



Proposed General Waste Discharge Requirements for Salts from Injection/Percolation of Imported Water

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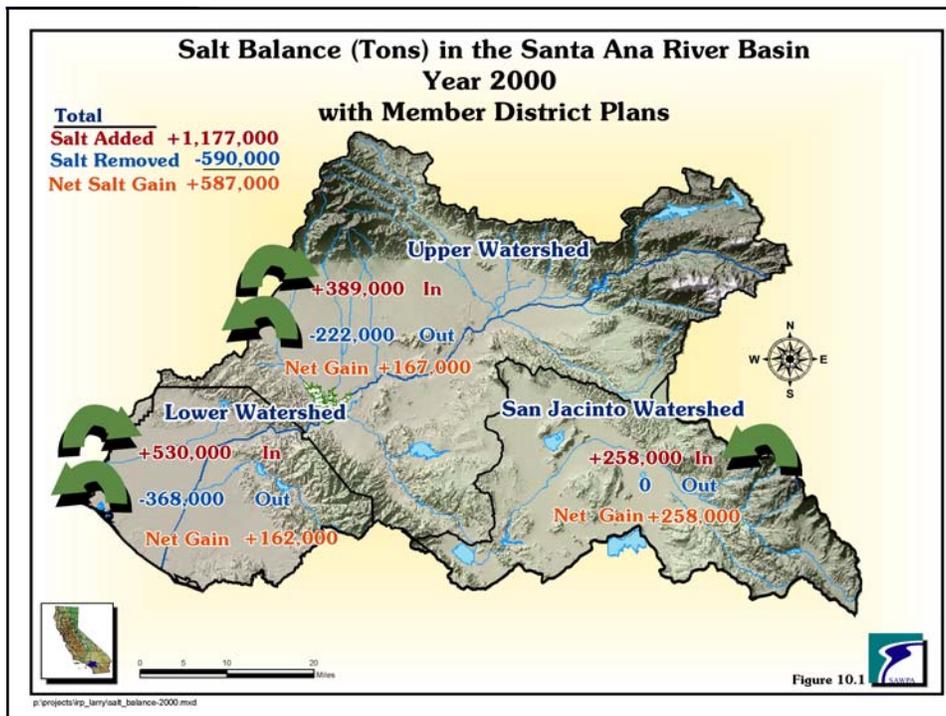
Position Statement

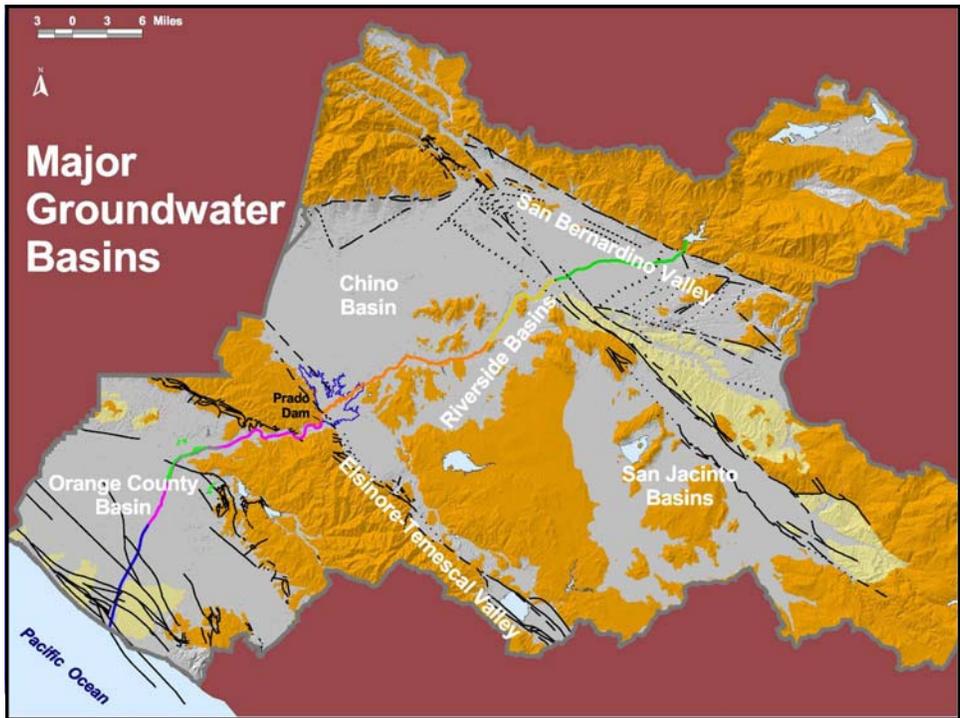
- **The RB supports recharge of all GW basins within the Region using SPW**
- **20-year regulatory history of discharge limits that did not “require”, but de facto required SPW**
- **Draft Reclamation Guidance Document – October 2004**
- **Regional Order**
- **Appropriate to issue draft for public review and comment**



Need for Order?

- **Santa Ana Basin Plan – completely revised Salt Management Plan**
 - Very high adverse salt balance
 - New GW objectives throughout Region
 - Rigorous scientific process
 - Stakeholder-driven and funded effort







Need for Updated Salt Management Plan

- **Dischargers – TDS Limitations**
- **Objectives – 1972**
 - Rushed, under funded
 - Not based on good science
- **No good data on assimilative capacity**



Genesis of Salt Management Plan

- **If 1972 objectives invalid**
 - Potential for enormous unnecessary expenditures of public funds
- **Dischargers and water agencies appealed to regional board for complete review of salt management plan**



Santa Ana Basin Salt Management Plan

- **N/TDS Task Force – 7 years, water supply agencies (upper and lower basins), wastewater dischargers, USGS, Watermaster**
- **Funded by Task Force members – (\$3.5+ million)**
- **Consensus ground rules**



Develop procedures to calculate groundwater quality objectives

- **1972 Basin Plan Objectives:**
 - **TDS: About 200 wells; Two years of data**
 - **Nitrate objectives not scientifically calculated**
- **TIN/TDS Study:**
 - **TDS/Nitrate: About 1,800 wells; 20 years of data**
 - **Nitrate and TDS objectives rigorously calculated**



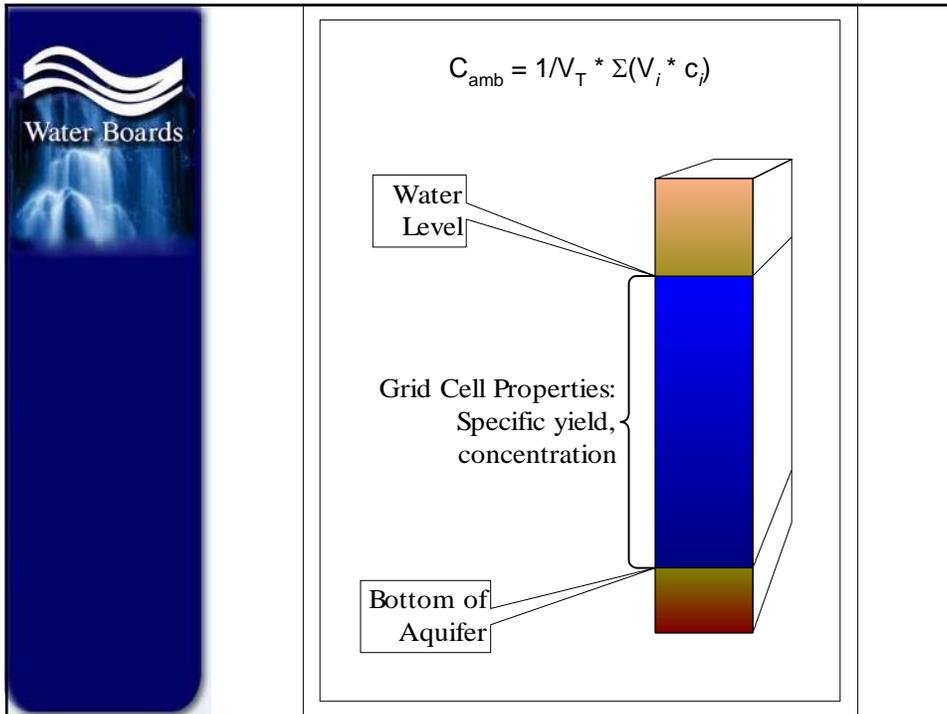
Develop WQ Point Statistics at Each Well

- Each well must have at least three data points in separate years during the analysis period.
 - TDS and Nitrate-nitrogen
- Computed statistics account for variability resulting from:
 - sampling error
 - analytical error
 - hydrological/climatic events
 - non-homogeneous hydrogeologic properties



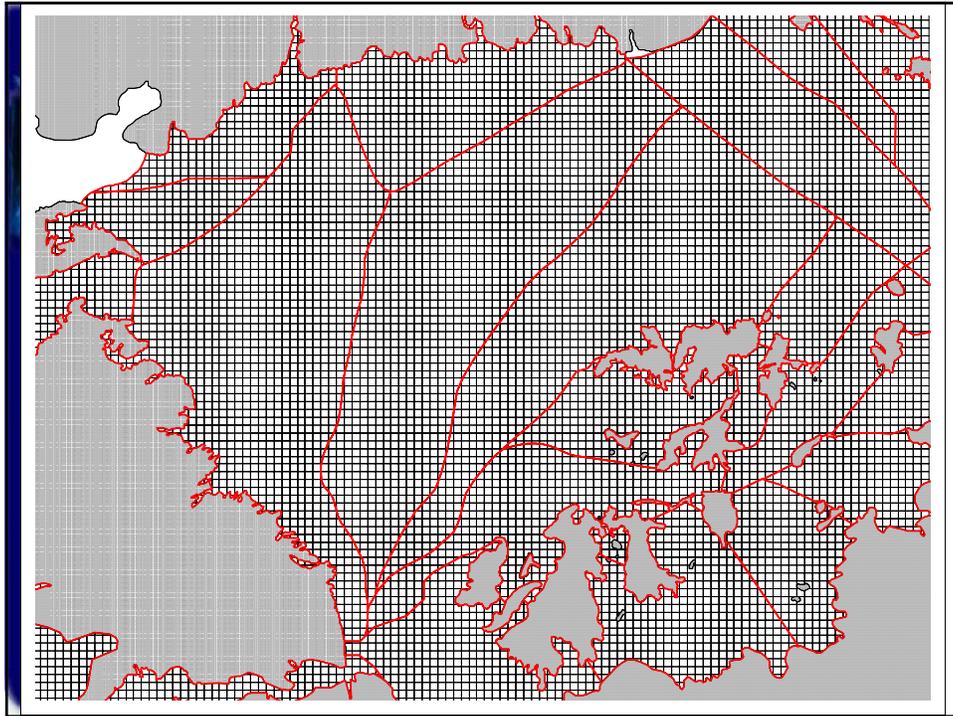
Develop procedures to calculate groundwater quality objectives

- Develop volume-weighted management zone estimates of TDS and nitrate concentrations
 - $\text{Concentration}_{\text{MZ}} = \text{Mass}_{\text{MZ}} / \text{GW Volume}_{\text{MZ}}$
 - historical ambient conditions (1954 – 1973)
 - Objective setting period
 - current ambient conditions (1978 – 1997)
 - Measure of compliance



Compute Ambient Water Quality for Management Zones

- **Create 400x400m grid across all MZs**
- **Populate each grid cell with:**
 - Water quality (TDS and Nitrate)
 - Groundwater elevations
 - Specific yield
 - Bottom of the aquifer
 - Aquifer geometry (layering) where appropriate





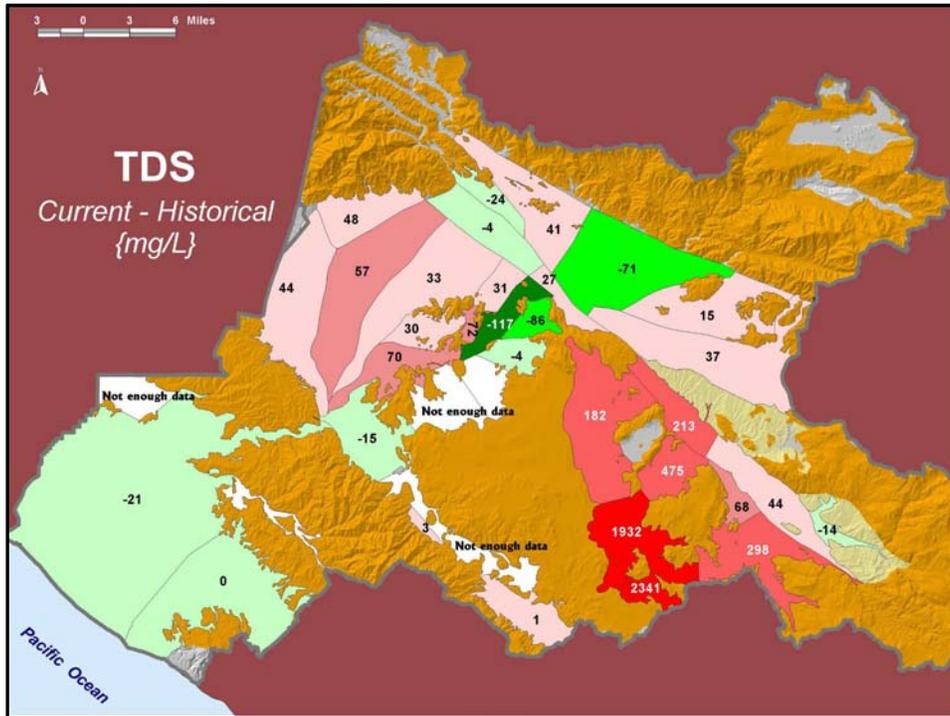
N/TDS Task Force

- **Re-created objectives using 1972 20-year running average and evaluated current ambient quality, also with 20-year average**
- **Strong scientific basis in conformance with laws and policies**
- **Established antidegradation objectives**
- **Compared current ambient quality to objectives to determine whether assimilative capacity exists**



Assimilative Capacity

- **If assimilative capacity exists, then may discharge at quality in excess of objectives, if supported by antidegradation analysis (maximum benefit & support beneficial uses)**
- **If no assimilative capacity, may not discharge at quality above objectives (Rancho Caballero decision)**





Water Boards

Implications of the TIN/TDS Study

- **Management Zones with Assimilative Capacity**
- **Other Management Zones lack assimilative capacity, and therefore discharges to these basins must have TDS and NO₃ concentrations at or below the proposed objectives.**
- **Effects:**
 - Potential effect on recycled water recharge projects
 - Potentially direct recycled water re-use
 - Potential effect on imported water recharge (Rancho Caballero)



Max Ben Objectives

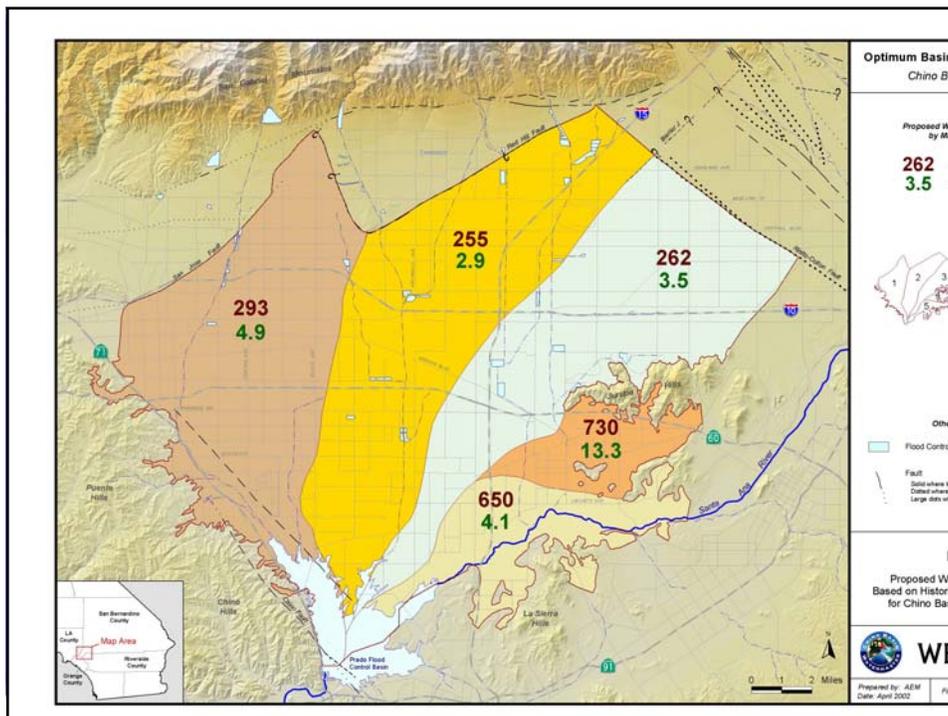
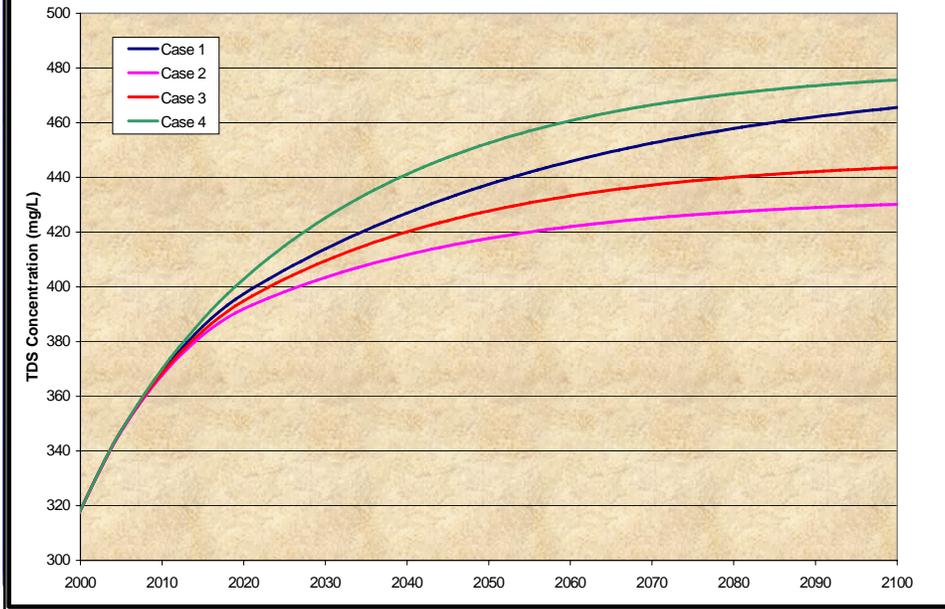
- **Less stringent objectives would allow lowering of water quality, so must satisfy state's antidegradation policy – Resolution 68-16**
 - 1. **Demonstrate that beneficial uses will continue to be protected**
 - 2. **Water quality consistent with maximum benefit to the people of the state will be maintained**
- **Chino Groundwater Basin Max Benefit Example**

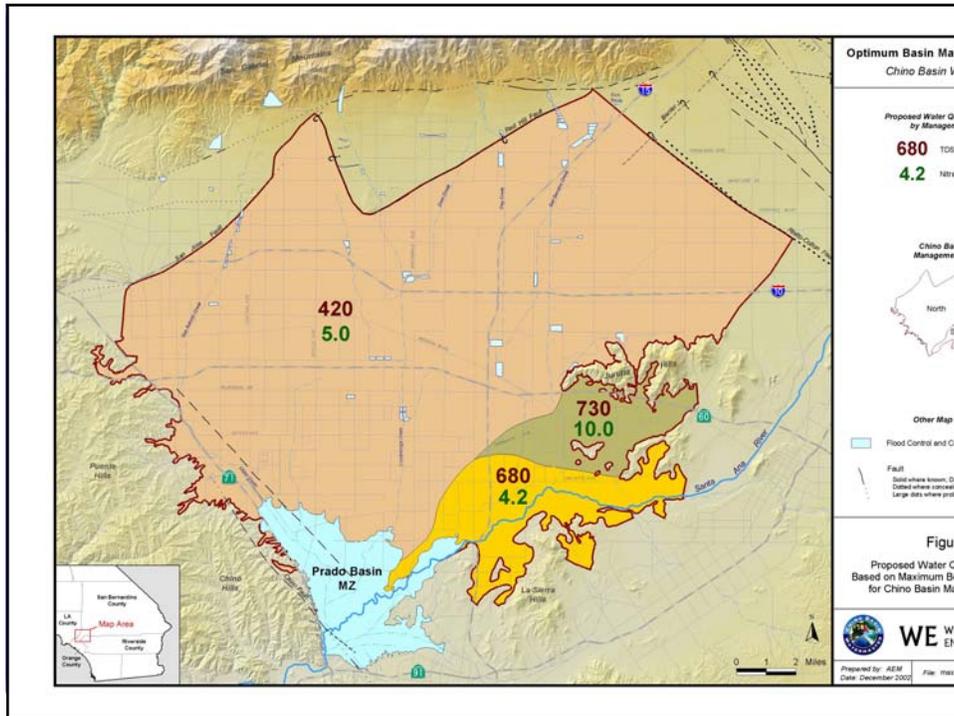
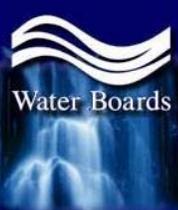


What are the Causes of TDS and N Degradation in the Chino Basin?

- **Returns from use from agriculture and urban water users**
- **Recharge**

Figure 3
Comparison of TDS Concentration Time Histories for Selected Water Resources Management Cases



Max Ben Demonstration

- **Chino Basin Example**
 - **Integrated water supply plan**
 - Recycled water
 - Enhanced stormwater capture
 - Two (later, three) desalters
 - Recharge excess low-TDS SPW
 - Hydraulic Isolation
 - Extensive monitoring proposal
 - Water softener elimination program



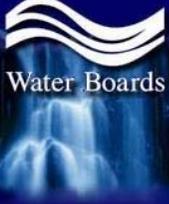
Chino Basin Max Ben

- **Max benefit to people of state**
 - Extraction and treatment of salt-contaminated groundwater
 - Protect downstream users from rising poor-quality groundwater
 - Less reliance on SPW for growth
 - Integrated water supply planning
 - Optimum Basin Management Program



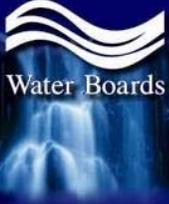
Proposed Recharge Order

- **Increasing numbers of recharge proposals**
- **Extraordinary commitments by agencies to develop scientifically defensible water quality objectives**
 - Enormous financial commitment for max benefit objectives
 - Integrated water supply programs
 - Loss of Max Benefit Objs if outside agent causes violations of Max Ben Objs
- **Legal requirement to implement objectives**



Proposed Recharge Order

- **CEQA Initial Study and Neg Dec filed on March 6, 2006**
- **Draft Order mailed for public review and comment – April 19th**
- **Proposed for RB consideration on May 19th**



Proposed Recharge Order

- **Revised May 19th to workshop**
- **Re-scheduled consideration for July 14th**
- **Comments to staff by June 26th**
- **Comment period: April 19th to June 26th**



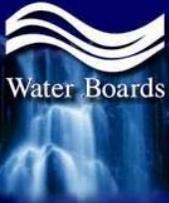
Requirements

- **5-Yr running average**
 - (first draft indicated 12-month)
 - Recharge Projects must meet GW Basin Objective and pH 6-9
- **Imported water is not the “waste” being regulated – imported salts are the target**



Requirements

- **Strict conformance w/ state law**
- **If basin has no assimilative capacity, must meet BP Obj**
 - 5-yr running average
- **If basin has assimilative capacity**
 - Must meet current ambient (antidegradation issue), or
 - Apply to RB for individual permit for RB allocation of assimilative capacity



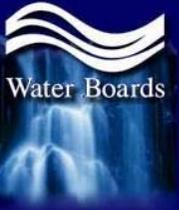
Concerns

- **Statewide concern with setting precedent regulating SPW**
- **SPW as a “waste”**
 - Revised order focuses on imported salt as the target of the Order
- **Monitoring Costs**
 - Quarterly Monitoring?????



Concerns (Cont'd.)

- **Another concern is that the proposed Order would preclude use of SPW**
 - Proposed order is for recharge of imported water, not use!
 - Would not preclude recharge
 - Recharge planning necessary to implement Basin Plan Objectives
 - Order implements basin-wide water quality planning efforts – N/TDS TF



Stakeholder and Public Input

- **Numerous meetings scheduled with regional & external stakeholders**
 - SoCal Salinity Coalition, May 4th
 - ACWA: 3 sessions, May 10th & 11th
 - SAWPA Member Agencies, May 15th
 - Nitrogen/TDS Task Force, May 15th
 - SAWPA Commission, May 16th
 - Regional Board Workshop, May 19th



Alternatives

- **ACWA discussions – alternatives**
 - None suggested to date
 - What would work?
 - SAR Basin recharge agencies proposal to develop regional implementation strategy – plan to achieve objectives
 - Clear mechanism for ensuring implementation
 - Rescind recharge order upon approval of regional compact



Latest Draft

- Available on web site
- Strikeout/underline version
- Draft with changes incorporated