

Surface Water Quality Standards Stakeholder Meeting

*Proposed Amendments to SWQS to Address
Drinking Water-Based Criteria Concerns*



June 17, 2014

NJDEP Public Hearing Room

Introduction/Background



June 17, 2014

Pilar Patterson, Chief

NJDEP: Bureau of Surface Water Permitting

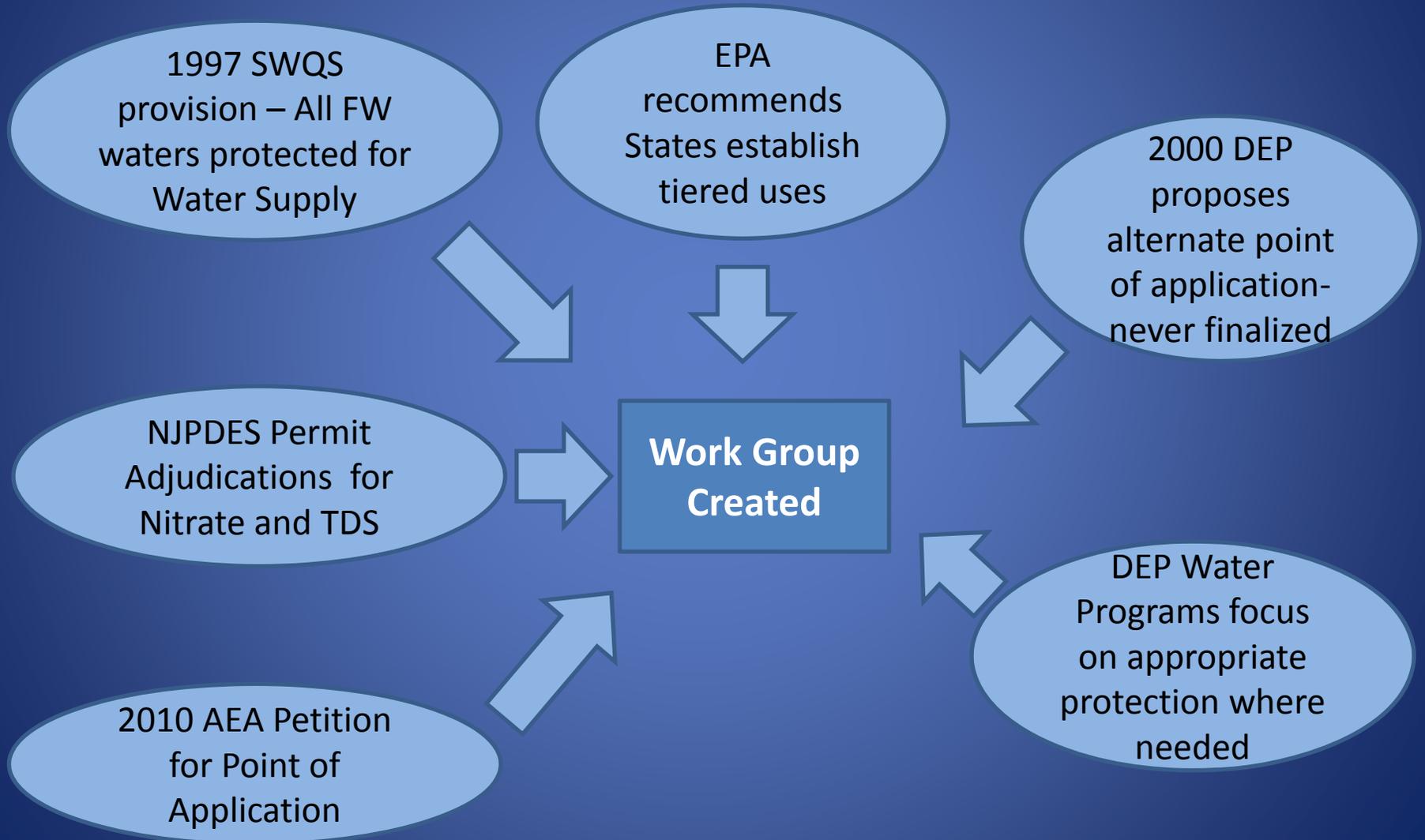
Background

- In NJ all freshwater is designated as drinking water.
- Due to small size, not all streams are appropriate for drinking water intakes.
- Numerous permits have been adjudicated regarding this issue, as a result both small and large dischargers have delayed upgrades.

Background - Nitrate

- SWQS and Safe Drinking Water Act both have Nitrate criteria of 10 mg/l.
- Criteria is an acute standard and is currently applied at the edge of the mixing zone.
- Potable surface water treatment is typically not designed to remove nitrate.

History



DEP Goals

- Enhance protections at existing potable surface water intakes.
- Protect future potable surface water intakes.
- Establish a common sense approach for where treatment is necessary.
- Establish a transparent process that meets the CWA requirements, is implementable, feasible and enforceable.

Former Proposed Approach

- Stakeholder meeting December 17, 2012 presented approach for nitrate that required a “TMDL *like*” process.
- Concerns were raised regarding the Department’s ability to implement such an approach in a timely manner.
- Workgroup back to the drawing board – will be presenting a new approach, simpler, faster and achieves the same result.

NEW Proposed Approach for Nitrate

- Ambient sampling will be at the drinking water intake.
- Protections will be enhanced where ambient nitrate levels are a concern (above 5 mg/l).
- Monitor and report where no drinking water intakes are existing or planned.
- Special considerations for small dischargers.

Proposed Changes to the SWQS Regarding Nitrate



June 17, 2014

Heather Genievich

NJDEP: Bureau of Surface Water Permitting

Nitrate Criteria Implementation *Overview*

- Tier 1 Waters:

- FW2 waters upstream of an existing or future PSWI
 - Mainstem Delaware dischargers will be governed by DRBC criteria

- Tier 2 Waters:

- FW2 waters that are not upstream of an existing or future PSWI

*Special note – “dischargers” refers to domestic dischargers where nitrates are normally found in the effluent

Nitrate Criterion Implementation

- Concept:
 - Purveyors of potable water located in Tier 1 waters will measure ambient levels of nitrate at intakes.
 - In Tier 1 waters, if elevated ambient levels of nitrate at the intake are present, MAJOR permits will require either increased monitoring or effluent limitations (WQBELs or EEQ limitations).
 - Minor permits will continue to monitor.
 - In Tier 2 waters, dischargers will continue to monitor and report.

Tier 1 Waters

Criteria Implementation for Dischargers

- **Ambient nitrate levels <5 mg/L**
 - Majors monitor once per quarter
- **Ambient nitrate levels ≥ 5 mg/L but <7.5 mg/L**
 - Majors increase monitoring to frequency at N.J.A.C. 7:14A -14.2 Table 14-4 (ranges from 1/week to 1/day based on permitted flow)
- **Ambient nitrate levels ≥ 7.5 mg/L**
 - Majors will be evaluated for effluent limitations and the Department will apply the MORE STRINGENT of WQBELs or EEQs
- **Ambient nitrate levels ≥ 10 mg/L**
 - TMDL will be pursued due to impairment

Tier 2 Waters

- For FW2 waters where no potable water intakes exist or are planned, the Department will continue to monitor ambient levels and discharger levels to protect any possibility of potential drinking water use.
- All dischargers will monitor and report for nitrate.

Changes to Nitrate Criterion

- Averaging Period:
 - *Current Criterion:* 30-day average
 - *Proposed Criterion (more protective):* 1-hour average
- Stream Design Flow:
 - *Current Design Flow:* 7Q10
 - *Proposed Design Flow (more protective):* 1Q10
- Basis unchanged: 10 mg/L primary drinking water MCL

Nitrate Criterion Implementation

Considerations

- New approach is more stringent than existing approach for majors upstream of PSWIs.
 - Limitations will be applied for all upstream major dischargers when ambient levels reach 7.5 mg/L.
- Minor dischargers will get relief from limits.
- Process is transparent and predictable.
- Nitrate will be controlled where it is known to be a problem.
- Future intakes will be protected once they are permitted or identified in the NJ Water Supply Master Plan.

DISCUSSION

- Is Tier 1 and Tier 2 clear?
- Implementation issues?
- Positive Aspects?
- Concerns?

Proposed Changes to the SWQS for TDS, Chloride, and Sulfate



June 17, 2014

Melisse Carasia Auriti

NJDEP: Bureau of Surface Water Permitting

Current Criteria Based on Secondary Drinking Water Standards

- Secondary Standards relate to aesthetic concerns such as taste, odor and appearance.
- Secondary Standards are NOT related to human health or aquatic life

TDS = 500 mg/L

Chloride = 250 mg/L

Sulfate = 250 mg/l

TDS, Chloride and Sulfate

- These criteria are broadly covered by the taste and odor narrative criteria.
- Require Reverse Osmosis treatment to remove which is expensive and creates a new set of additional environmental impacts.

Proposal

- Remove numerical criteria for:
 - TDS
 - Chloride
 - Sulfate
- Revise narrative criteria for:
 - Taste and odor producing substances
- Retain protection of aquatic life for:
 - Chloride (Current numerical criteria)
 - WET as surrogate for TDS aquatic life

Narrative Criteria at N.J.A.C. 7:9B-1.14(d)

- Change “Taste and Odor Producing Substances” to “Taste, Odor and/or Aesthetic Response Producing Substances”
- New Narrative:
 - i. None which would render the water unsuitable for the designated uses. (All classifications)
 - ii. No substances shall be discharged at a level that would produce offensive taste or odors in biota used for human consumption. (All classifications)
 - iii. No substances shall be discharged at a level that would, singly or in combination, render water supplies unduly unpalatable or aesthetically objectionable. (FW2)

TDS, Chloride and Sulfate

- Currently TDS imposed only for new and expanded dischargers.
- Whole Effluent Toxicity (WET) testing will protect aquatic biota.
- All domestic dischargers currently monitor or have limits for WET.
- TDS adequately controlled through the WET requirement without the need for unnecessary RO.

Discussion

- Implementation Clear?
- Positive Aspects?
- Concerns?

Wrap-Up

We invite your comments!

Email additional comments by July 1st 2014 to:

Melisse.Carasia-Auriti@Dep.state.nj.us

Thank You for your feedback and attendance!