

**TEXAS NATURAL RESOURCE CONSERVATION COMMISSION  
TECHNICAL PEER REVIEW DOCUMENT**

*This Section to be Completed by Issue Initiator*

**TITLE OR ISSUE**

Regional Underground Injection Control (UIC) inspectors do not have written guidance to determine if gauges and recorders are in "good working order" which is questioned on the TNRCC's UIC Inspection Checklist.

**DOCUMENT INITIATED BY** (Name/Office/Phone Number)

**DATE**

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**ISSUE DESCRIPTION**

Since no written guidance policy exists to determine if gauges and recorders are in good working order, the agency can not be assured consistent UIC inspections occur across all regions. Currently, if the field inspector determines that the field gauge and electronic recorder (monitored in the control room) are within 5% of the gauge's current reading, the two devices are considered in "good working order".

This rule is also not consistent with gauge and electronic instrument manufacturing accuracy specifications. Manufacturing specifications state instrument accuracy as a percentage of the "Full Scale" reading of the device, not a percentage of the "current reading". As an example, the manufacturer may state that a gauge is accurate to within 2% of Full Scale (Ex: Full Scale = 1000 psig, Accuracy = 20 psi, at all times). An instrument's accuracy is therefore not related to its current reading but rather its Full Scale reading.

**WHO'S AFFECTED?**

All Class I Underground Injection Control well operators.

*This Section to be Completed by Peer Review Team*

**FACTORS CONSIDERED**

The Technical Review Group (TRG) believes UIC operators should have good quality instruments to monitor their operations. However, guidance should not impose a standard that requires the highest quality instruments available on the market. Therefore, the TRG reviewed "average" instruments from an accuracy standpoint. From this data, a standard was generated that does not impose unrealistically high and unnecessary accuracy but still requires quality monitoring instruments.

In reviewing manufacturing specifications, a median quality gauge is accurate to within 3% of its full scale reading. Electronic monitoring instruments of median quality are rated to 0.5% of their full scale reading. These are additive (3.5%) when determining an allowable deviation for guidance purposes. Therefore, when defining the allowable deviation standard, the TRG suggests rounding 3.5% to 4% for simplicity.

**FINDING(S) AND RECOMMENDATION(S)**

The TRG proposes the following guidance to regional offices performing UIC inspections to address Questions 14 and 15, Section 2, of the TNRCC UIC Inspection Checklist:

To be considered in “good working order”, field gauges and electronic monitoring instruments should agree with one another to within 4% of the Full Scale reading of the pressure gauge or 40 psi, whichever is less. The TNRCC’s UIC Inspection Checklist should be modified to reflect this change.

Examples:

<u>Gauge Scale</u>	<u>4% of Full Scale</u>	<u>Tolerance (40 psi max)</u>
0-500 psi	20 psi	20 psi
0-1500 psi	60 psi	40 psi

**COMMENTS**

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