

TRRP-10: Selecting Target Chemicals of Concern



Zeroing In



Overview. The TRRP Rule requires evaluation of chemicals of concern (COCs), but doesn't specify which COCs apply in a given situation. The TRRP-10 regulatory guidance provides a simple process and rules of thumb to develop a list of relevant, project-specific COCs. Because selecting target COCs can be iterative, it is important

to understand the steps and **reasonable efforts necessary** to complete this aspect of the assessment process.

Scope and Benefits of COC Selection

The purpose of target COC selection is to narrow the list of chemicals to analyze during an assessment. Two approaches are often used: the "method-based" approach versus the "information-based" approach. The TRRP-10 guide emphasizes the latter. Practically speaking, a combination of the two approaches is often used. Understanding the balance between the two can help focus efforts and save time and money.

The "Information-Based" Approach

The COC selection process includes looking at program regulatory requirements (outside of TRRP) and managing COCs (inside TRRP). The "information-based" approach poses a series of important questions, from two main perspectives.

High-level questions include: What regulatory program is driving the project? Is the project required by a Permit or Order? Is the project being done under the Voluntary Cleanup

Program (VCP)? Does the program have its own COC list to use? Understanding the regulatory context of the project gives a starting point for the list of COCs that may need evaluation.

Site-level questions serve to refine the list. For example, what is the specific scope of the project? Do all the chemicals on the generic "regulatory program list" apply? Site-specific information will focus the list of target COCs. For instance, in the Voluntary Cleanup Program (VCP) the entire property is usually evaluated for a broad range of COCs, regardless of potential sources. For closure under Corrective Action, COC selection will focus on chemicals managed in the waste management unit.

The Process

The TRRP-10 flow chart illustrating the process is reproduced below. Sound professional judgment is critical in each step. Key steps include:

- 1) Identify a starting COC list based on the applicable program area or Order;
- 2) Identify a COC list based on project scope, nature/history of the facility, and chemical composition of source material;
- 3) Compare lists to identify program COCs which may not apply or additional COCs which may need to be considered. If uncertainty exists regarding chemical composition, a small number of representative samples should be collected and submitted to a laboratory for broad scan analysis (e.g., relevant portions of Appendix VIII or IX). The results of this lab screening program can then be compared with the COC lists described above to develop the target COC list.

DEFINITIONS

Chemicals of Concern (COCs). Chemicals potentially subject to evaluation under TRRP; "any chemical that has the potential to adversely affect ecological or human receptors due to its concentration, distribution, and mode of toxicity" (30TAC350.4(a) (11)). COCs are dependent on program area, and include categories such as solid & hazardous waste, hazardous substances, and groundwater monitoring constituents (40CFR264 App. IX).

Target COCs. COCs that are the focus of the investigation, and are known or reasonably anticipated to be associated with the project (e.g., based on historical or current activities).

Broad-spectrum method. Laboratory analytical method to test for classes of chemicals (e.g., volatile or semi-volatile organics, or metals).

Screening – Application of 350.71(k). Most often used after broad-spectrum analytical methods have been run in order to reduce the list of COCs to focus on. See TCEQ RG-366/TRRP-14.

Method-Based Approach. Less work up front, but more work later. Involves using broad-spectrum analytical methods first, then screening for target COCs at the end of the assessment.

Information-Based Approach. More work up front; less work later. Involves collecting and interpreting analytical or site activity data first. Screening is still done, but with a smaller set of COCs.

Practical Considerations

- Get what you're looking for: Early on, think about the end product – an Affected Property Assessment that describes the site and the target COC concentrations to appropriate levels of resolution (quantitation). To accomplish this, coordinate with your analytical laboratory. Analyte lists vary among labs, so be sure that the target COCs are included. If using broad-spectrum analytical methods, the method analyte list from the lab should be reviewed closely. The target COC list should be based on project objectives, not a lab's particular analyte list. Analyzing unnecessary chemicals can result in more work later. Also, verify that the lab can achieve the required method quantitation limit for each COC (i.e., the applicable TRRP assessment level).
- A purpose-driven investigation: The target COC list is the list of chemicals to be evaluated during the Affected Property Assessment. However, not every target COC must be analyzed in every sample, and the use of "indicator COCs" is allowed. Decisions on choosing samples and analytical methods can be based on risk (e.g., the most prevalent, mobile, or toxic COCs) and the project goals.
- Chemical categories: Total Petroleum Hydrocarbons (TPH) and other group parameters can be considered target COCs for delineating the extent of contamination. However, they cannot be used to determine the presence or absence of individual target COCs in excess of assessment levels or PCLs. Supplemental analysis may be required to evaluate individual target COCs to appropriate levels of performance.

For More Information

The complete guidance document is available from the TCEQ: http://www.tceq.state.tx.us/comm_exec/forms_pubs/pubs/rg/rg-366_trrp_10.html

TRRP Guidance and Forms may be found at: <http://www.tceq.state.tx.us/remediation/trrp/guidance.html>

Please feel free to contact us at GSI Environmental Inc. with any questions you may have regarding this issue. Visit our website: www.gsi-net.com

GSI will continue to provide periodic updates regarding important regulatory developments in Texas. Should you have any questions regarding these or other upcoming issues, please feel free to contact us at (713)-522-6300.

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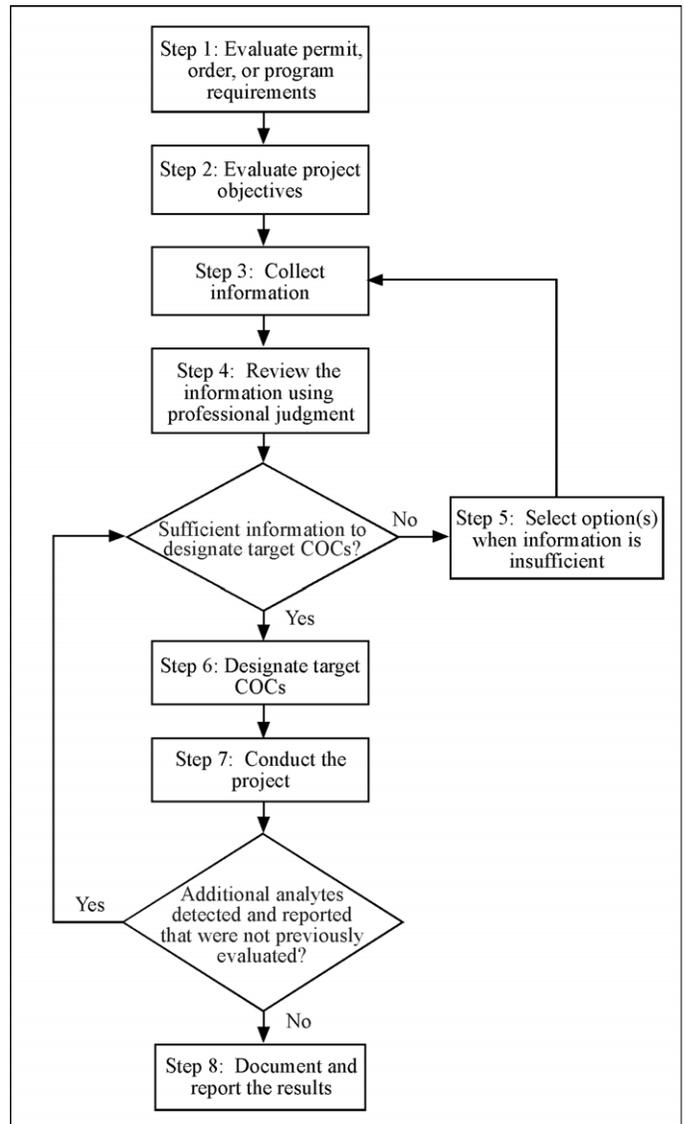


FIGURE 1: Target COC Selection Process, from TCEQ's TRRP-10 Guide

About GSI

GSI ENVIRONMENTAL INC. (GSI) is an environmental engineering consulting company located in Houston, Texas, which specializes in the management of environmental risk. Since 1986, GSI has been providing industry with innovative solutions to soil, groundwater, surface water, and air pollution problems.