



## Discussion Outline for CV-SALTS Executive Committee Meeting (1/24/2013)

**ISSUE:** What role, if any, can/should water supply projects (incl. treatment or alt. sources) play in a BMP-based compliance strategy to address excess nitrate concentrations in groundwater?

### I. Background and Context

- A) The Problem
  - 1. Excess nitrate levels in groundwater impairs drinking water supply wells
  - 2. Existing nitrate load in the vadoze zone will continue to contaminate groundwater
  - 3. Human activities will continue to contribute new nitrate loads at the surface
- B) Desired Outcome (co-equal and co-dependent)
  - 1. Assure safe drinking water supplies throughout the region ASAP
  - 2. Preserve economic viability of business and industry in the region
  - 3. Collectively, these outcomes constitute "sustainable salt management"

### II. Regulatory Options Using the Traditional Water Quality Standards Toolkit

- A) What is the applicable water quality standard?
  - 1. All waters of the state are initially presumed capable of supporting MUN
  - 2. Water quality objective (WQO) for nitrate-nitrogen is  $\leq 10$  mg/L
  - 3. Compliance with WQO is evaluated at "first encountered groundwater"
- B) For Existing Discharges: Waste Discharge Requirements Address New Loads
  - 1. Discharge Prohibitions (based on pollutant concentration or discharge flow)
  - 2. Load and Wasteload Allocations (e.g. numeric effluent limitations)
  - 3. Technology-based Controls (minimum treatment or percent removal)
  - 4. Best Management Practices (iterative and adaptive control process)
  - 5. Limitations on Effectiveness of WDRs
    - i. Does not directly address existing use impairments
    - ii. Does not directly address non-attainment caused by prior discharges
    - iii. It may not be possible for dischargers to fully comply with WQOs/WDRs
      - \* Technically infeasible
      - \* Economically infeasible
    - iv. Limited regulatory options for dealing with partial non-compliance
      - \* Cease and Desist Orders (CDO)
      - \* Compliance Schedules or Time Schedule Orders
      - \* Civil and Criminal Enforcement Actions
      - \* Variances
      - \* Cleanup and Abatement Orders (CAO)

C) For Prior Discharges: Cleanup and Abatement Orders to Address Legacy Pollution

1. Remediation Requirements: Pump and Treat Contaminated Groundwater
2. Mitigation Requirements: Providing Alternate Water Supply
3. Barriers to Implementing CAOs
  - i. Difficult to establish legal responsibility for prior discharges
    - \* Large number of disparate sources over a long-period of time
    - \* Complex questions of fate and transport
    - \* Current status of prior dischargers
  - ii. Significant staff resources required
    - \* Enforcement actions must be made case-by-case
    - \* Number and scale of enforcement actions needed
  - iii. Very long appeals process delays final resolution

D) The existing regulatory toolkit is not the most efficient or effective means to achieve the dual outcomes desired.

1. The current toolkit evolved to:
  - \* Prevent water quality impairment from...
  - \* Discrete and readily identifiable point-source discharges...
  - \* To surface waters (where significant flushing flows are the norm)
2. Consequently, the toolkit is ill-adapted to:
  - \* Remediate existing water quality impairments...
  - \* Due to legacy pollutants and prior (unregulated) discharge activities...
  - \* From diffuse and widely-distributed non-point sources...
  - \* To groundwaters...
  - \* With complex and poorly defined fate and transport mechanisms
3. Nevertheless, the Regional Board has a legal duty to protect beneficial uses and must rely on whatever authorized regulatory tools are available regardless of the aforementioned limitations.
4. If the existing regulatory toolkit is likely to produce inferior outcomes, it is up to the stakeholders to offer a more effective alternative.
5. The Regional Board can approve an alternative implementation program provided:
  - \* It does not waive any statutory authority
  - \* It does not violate or nullify any statutory duty
  - \* It does not exceed existing regulatory authority
  - \* It fully protects the beneficial use (e.g. provides safe drinking water)
  - \* It is enforceable (e.g. recourse for non-compliance)
  - \* It is implementable (e.g. reasonable administrative burdens)

### III. Strawman Conceptual Alternative: "Direct Protection at the Point-of-Use"

- A) Discharger offers to mitigate the adverse effects of excess nitrates by agreeing to provide clean, safe drinking water to well owners within their zone-of-influence.
- B) The alternate drinking water supply must meet all state and federal requirements.
- C) The specific means used to provide an alternate drinking water supply is at the discretion of the Discharger. Such means may include, but is not limited to:
  - \* New (relocated) or deeper wells
  - \* Well-head treatment
  - \* Connection to municipal water supply service
  - \* Bottled water delivery
  - \* In-lieu surface water exchanges
- D) The alternate source must be able to supply the needs of all persons currently dependent on the impaired groundwater wells and must be able to expand to accommodate future population growth at rate at least equal to that which is occurring in the county in which the project is located.
- E) The Discharger must agree to bear the full marginal cost of the alternate supply project (incl. capital and O&M) over and above what well users are currently paying.
- F) Direct Use Protection obligations are transferrable with title to the property where the discharge occurred.
- G) The Discharger must continue to implement Best Management Practices designed to minimize new nitrate loads.
- H) Initially, proposals for Direct Use Protection will operate as Pilot Demonstration Projects intended to serve as archetypes for proof-of-concept.
- I) Pilot Demonstration Projects will be entitled to Safe Harbor Agreements whereby participation in the project cannot be used as evidence establishing liability for past acts.
- J) Eligibility Restrictions:
  - \* Groundwater basin already exceeds WQO for nitrate (e.g. no assimilative capacity)
  - \* Significant nitrate load in vadoze zone precludes cost-effective remediation
  - \* Prohibiting discharge would not provide meaningful relief from use impairments
  - \* Near-term compliance with the WQO is not economically or technically feasible
  - \* No technical or economically feasible alternative means of disposal
- K) Pilot Demonstration Project may need to operate under a Conditional Variance structure
  - \* Allows limited exceedances of water quality objectives
  - \* Reviewable and renewable; subject to meeting conditions of the variance
  - \* Most appropriate where traditional compliance is infeasible
  - \* Still requires reasonable best efforts (e.g. BMPs)
- L) This is NOT an "Offset" or "Pollutant Trading" program
  - \* Such programs usually require a Wasteload Allocation or Load Allocation first
  - \* Such programs assess compliance as "net" mass loads (e.g. pound-for-pound)
  - \* Such programs are designed to achieve the WQO in the receiving water
  - \* Direct Use Protection is designed to mitigate potential adverse impacts at the point-of-use not the point-of-discharge

#### IV. Advantages

- A) Direct Use Protection achieves many of the same outcomes expected from CAOs without the protracted legal battle because it is proposed by the discharger rather than imposed by the regulator.
- B) Direct Use Protection is the only way to achieve the co-dependent and co-equal outcomes described above.
- C) Direct Use Protection is the least cost alternative but it is not a zero-cost option.
- D) Direct Use Protection is the only mechanism that legally avoids imposition of regulatory requirements where compliance is both technically and economically infeasible.
- E) Direct Use Protection preserves all parties' legal options should it prove a failure.
- F) Direct Use Protection does not preclude continued reliance on traditional regulatory tools and traditional regulatory defenses for those who do not wish to participate in such initiatives. It is an option not an obligation.
- G) Direct Use Protection offers a higher level of business certainty by providing an option to demonstrate compliance for a defined period of time at a defined cost.
- H) Direct Use Protection will work best for point-source dischargers to groundwater where the zone-of-influence is relatively well-defined and the cost of providing alternative water supply is bearable. CV-Salts should actively seek-out such situations to serve as "archetypes" for this approach.
- I) Conceptually, Direct Use Protection may provide a superior option for addressing nitrate loads from diffuse non-point sources by developing a "mitigation bank" strategy similar to that used to preserve wetlands.
- J) Direct Use Protection is "outcome-oriented" and focuses on "sustainable salt management" as the primary decision paradigm.
- K) Direct Use Protection is consistent with the "zoning" metaphor previously set forth as a critical mechanism for implementing a successful Salt and Nitrate Management Plan.
- L) Direct Use Protection recognizes and reinforces the need to protect beneficial uses but does not presume that the only or best way to do so with through inflexible application of traditional water quality standards mechanisms.