

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

<i><b>This Section to be Completed by Issue Initiator</b></i>	
<b>TITLE OR ISSUE</b>	
Reconciling differences in state and federal corrosion monitoring requirements for Class I injection wells.	
<b>DOCUMENT INITIATED BY</b> (Name/Office/Phone Number)	<b>DATE</b>
Ben Knape/Permitting Team/UURW/I&HW/OWM/(512)239-6633	12/5/96
<b>ISSUE DESCRIPTION</b>	
<p>TNRCC currently requires Class I hazardous and non-hazardous wells to conduct corrosion monitoring; however, federal regulations do not require Class I non-hazardous wells to conduct this monitoring. Quarterly corrosion monitoring procedures may invalidate corrosion monitoring conducted using approved federal standards. The issues that need to be resolved are (1) if the waste is corrosive then the corrosion monitoring should be conducted according to approved standards, and (2) the absence of written guidance by TNRCC on waiver of the quarterly corrosion monitoring requirement for Class I injection wells.</p>	
<b>WHO'S AFFECTED?</b>	
All Class I injection well operators and TNRCC UIC technical staff and field inspectors.	
<i><b>This Section to be Completed by Peer Review Team</b></i>	
<b>FACTORS CONSIDERED</b>	
<p>EPA does not have a requirement for continuous monitoring for Class I non-hazardous injection wells (40 CFR §146.13). EPA does have a requirement (40 CFR §146.68(c)) for hazardous injection wells requiring continuous corrosion monitoring of the construction materials used in wells injecting corrosive waste or an alternative method approved by the Director and may require such monitoring for other waste. EPA considers the well to meet the compatibility requirement if the injected fluids in contact with well construction materials meet or exceed standards developed for such materials by API, ASTM, or comparable standards acceptable to the Director (40 CFR §146.65(b)).</p> <p>The State's Class I well corrosion monitoring regulations (30 TAC §331.64(f)) has the appearance of greater stringency than the corresponding federal regulation since the state regulation requires corrosion monitoring of well materials for Class I hazardous and non-hazardous wells. The quarterly corrosion monitoring can be waived by the TNRCC provided the operator satisfactorily demonstrates that the waste stream will not be corrosive to the well materials.</p>	
<b>FINDING(S) AND RECOMMENDATION(S)</b>	

TNRCC requires that corrosion monitoring of well materials shall be conducted quarterly (30 TAC §331.64(f)). Test materials shall be the same as those used in the injection tubing, packer, and long string casing, and will be continuously exposed to the waste fluids with the exception of when the well is taken out of service. Corrosion monitoring may be waived by the TNRCC Executive Director if the injection well owner or operator makes a satisfactory demonstration under 30 TAC §331.64(f)(2), "prior to authorization to conduct injection operations" (interpreted as any action including notice and opportunity for public comment). The demonstration shall show that the waste streams will not be corrosive to the well materials with which the waste is expected to come into contact throughout the life of the well. EPA and TNRCC considers the well to meet the compatibility requirement if the injected fluids in contact with well construction materials meet or exceed standards developed for such materials by API, ASTM, or comparable standards acceptable to the Director (40 CFR §146.65(b)) (30 TAC §331.62).

Federal regulations only require continuous corrosion monitoring of the construction materials used in wells injecting corrosive waste, **but allow that the Director may require such monitoring for other waste.** Methods for monitoring per 40 CFR §146.68(c)(2) include:

- (1) Placing coupons of the well construction materials in contact with the waste stream; or
- (2) Routing the waste stream through a loop constructed with the material used in the well; or
- (3) Using an alternative method approved by the Director.

The standards that EPA developed state that the owner or operator shall monitor the materials for loss of mass, thickness, cracking, pitting and other signs of corrosion on a quarterly basis to ensure that the well components meet the minimum standards for material strength and performance set forth in 40 CFR §146.65(b).

It is recommended that: (1) Continuous corrosion monitoring of the construction materials for wells that inject corrosive wastes should be conducted according to EPA methods shown above and according to the approved standards developed by API, ASTM, or comparable standards acceptable to TNRCC; (2) Waiver of the quarterly corrosion monitoring requirements of 30 TAC §331.64(f) shall be accomplished through any part of the UIC permitting process that includes notice and opportunity for public comment; (3) The subject waiver must be requested by the operator who must demonstrate that the wastestream will not be corrosive to the well materials using standards developed by API, ASTM, or others approved by the Director; (4) The operator may request total waiver of corrosion monitoring requirements for Class I injection wells; and (5) the Director has discretion of granting or limiting the waiver of quarterly corrosion monitoring and any such granting or limiting must be expressly incorporated into the injection well permit.

**COMMENTS**

REVIEW COMPLETED BY	NAMES	INITIALS	DATE
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___ Technical Review Group	Ben Knape, UURW Charles Greene, UURW	_____	_____
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___ Division Senior Technical Committee	Mike Hull, Region 1 Aron Athavaley, Region12	_____	_____
___ Chief Engineer/Senior Technical Council	MarkCheesman, Merichem Steve Fotadies, DuPont James Clark, DuPont	_____	_____

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