Implementation Procedures (IPs)

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Meeting Objectives

Update on status of the 2012 IPs

- Background
- Whole Effluent Toxicity
- Dechlorination
- Current implementation of narrative nutrient criteria (no change from 2010 IPs)
- Recommendations for next version of IPs

2012 IPs Background

Procedures to Implement the Texas Surface Water Quality Standards (IPs) RG-194

Existing IPs were issued in 2003

2010 version approved at 6/30/10 Commissioner's Agenda

EPA denied the 2010 version of the IPs

2012 IPs proposed at 1/11/12 Agenda

Next Steps for 2012 IPs

Response to Comments

Adoption - Commissioners' Agenda on 5/16/12

EPA review

2012 IPs Proposal WET

Whole Effluent Toxicity Contact:

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EPA National WET Guidance

Issued in November 2004 as “Draft” Guidance

- National consistency in WET implementation
- NPDES regulatory compliance
- Emphasize existing guidance, policy, and regulations

EPA Region 6 policy May 2005

- Sublethal RP determinations
- WET Limits to include sublethal endpoints

40 CFR 122.44(d)

- Must determine whether the discharge causes, has reasonable potential to cause, or contributes to non-attainment of the narrative criterion in the water quality standards for WET.
- Requires an RP determination, but does not require the use of a specific procedure
- If the determination is positive, species specific WET limits must be included in the permit.

Sublethal Endpoints

Sublethal Limits (Growth, Reproduction)

Historically, neither the EPA nor TCEQ have Included sublethal endpoints in TPDES permits or required TREs for sublethal failures.

EPA Objection to 2010 IPs

Lack of defined Reasonable Potential determination process for WET limits within IPs

TCEQ RP Approach

- Use RP decision tree
- More than 3 failures in past five years, or 3 failures with 2 in the past three years, equals RP
- 1 or more failures in past five years, but less than above, requires a BPJ approach
- BPJ approach uses “weight of evidence” approach, accounting for duration and magnitude of test failures

Representative Data

5 years of valid data

Exclusions made for:

Construction

Treatment System Upgrade

Pretreatment Program

Toxicity Reduction Evaluations

TREs are now voluntary. Although no longer mandatory, they are **strongly** encouraged.

A successful TRE is dependent upon a defining reasonable potential to assure that sublethal toxicity is persistent and significant.

Compliance Periods

EPA objection to default 3 year compliance periods

EPA is requiring shorter compliance periods for WET of 34 months or less.

Compliance language must include enforceable interim milestones

WET Enforcement

EPA objection to IP proposal that noncompliance with a WET limit is based on a scheduled test failure followed by at least two additional test failures demonstrated in the required increased testing period.

WET Limit Removal

2012 IPs propose removal of WET limits following ten passing tests which is consistent with the ten data points needed to make an RP decision using EPA's TSD RP methodology.

WET Summary 2012 IPs

- EPA denied approval of 2010 IPs due to WET RP
- TCEQ proposed 2012 IPs to address EPA objections
- 2012 IPs outline method for RP determinations
- 2012 IPs scheduled for adoption on
- Followed by EPA review

De-chlorination

IP proposes de-chlorination requirements for new and expanding domestic discharges with design flows between 0.5 and 1.0 MGD

De-chlorination

Chlorine contact requirement
1.0 to 4.0 mg/L

Toxic to aquatic life at 0.01 mg/L

IPs - Dechlorination

Implementation Challenges

- Health, Safety, and Environmental Concerns
- Operations and Management
- Associated Costs and Fiscal Implications

IPs - Dechlorination

Phased Approach

EPA recognizes impact to minor POTWs and will accept a phase approach to prioritize de-chlorination requirements for a larger range of facilities

2012 IPs – Additional Revisions

Major revisions limited to EPA objections

Minor corrections

Minimum Analytical Levels (MALs) date of compliance extended

Nutrients 2010 IPs

- Streams and Rivers
- Lakes
  - local effects in reservoirs
  - main body
- Bays and Estuaries

Why Control Nutrients?

- Phytoplankton algae in open water
- Attached algae; floating algae
- Rooted vegetation
- Aesthetic effects on recreation
- Water supplies: THM, taste & odor
- Aquatic-life: fisheries ↑↓ habitat ↑↓
  D.O. at night↓ diversity↓

IPs – Nutrient Narrative Criteria

30 TAC Chapter 307.4(e):

“Nutrients … shall not cause excessive growth of aquatic vegetation which impair an existing, attainable, or designated use.”

Reservoirs – Local Screening Factors

- Size of discharge (quantitative)
- Distance from reservoir (quantitative)
- Sensitivity: water clarity (quantitative or qualitative)
- Sensitivity: observed vegetation responses
- Sensitivity: shading by brush and trees
- Consistency with similar permits (qualitative)
- Local dispersion, mixing (quantitative or qualitative)
- Impact on main pool (quantitative)

Screening Factor Example: Water Clarity

Concern level	Qualitative	Quantitative Secchi (m)
Low	Turbid …	< 0.75
Moderate	… not murky	0.76 to 1.27
High	… high transparency	> 1.28

Streams – Nutrient Screening Factors

- Size of discharge (quantitative)
- In-stream dilution (quantitative)
- Sensitivity: type of bottom (qualitative)
- Sensitivity: depth (qualitative)
- Sensitivity: water clarity

Streams – Nutrient Screening Factors

- Sensitivity: observations of aquatic vegetation
- Sensitivity: shading by tree canopy (qualitative)
- Streamflow sustainability (qualitative)
- Extent of pools and impoundments (qualitative)
- Consistency with other permits (qualitative)

Nutrients – Typical TP Limits

Permitted Flow (MGD)	TP Limit (mg/L)
< 0.5	1.0
0.5 – 3.0	1.0 – 0.5
> 3.0	0.5

Nutrients – Nitrogen Limitations

TN limitations to prevent potential impact to sea grass communities.

Consideration of site specific conditions influencing dispersion and discharge volume in relation to the proximity of sea grasses to outfall.

In the absence of numeric criteria, nitrogen limit recommendations are based on Best Professional Judgment (BPJ) and available site specific data.

Nutrient Limits in Texas Permits

- **Total phosphorus:**

  >1 mg/L - ~ 6 permits

  1.0 mg/L - ~ 39 permits

  0.5 mg/L - ~ 7 permits

  One with 0.15 mg/L TP

- **Total nitrogen:**

  Two with 6 mg/L TN

  One with 8 mg/L TN

Nutrients Summary 2010 IPs

- TCEQ adopted numeric criteria (Chl *a*) for 75 reservoirs, but EPA has not yet approved criteria
- TCEQ will implement reservoir criteria and screening when/if approved by EPA
- Screening for compliance with narrative criteria is currently being implemented

Implementation Procedures

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