Enhancing Program Effectiveness through Collaboration

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Overview

- Introductions/Background
- Permits/Planning
- Logistics
- Pre, During, and Post TRE/TIE Communication

Nautilus Environmental

- Accredited environmental toxicology lab NELAP, CA ELAP, and WA DOE
- Expertise in all aspects of toxicity testing
  - Study design, planning, review, quality assurance, and regulatory support as well as the analysis, integration, interpretation, validation and application of toxicity data.
- Core communication philosophy
  - Anchored in proactive engagement, asking questions that deliver meaningful answers, and allowing data to guide discussions on next steps

Permitting Process

- Engage your lab experts early and often in the permitting process:
- Looking for…

  - **Clarity -** Ensure that all critical information is spelled out, don't leave anything up for interpretation
  - **Consistency -** Check that triggers and limits are consistent both in language and value through the entirety of the permit
  - **Completeness -** Ensure there are pathways and "off ramps"

Logistics - communication is key

- Key planning points
  - Goals and constraints for all parties
  - Expected sampling schedule
    - Especially critical for storm water
  - Holding times and transportation arrangements
  - Volume requirements based on program needs

Logistics - communication is key

- Overcoming challenges
- Timely communication of progress and results
  - Ensures compliance objectives and timelines are met; allows for regulatory engagement and response if needed
  - Allows for planning and discussion before going into next steps

How to prepare *before* an exceedance is observed…

- Toxicity Reduction Evaluation plans are a helpful resource
  - Guides investigation and gives you as the discharger a chance to define the processes and pathways
  - Engage experts - a well crafted TRE plan increases chances for an efficient, effective, and expedient investigation
- Consider laboratories, partners, and staff that will be involved

How to prepare *before* an exceedance is observed…

- Should a TRE/TIE be needed, timing is everything and advanced planning is critical

  - Budgeting, contracting, and other paperwork
  - Clear, agreed-upon time table to begin the TIE; in some cases concurrent TIEs can save resources
  - Provide lab with any previous and relevant analytical chemistry and toxicity test results
  - Communication of the plan - internally and externally with partners and regulators

During the TIE process…

- Adaptive approach
- Discussion of operational and process changes
  - Laboratories should be asking questions to understand potential drivers of magnitude and persistence
- Progress reports and clear explanations of iterative process - don’t get lost in semantics
- Have clear expectations, explanations of caveats and pitfalls, and a plan going forward - reduce confusion and avoid surprises

TIE interpretation is crucial

- Data interpretation is the most critical factor
  - Good data and interpretation comes from operator skill, experience, and training
  - Must be able to integrate chemistry, understand treatment responses, organism sensitivities, factors that can confound results
- Multiple lines of evidence
  - Ensures interpretations and conclusions are defensible in a regulatory, and if needed, legal arena
  - Pair toxicity with chemistry whenever possible
  - TIE study designs can allow for exclusion and isolation of constituents of concern

Thank You!

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