GSI REGULATORY UPDATE BULLETIN

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GROUNDWATER SERVICES, INC.

New Guidelines for Texas Risk Reduction Program

Revised TRRP Conceptual Guide

ON DECEMBER 16, 1996, the Texas Natural Resource Conservation Commission (TNRCC) issued the "Texas Risk Reduction Program Concept Document 2," outlining proposed revisions to the current Texas Risk Reduction Rules (30 TAC 335 Subchapter S). In response to public comment, the new Conceptual Guide incorporates significant modifications to the prior draft issued in May 1996. Draft rules implementing the Texas Risk Reduction Program (TRRP) are expected by June 1997. This bulletin provides a brief overview of this upcoming rule package and identifies key issues discussed in the recent January 24 public meeting.

Applicability of New Rules

As with the current Risk Reduction Rules, the revised rules will not "trigger" a corrective action. Rather, the rules dictate the type of corrective measures to be implemented once the need for corrective action has been triggered by some other regulatory requirement (e.g., UST release, RCRA unit release, etc.).

The TRRP establishes "harmonized" corrective action standards for all programs under the jurisdiction of the TNRCC Office of Waste Management. In each case, TRRP rules will not be retroactive, and will thereby "grandfather" corrective actions underway under current program rules or agreed orders, unless the responsible person (RP) elects to use the new standards. Applicability of the TRRP to future actions is summarized below.

TRRP Applicability To Corrective Actions

APPLICABLE

- Industrial and Hazardous Waste Sites
- Petroleum Storage Tanks
- State Superfund Sites
- Spill Sites (After 180 days)
- Voluntary Cleanup Program
- Municipal Solid Waste Sites
- Other Unauthorized Releases

NOT APPLICABLE

- Authorized Discharges From Injection Wells, Uranium Mines, Wastewater Facilities
- Hazardous Waste Classification
- Licensed Radioactive Waste Sites (pending NRC rules).

Development of Site Cleanup Standards

Under the TRRP, remedial actions will be required for affected soil and groundwater which contain site contaminants in excess of applicable Protective Concentration Levels (PCLs). For a given site, applicable PCLs are a function of i) the remedy standard selected by the responsible person (RP), ii) the current land use of the affected property, and iii) the applicable groundwater resource classification for any impacted water-bearing units. A general description of the PCL calculation process is provided below.

For development of a remedial action plan, the RP may choose between two optional remedy standards involving varying degrees of on-site land use restrictions:

- *Remedy Standard A:* Unrestricted Land Use / Permanent Remedy
- *Remedy Standard B:* Restricted Land Use / Remedy with Controls

Remedy Standard A involves complete removal or treatment of affected soil and groundwater such that no future land use restrictions would be required. Therefore, a Standard A PCL must be protective of a receptor in the immediate proximity of the contaminant source. Under Remedy Standard B, the remedial action may incorporate long-term exposure control measures as an alternative to full site cleanup. Subject to such controls, a Standard B PCL may be protective of receptors located away from the source area. Typically, PCLs derived per Remedy Standard B will be significantly less stringent than those derived under Standard A; however, Standard B exposure control measures will entail post-closure obligations.

Once the desired remedy standard has been selected, applicable exposure assumptions for derivation of PCL values are prescribed on the basis of the site land use and groundwater classification. For purpose of efficiency, the analysis of PCL values proceeds in a tiered manner designed to match the level of effort to the relative complexity of each site. The tiered process begins with a direct comparison of site constituent concentrations to generic screening levels (Tier 1) and, if desired by the RP, proceeds to more involved calculations for development of site-specific PCLs based on simple (Tier 2) or complex (Tier 3) fate-and-transport analyses. Proposed Tier 1 limits for selected constituents are shown below.

PROPOSED TIER 1 PCL VALUES

EXAMPLE CONSTITUENT	TIER 1 SOIL PCL (mg/Kg)		TIER 1 GW PCL (mg/L)	
	RES.	*COMM./ INDUS.*	*RES.*	*COMM./ INDUS.*
BENZENE	0.04	0.04	0.005	0.005
ETHYLBENZENE	12	12	0.7	0.7
TOLUENE	15	15	1	1
XYLENES (total)	200	200	10	10
NAPHTHALENE	110	340	1	3
PYRENE	120	120	0.14	0.14
TRICHLOROETHYLENE	0.06	0.06	0.005	0.005
PHENOL	54	160	15	44
CHROMIUM (VI)	17	17	0.1	0.1
LEAD	*UR*	1000	0.02	0.02
PCB's	1	19	0.0005	0.0005

NOTES: *UR* = Under Review.
GW PCLs for Class 1 or 2 GW only. Class 3 PCL = 10-100 x higher.

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Remedial Action Requirements

The RP must develop a Remedial Action Plan (RAP) addressing all areas of affected media containing site constituents at levels exceeding applicable PCLs. Under the TRRP, a corrective measures study, evaluating the relative cost and performance of alternative remedial measures, will no longer be required. Rather, the RP need only demonstrate that the proposed remedial action is consistent with the performance-based criteria, termed *response objectives*, specified for the applicable remedy standard and site groundwater classification.

Response objectives to be achieved by the remedial action differ significantly for Remedy Standards A and B. Under Standard A, remedial actions must remove and/or decontaminate all affected media as needed to reduce site constituent concentrations to applicable PCL levels. Following implementation, a Standard A remedy achieves a "walk-away" condition. Under Remedy Standard B, affected media must be removed, decontaminated, and/or controlled such that risk-based exposure limits are not exceeded at either on-site or off-site points of exposure. Use of engineering control measures will entail post-closure care and financial assurance requirements, as needed to ensure the long-term effectiveness of the remedy.

Under both Standards A and B, Class 1 groundwater must be remediated to achieve applicable PCL concentrations at all points within the plume. For Class 2 groundwater, subject to an on-site groundwater use restriction per Standard B, the groundwater plume need only be remediated/controlled to levels protective of a hypothetical water well located at a distance 500 ft downstream or on the nearest downgradient property boundary, whichever is less. Class 3 groundwater is not considered suitable for consumption and would require exposure control measures only if applicable PCLs are exceeded. In all cases, non-aqueous phase liquids (NAPLs) must be removed to the maximum extent practicable, unless it can be demonstrated that leaving the NAPLs in place will conform with specific health and environmental protection criteria. Natural attenuation remedies must achieve PCL levels in 30 years or be subject to institutional controls.

Key Issues Under Consideration

At the public meeting held on January 24, 1997, the TNRCC identified the following issues as requiring further consideration:

- **Tier 1 PCLs:** Standards for lead, TPH, MTBE still under development.
- **Groundwater Discharge to Surface Water:** TNRCC considering need for permit.
- **Ecological Risk Assessment:** TNRCC reviewing public comments on draft guide issued November 1996.

Groundwater Services, Inc. *will continue to provide regulatory updates as this rule-making effort proceeds. Should you have any questions regarding these or other upcoming rule modifications, please feel free to contact us at (713) 663-6600.*

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