

**CV-SALTS Joint Economic and Social Cost and
Technical Advisory Committees Meeting
Thursday, November 19, 2009; 9:00 AM to 12:00 PM**

Attendees: See [Committee Roster](#) for attendance.

Technical Committee Chair Nigel Quinn called the meeting shortly after 9:00 am followed by introductions of all present in-house and on teleconference.

1. Welcome, Introductions, Circulate Roster

Chair welcomes the group to ACWA and telephone attendees and invites self introductions. The Chair indicates that a roster is being circulated.

2. Review/Approve October 29th Technical Committee Meeting Notes

Suggestion that CVSC or CV-SALTS prepare a high-level letter to CDFA regarding use of the information in their reports as a database for use in planning. CV SALTS could request a meeting with Secretary Kawamura or whichever agency staff is appropriate to figure out how to exchange the reports or redistribute them and address whatever concerns the agency has.

Motion to approve by David Cory seconded by Rob Neenan the motion was approved – with changes as noted and further revisions to be suggested via email to Daniel.

3. Salt/Nitrate Source Pilot Update on Progress Presentation (Speaker: Bob Smith)

Pilot project is nearing the final phases of the preliminary analysis, data validation and Joel is pulling the information together for the three pilot areas. The three pilots are in different statuses in terms of completion. Final analysis the Yolo area will be ready for the draft report. The other two are lagging because there was a lot of data that came in the last week or so with a breakthrough in the GeoTracker data. The State Board was finally able to get it into a format that could be readily downloaded and everything was geo-referenced. This data had to be processed and worked into the model and make model runs with the new input. Tule and Modesto are a little bit behind and results for those two will likely not be ready for submittal on the 30th.

The complete report in terms of all the methodology, explanation and results for Yolo will be presented in a submittal on the 30th. Work will continue on the other two and those will be submitted on the 21st of December.

The December 7th workshop will go ahead. That will be a presentation of the methodology and the discussion of the results of that methodology for the Yolo.

Committee presented with a basic outline for the report.

Report will be up on the website by December 1st.

4. Coordination Programs Items

a. Drinking Water Policy Overview (Speaker: Holly Grover)

Current regulatory framework

The Drinking Water Act is a statute governing drinking water quality and is governed by the Department of Public Health. DPH implements the source water assessment programs which designates responsibilities for source water protection to the purveyors.

Through the authority of the act the Basin plan provides designation of beneficial uses for water bodies, setting water quality objectives for constituents to protect the beneficial uses, and ascribing a program of implementation to achieve the objectives.

All Central Valley water bodies have been designated as municipal and domestic supply(MUN). To protect water bodies designated, the basin plan incorporates DPH's primary and secondary MCLs for drinking water constituents of concern and which are supplied as water quality objectives.

With such a large study area and limited resources, technical studies must be focused on high-priority knowledge gaps. The policy could not address all constituents of concern so the workgroup compiled a short list of constituents on which future studies would focus. That data was used to develop conceptual models of what we know about each constituent and how it behaves in the system. Conceptual models included organic carbon, nutrients, salinity and pathogens, and included preliminary load analysis for each of the priority constituents and quantified mass loads from point and non-point sources. Conceptual models also looked at data gaps and recommendations from which subsequent studies were developed.

The purpose of the analytical models is to refine the estimated pollutant load of each priority constituent from each of the major sources. The work model for the Sacramento River Watershed is almost completed and will be used to quantify the point and non-point loads of the priority constituents of concern that enter the delta from the Sac River at I Street bridge and the San Joaquin River at Vernalis.

The analytical models will be used to define the future water quality scenarios to be reviewed for the policy. Sensitivity studies are going to be conducted to determine which sources of constituents in the watershed will improve water quality at the drinking water intake if managed at the source.

b. Triennial Rev. Tulare Lake Basin (Anthony Toto)

Legal counsel has reviewed the response to comments by stakeholders from the priority lists and that will be sent out next week as a PDF document put on the website.

The priorities for the Triennial review are: beneficial use designations, wetlands, salt and nitrate management plans, ground water assessment and control plans, and collaborating with the State Water Board.

Beneficial use designations – The group is looking at grouping those bodies of water that are unlisted together perhaps using elevation of streams to eliminate or reduce the COLD (Cold water fisheries) designation of beneficial use. The group is looking at municipal beneficial use and ground water in Kern County Oil Fields.

Wetlands – The group will coordinate with the Department of Fish and Game where there are wetlands impacts focusing on vernal pools within the Tulare Lake bed, where excess nutrients are contributing to detrimental impacts.

Salt and Nitrate management – There are many studies being conducted. The group is looking at the role of wineries, dairies, etc., in salt and nitrate levels.

Groundwater Assessment and Control – Groundwater Monitoring and Advisory Workgroup is being conducted with consultants who are addressing the need and conducting groundwater studies and then

evaluating different monitoring data. They will be providing advice and comments on the need for groundwater assessment and specific control needs. .

The electric conductivity effluent limit is a medium priority. Current Tulare Lake limits are 1000 EC and 500 EC over source waters. 500 EC over source waters is difficult for some dischargers.

State Water Board Collaboration will be required on policies coming up: Anti-degradation Policy, Aquifer Storage and Recovery Policy, Bio-Indicator development, Cadmium objective and implementation policy, Chlorine residual implementation policy, Mercury Offset policy, Methyl-Mercury objectives, on-site waste water treatment, septic tank waver, toxicity control provisions.

There will be a 45-day commenting period before the March meeting on the workplan and report.

Discussion about basin planning budget and personnel and how the work is funded. They will be reviewing de-designating oilfield areas.

5. Salt Use for Energy/Carbon Recovery (Dean)

New Sky Energy captures and converts CO₂ into useful products. They use salt – like sodium sulfate (the dominant salt in much of the drainage water in the central valley) – and convert that electro-chemically to sulfuric acid, hydrogen, oxygen, and sodium hydroxide. The sodium hydroxide is used to trap CO₂ and remove it from air and flue gas. The process is powered by renewable energy.

The company needs and uses large amounts of sodium sulfate which is the dominant salt in dry lake beds and in drainage water. The pure salt from these gleaned sources is used in the process that generates the carbon-negative commodity products.

New Sky can convert waste salts into marketable chemicals that are high-valued – including precipitated limestone and calcium carbonate, potash, and sodium carbonate.

The goal is to develop a cost-effective desalinization process.

New Sky's proposition is to treat drainage water and carbon dioxide as resources rather than pollutants to produce lower cost, environmentally friendly products – most likely furniture.

Question asked about if this technology has been tested.

All parts of the technology have been confirmed at laboratory scale.

Discussion about the use of selenium.

The pilot project will be carried out at Red Rock Ranch during the coming year with the goal to create a reactor that would fit inside a tractor trailer that would produce 5-6 tons of carbon-negative material a day and processing 3-4 kg of salt every minute.

New Sky will be going into the field in about six months in California.

New Sky has a grant proposal into DOE for a concentrating solar power system that would allow them to recover distilled water from waste salt stream water energy. From there approximately 3 kg of sodium sulfate is produced per minute, which works out to 5-6 tons of carbon-negative carbonates every day.

New Sky's proposition to CV-SALTS is that they need lots of salt so they can use it to trap CO₂ and all the financial modeling for the project is very profitable. The carbon-based materials are produced for 4-5 cents per pound. The goal would be to treat up to 1 million acre feet of water per year and most of that would be sold back to the agency as clean water. This is done through reverse osmosis and superconcentrating the salt.

Discussion about what happens to the calcium carbonate in the water.

6. Lessons learned from Australia

Sac Regional sponsored Jim Carrey from Australia to give a talk about the next step in Australia's salt water crisis. Australia is on the cutting edge of salinity management. Drought is the main issue in Australia and is driving their action on their water supply. Salinity is a second issue. Previous analysis had suggested a water supply of 12 million acre-ft/year, as it turns out this may have been too high an estimate. They may have only have 3 or 4 million acre feet per year.

The federal government has spent \$13 billion to deal with water supply, and most of that went to buy out farmers. Water allocation is now based on proportional availability.

The concern was raised during the discussion about increasing water available for irrigation doubling the concentration of salt leaching and the effect on the groundwater. Australia are prepared to sacrifice their groundwater.

7. Small Grant Opportunity Projects List (319H) (Betty & Holly)

A section of the Clean Water Act in which the federal government has identified the area known as non point source where they do not have authority to regulate. The only way they can achieve any water quality improvements in this area is with incentives. Under State law there is no distinction between point and non-point source. The federal government provides a grant to the state and a portion of that grant is passed through grants to local entities.

To get a grant, the project has to produce a load reduction in constituents regulated by a TMDL. EPA has only given out money for implementation projects. EPA decided this year to put money toward planning and focus on updating watershed plans. The watershed plan also has to be within a registered TMDL area.

Discussion regarding qualifying factors.

The only programs that qualify with salt are: salt and boron on the San Joaquin River; Selenium TMDLs in on the SJ River areas that also address a little bit of salt. There is no TMDL for salt in the delta.

Planning funds are limited to \$125,000. Implementation funds area \$1 million.

8. Technical Program Goals 2010 and Committee Efforts

The feedback from the last discussion on the program goals for 2010 was to take the elements out of the workplan and the beneficial use and objective study and included some recommended efforts. They are expecting some performance criteria from the regional board about what the accomplishments should be in 2010. The discussion from last month has been turned into a list of accomplishments that the committee would like to see for 2010.

9. Review/Discuss draft Beneficial Use/Objectives SOW

During the recent conference call, the committee took the first of the tasks (Task 1) and developed and moved it to an RFP. Some edits and changes made to the RFP. New content added from package page 24 to half-way down 26. Those three tasks bring the study closer to a conceptual model of how everything works, beneficial uses related to salt, etc.

There was a request to see how much the contractor might charge for adding the other (non-salt related) beneficial uses in the areas

Essentially the group is looking at reducing evaluated beneficial uses if the area doesn't have salt constituents as a limiting factor and limiting the evaluated constituents to only those with salt or nitrate issues.

Task 2, looks at the water quality objectives for each of those areas and some of that may already have been mapped and information available through some of the ag coalitions and board's efforts. There may be a database of the information. If the data is not available from prior work then indicators will be determined.

Task 3, looks at water quality criteria – like the Hoffman report – the numbers that are needed by certain beneficial use.

Funding intended – at least in part – through the clean up and abatement funds that the State board approved and the Drainage Authority is contracting for.

Most of the consultants and contractors we would work with would have experience working with grant-funded projects or state-contract funded efforts before.

The committee will define the scope and come to the executive committee for approval. Phase 2 and 3 are still being developing. The goal is as soon as there is a clear contract Phase 1 will be worked out.

It was decided by the people on the conference call that a conceptual “not to exceed \$50,000” was not included in the RFP.

Suggestion from in the room that the \$50,000 indicator be included in the RFP. Several in agreement.

Three months was determined to be a reasonable time for the deliverables. The results will be posted in a format that people can view easily. Daniel will go back and look at the paragraph on “publicly available” useable open source or public domain and review the format the final information should be presented.

Next step is to take it to the Executive Committee.

Question about type of information that's available and using information from the inland surface water plans. There is no such thing as the inland surface water plans because when State board tried to adopt one, they were sued and they withdrew it. Perhaps the question is about the work that the regional board did to compile water body types...and whether those should be mapped. The work that was done under the inland surface water plan has some categories and water body types for which the water quality objectives would apply as water quality objectives. There are only paper maps available of that information. That's not beneficial uses, that's water body types.

Daniel agreed to remove that from the beneficial uses portion. Suggestion that it might be beneficial to digitize the information because it could prove useful in the future.

Suggestion that the RFP include examples of the kind of electronic format (eg: GIS) preferred for material submitted by the contractors and consultants. Comment that the EPA has tried to do a GIS of California of all the designated uses and safe water quality standards on GIS, but progress is unknown.

Daniel suggested that the committee get the definition of uses from the State board and ask them for an example of their GIS output done for other states. Chair agreed that having an example even from another state would be helpful for the RFP.

The committee is working on version 5 and phase 2.

10. Salt Management Alternatives Development Process

The committee compiled a list of all the things that could be done to manage salt. It was suggested that the committee hold a brainstorming session.

Suggestion that there be a Salt-tech conference where New Sky and others could come with their ideas proven or otherwise. Discussion about the annual UC Salinity and Ag Drainage Coalition and other conferences. The committee was also presented with a list of re-use opportunities for salt taken from Australia.

Daniel has been working with a group of business students for six months on what would need to be done to manage salinity together. Suggestion that there be another brainstorming session and input provided on the information.

Suggestion that the university set up a panel of air, water, and State agency representatives that sit down and develop a list of the information that is needed from each vendor. Vendor's be advised to submit that information so it helps the industry to understand whether there is any merit to the claims. Suggestion that this be a model for this review.

11. Actions/Recommendations/Report to the Executive Committee

Daniel suggested that the committee be made aware that part of Bob's report will be delivered later. Remind them of the December 7 presentation, and December 21st the final draft will be ready.

The RFP will be worked on for the next Executive Committee meeting.

12. December 7/16 Meetings 2009 Calendar; Review Draft 2010 Calendar

All of the different constraints are indicated in the calendar (holidays, etc.). Members are to notify Daniel if there are any dates where a significant amount of members will not be able to attend.

13. Meeting Adjourned