ☐ No ☐ N/A ☐**
11	Test at a temperature above 100 degrees F at manufactures rated maximum frequency/pulse rate.	API Gravity/Density: Temperature:	**Yes ☐ No ☐ N/A ☐**
12	Test at a temperature above 100 degrees F at manufactures rated minimum frequency/pulse rate.	API Gravity/Density: Temperature:	**Yes ☐ No ☐ N/A ☐**
13		API Gravity/Density: Temperature:	**Yes ☐ No ☐ N/A ☐**
14		API Gravity/Density: Temperature:	**Yes ☐ No ☐ N/A ☐**