

3106.1/WM-16/DHT/83/10/25/0

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MEMORANDUM FOR: John T. Greeves, Acting Chief  
Engineering Branch  
Division of Waste Management

FROM: David H. Tiktinsky  
Engineering Branch  
Division of Waste Management

SUBJECT: REVIEW OF CHAPTER 28 OF THE TEXAS WATER CODE  
(REGARDING WATER WELLS OR MINED SHAFT) AND CHAPTER 361  
(DRILLED OR MINED SHAFTS) OF THE TEXAS REGISTER

As you requested, I have reviewed Chapter 28 of the Texas water code regarding water wells and drilled and mined shafts and the implementing regulations in the Texas register (Chapter 361). These documents were reviewed to determine what impact these new regulations would have on the high-level waste program if a site in Texas is selected for characterization.

Under these new regulations, a permit must be given by the State of Texas before any shaft can be drilled or mined in the state. The regulations may have an impact on the high-level waste program because it allows the state to put in place regulations that may be in conflict with standards set forth by the Nuclear Regulatory Commission (NRC) and the Environmental Protection Agency (EPA) on high-level radioactive wastes.

One of the important parts of the regulations that may impact a repository in Texas is Section 28.029(c). This section states that if there is any litigation about the planned siting of a shaft then a shaft permit application may not be accepted. This may have a great impact on allowing DOE to drill an exploratory shaft in Texas.

WM Record File

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Another important part of the regulation is Section 28.031B. In this section of the regulations, the State of Texas shall impose terms and conditions reasonably necessary to protect all water from pollution<sup>1</sup>, including the necessary casing, liners, seals and surface facilities. Also in Section 28.031C, the state shall impose terms and conditions for final closure of surface facilities and plugging reasonably necessary to protect all water from pollution.

The major impacts of these two sections is that the State of Texas may impose regulations far more restrictive than 10 CFR 60 (NRC) or the EPA standard on high-level waste and well beyond what may be possible to achieve in a high-level waste repository.

Also, it is not clear whether the state is planning to also regulate long term releases that may occur in the repository area. The requirements could in fact impact the 10-5 release rate criteria from the engineered system as stated in 10 CFR 60.113 because a release rate at this level may constitute pollution as defined in Chapter 361 of the Texas register.

Subsequently, Section 361.5 (Application for Permit) states that an application for a shaft permit shall include a facility description, surveyor reports, well data information, a hydrogeologic report, an aquifer and aquitard characterization, a geophysical assessment, a mechanical assessment, a geotechnical assessment, a constructability assessment, and an environmental assessment.

Also in Section 301.22 detailed construction standards are layed out and in Section 361.24, operating standards are described for a shaft. These portions of the regulation appear to be rigorous in their approach to information requirements for a shaft permit.

<sup>1</sup>Pollution as defined by Chapter 361 of the Texas register is the contamination of water or the alteration of the physical, chemical, radiological, or biological quality of the water: 1) that makes it harmful, detrimental, or injurious to humans, animal life, vegetation or property, or to public health, safety, or welfare or 2) that impairs the usefulness or the public enjoyment of the water for any lawful and reasonable purpose.

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On the whole, it appears that with this new regulation, it would be possible for the State of Texas to impose limits that are more restrictive than either 10 CFR 60 or the EPA standard. The NRC has been mandated by the Nuclear Waste Policy Act to be the Licensing Regulatory Agency and therefore, there may be conflicts between the NRC and the state over whose regulations a repository in Texas must meet.

ORIGINAL SIGNED BY

David H. Tiktinsky  
Engineering Branch  
Division of Waste Management

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