

MINUTES OF MEETING NO. 2
State Water Resources Control Board Division of Drinking Water
Advisory Committee for Expert Panel on Direct Potable Reuse
July 11, 2014

Chair Garry Brown called to order the second meeting of the Advisory Committee for the Expert Panel on Direct Potable Reuse (DPR), held on behalf of the State Water Resources Control Board Division of Drinking Water (DDW), at 10:00 a.m. in the Board Room of the Orange County Water District of Fountain Valley, California.

Advisory Committee Members Present

Garry Brown, Chair, Orange County Coastkeeper
Randy Barnard, Division of Drinking Water
Mark Bartson, Division of Drinking Water
Conner Everts, Environmental Justice Coalition for Water
Al Lau, Padre Dam Municipal Water District
Traci Minamide, City of Los Angeles, Bureau of Sanitation
Alisa Reinhardt, San Diego Regional Chamber of Commerce
Keith Solar, San Diego County Taxpayers Association
Frances Spivy-Weber, California State Water Resources Control Board
Roy Tremblay, County Sanitation Districts of Los Angeles County
Andria Ventura, Clean Water Action
Mike Wehner, Orange County Water District

Advisory Committee Members Absent

Jim Fielder, Santa Clara Valley Water District
Bruce Macler, U.S. Environmental Protection Agency
Charles Mosher, Mariposa County Health Department
Marsi Steirer, City of San Diego

Others Present

Brian Bernados, Division of Drinking Water
Peter Brooks, Xylem
Evelyn Cortez-Davis, Los Angeles Department of Water and Power
Trevor Currie, Los Angeles Department of Water and Power
Christopher Gobelich, Metropolitan Water District of Southern California
Cathy Green, Orange County Water District
Peter Green, Resident
Dawn Guendert, GHD
Bob Hultquist, Division of Drinking Water
Ken Ishida, Orange County Water District
Al Javeir, Eastern Municipal Water District
Jayne Joy, Eastern Municipal Water District
Maria Mariscal, San Diego County Water Authority

Peter Martin, City of San Diego
Larry McKenney, Santa Ana Watershed Project
Jeff Mosher, National Water Research Institute
Brian Olney, Helix Water District
Jeff Pasek, City of San Diego
Toby Roy, San Diego County Water Authority
Joe R. Silva, Chemical Engineer
Gina Vartanian, National Water Research Institute

1. WELCOME AND INTRODUCTIONS

Mark Bartson of DDW noted that the California Department of Public Health's Drinking Water Program was officially transferred to the State Water Resources Control Board (SWRCB) and renamed as the Division of Drinking Water (DDW) on July 1, 2014.

Mark Bartson would like to replace his position on the Advisory Committee with Randy Barnard, P.E., of DDW. Bartson will still attend all the Advisory Committee meetings. The Committee is supportive of their efforts and agreed to this change.

2. REVIEW OF AGENDA

Information item. No motion needed.

3. MINUTES

The minutes of the first Advisory Committee Meeting, held on February 21, 2014, was presented to the committee. A motion was made to approve the minutes. The motion was seconded and approved unanimously.

Committee Member Conner Everts noted that he is Chair of the Board (and not the Executive Director) of the Environmental Justice Coalition of Water, as reported in the minutes.

4. PRESENTATION ON DDW EXPERT PANEL ACTIVITIES

Jeff Mosher of the National Water Research Institute, which manages the DDW Expert Panel, provided an update of activities undertaken by the Panel since February 21, 2014. This update included a brief presentation of DPR activities in Texas and New Mexico, the California DPR Research Initiative undertaken by WateReuse Research Foundation and WateReuse California, and the following Panel activities: changes in Panel membership, Panel meeting held on March 5, 2014, and Panel meeting deliverable. Specifically:

Changes to Panel Membership: Rhodes Trussell resigned as Panel Chair effective June 6, 2014, and was replaced by Co-Chairs Jim Crook (a new Panel member) and Adam Olivieri on June 17, 2014. In addition, Joan Rose and Kara Nelson were added to the Panel to

strengthen its areas of expertise and diversity. A motion was made by Committee Member Mike Wehner to approve these Panel member changes. The motion was passed unanimously.

Panel Meeting: The Panel met by conference call on March 5, 2014, to (a) discuss the DDW mandate, (b) review the current version of the California DPR Initiative Research Plan and other current DPR Research activities, and (c) identify additional areas of research needed to establish criteria for DPR. This meeting was chaired by Rhodes Trussell and attended by all members of the Panel, including new members Joan Rose and Kara Nelson. Because Rhodes Trussell was still Chair, Jim Crook was not yet appointed to the Panel; thus, he did not participate in the meeting or the development of the meeting deliverable.

Panel Meeting Deliverable: Report of the March 5 Meeting: Jeff Mosher provided an in-depth discussion of the findings and recommendations of the Panel deliverable, which was a Panel report. It was noted in the report that the Panel did not have “significant time to deliberate the issues in DPR or develop consensus” and their “views may further evolve” over time.

Advisory Panel Comments and Questions:

DPR Projects in Texas and New Mexico:

- Garry Brown: What is the timeframe from leaving the treatment plant to going to the water treatment plant?
 - Response: It is on the order of hours. In Big Spring, the time is in the pipeline (i.e., hours), while Wichita Falls may have less time because it is a smaller system.
- Andria Ventura: Where did the Village of Cloudcroft get the money for their DPR project?
 - Response: The State of New Mexico offers grants to small systems to build water supply projects. But a question that came up is whether the community has money to operate the system on a daily basis. Our NWRI Panel is reviewing that very issue.

CDPH Mandate and Panel Process:

- Mike Wehner: Can the Co-Chairs of the Expert Panel participate at the Advisory Committee meetings?
 - Response: The question will be raised with the Expert Panel.

Comments on Research Plan (Regulatory Concerns):

- Garry Brown: Does the Expert Panel realize that most of these questions they ask regarding research don't have existing answers? They could be adding to the mix of questions rather than getting answers.
- Andria Ventura: I'd like to hear a presentation from the researchers as to what terms like “safe” mean in relation to the work they are doing.

Comments on Research Plan (Health research):

- Brian Bernados: Was the Panel recommending a water research project on infectious disease rates or was it a general comment?
 - Response: It was more of a general comment. The Panel did not indicate at this time that this work should be done.

Comments on WRRF Research Activities:

- Frances Spivy-Weber: When will WRRF provide responses back to the Expert Panel?
 - Jeff Mosher: They will give the Expert Panel report to the DPR subcommittee of WRRF research advisory committee in September. Jeff has been invited to attend this meeting. Projects are approved annually.
- Ray Tremblay: Did the Expert Panel go through in detail the scope of work for each WRRF project?
 - Jeff Mosher: They were given a lot of information, but most knew about many of these projects already.
- Frances Spivy-Weber: What effort is being made to get information on projects undertaken outside of WRRF?
 - Jeff Mosher: There is much overlap among organizations, and we know a lot about what is happening.
 - Mike Wehner: Some work going on in the United Kingdom could be pulled into this project.
- Frances Spivy-Weber: The public will be interested in how broadly the research community has been brought in to the Expert Panel effort.
 - Jeff Mosher: Individual Panel members have the expertise and are on the frontlines of this research; they will be able to tell us where the research is.

Comments on Economic Analysis

- Frances Spivy-Weber: Where does the economic analysis fit in the priority system?
 - Jeff Mosher: WRRF will have to evaluate this further. They have a small effort looking at the triple bottom line (concept paper). They also have a multi-thousand dollar project on triple bottom line that will come out soon.
- Andria Ventura questions why the Expert Panel kept bringing economic issues to the conversation. Economics will vary from community to community; it will ultimately come down to policy decisions within each community. How general of an analysis can be done?
 - Jeff Mosher: Part of this effort is trying to get agencies to think about doing this economic analysis in more informative ways.
- Garry Brown: The Expert Panel is a technical panel. Who will we look to or what collaboration are we looking to create a complete package (i.e., policy, technical, economic, etc.)? It is WRRF or someone else?
 - Jeff Mosher: This is not in the Panel's specific charge. DDW has the role of developing the criteria. I think with its broad projects, WateReuse California is positioning itself to develop and package that information.

Comments on Peer-Review Publications

- Frances Spivy-Weber: It is costly and timely to get peer-reviewed documents out of research projects – but, it is a key element to get that peer review.
 - Mike Wehner: The formal peer review and publication processes are slow. Most of these projects will not be published until after the 2016 deadline.
 - Frances Spivy-Weber: The Expert Panel should identify those studies that should be peer-reviewed journal articles.

Comments Regarding Out-Of-Spec Behavior

- Mark Bartson: Is there a need to go deeper in capturing the out-of-spec information for the Expert Panel?
 - Brian Bernados: We compiled information from the six IPR projects in the state. But we have had limited response on issues with drinking water plants. Do we need to get information from drinking water plants throughout the US?
 - Jeff Mosher: We need to clarify what type of information the Expert Panel wants on out-of-spec behavior. We should put this on the agenda for the next meeting – talk about what was provided and get more direction from them.
 - Mark Bartson: It is important for operator training and certification. It is good information for that aspect, too.
 - Action item: NWRI to provide the out-of-spec material to the Advisory Panel.
- Andria Ventura: I'm pleased to see the questions brought up on failsafe, etc., but I'm not sure if it includes a system in which water and contaminants went through, but the actual contaminant did not get to the consumer.
 - Jeff Mosher: That is part of the review. We don't have all of the information yet.
 - Andria Ventura: Communities will be looking at the balance between how many barriers do you need vs. the costs of having so many barriers.
- Garry Brown: There is consensus that we don't have as good online technological monitoring before we implement DPR – is there better technology to detect any type of change post-treatment?
 - Jeff Mosher: Referred to GWRS and the results received from performance monitoring. But we don't have one monitoring scheme that tells us every constituent didn't get through.
 - Garry Brown: A balance is needed between monitoring for too many items and ending monitoring for items that were non-detect.
 - Jeff Mosher: We need meaningful monitoring for performance and other reasons.
- Mark Bartson: What is the best independent answer regarding comparing the safety of recycled water with drinking water systems?
 - Jeff Mosher: The NRC did this work and it suggests both recycled water and drinking water systems are safe and protect public health (see page 10 of the NRC "Water Reuse" report summary).
 - Mark Bartson: What other work may be needed in the future?
 - Jeff Mosher: The Panel is interested in surveillance.
- Andria Ventura: Research on chemical exposure and disease is very important. I would suggest we look at low dose impacts, which may be more serious than higher dose impacts. Also, in addressing community concerns, looking at other industries is not a bad

idea – but I am concerned with who they are suggesting (there is a difference between a public entity protecting public health vs. a corporation protecting their bottom line). NGOs and community-based organizations can offer help in this area (for instance, raw water having microbiomes will not mean anything to the public). The Advisory Committee should have future discussions on working/engaging with the public in a transparent way.

- Jeff Mosher: It would be useful to ask the Principal Investigator of WRRF Project 13-02 on “DPR Communications” to give a presentation to the Advisory Committee. We will contact WRRF for a presentation (perhaps at next meeting).
- Brian Bernados: One report was WRRF 11-10 on “risk reduction principals” that looked at other industries and how they deal with risk. That report is published and can be accessed publically.
- Randy Barnard: Is community communications beyond the scope of the Expert Panel?
 - Andria Ventura: It’s not so much about us informing the Expert Panel, but it is something we as the Advisory Committee may be able to advise DDW in a way to be communicating to the public that makes sense to them.
- Garry Brown: I serve on a panel on the decommissioning of San Onofre Nuclear Generating Station. The goal is to communicate with the public and ask questions that the public would ask. It is a process that gives the public a forum to answer tough questions and engage the public. As we go forward with DPR, how do we communicate and how do we stage DPR?

5. COMMENTS AND DISCUSSION FOR EXPERT PANEL

- Garry Brown: How do we as a committee see the role of the Advisory Committee and what actions we can take to add to this process?
 - Mark Bartson: This group can help DDW with practical aspects, as well as communicating with the public.
 - Garry Brown: Need to better understand what WRRF and other groups are doing and how we can better communicate and/or collaborate with them. Also, communicating with the public is equal to the science, and is a major role of this Advisory Committee. Suggestion: The San Onofre decommissioning committee hired Senator Diane Feinstein’s Chief of Staff; he would make a good presentation for us on how to communicate with the public.
- Mike Wehner: Are there other projects with WRRF that the Advisory Committee would benefit from hearing about beside WRRF 13-02?
 - Response: WRRF 11-02 treatment removal; WRRF 11-10 on risk; and/or WRRF 13-13 on training/certification project and OMMP plan.
- Frances Spivy-Weber: The Committee would benefit from hearing about the out-of-spec incidences compiled by CDPH.
 - Action: NWRI can send this material to the Committee.

- Conner Evert: It's good we are meeting at OCWD, an agency that has a great relationship with the public. There is much to learn from their IPR project.
 - Conner Evert: Our outreach role is key. Outreach should be started long before we run out of water.

- Ray Tremblay: Our role may include looking at the feasibility of undertaking a project. At this point, there is no list of what conservation, energy, etc. are going to cost for a project. This information will factor in when DDW develops the criteria.
 - Traci Minamide: You are talking about a case study. I am interested in the triple bottom line study. We should look at the competing interest of reusing water for potable reuse demand as opposed as that water no longer being around to go back in the environment and supporting the ecosystem.
 - Frances Spivy-Weber: What are the impacts associated with changes in water quality (e.g., sewage) that comes from activities like conservation?
 - Garry Brown: What can we do as a Committee regarding the triple bottom line research?
 - Jeff Mosher: Rob Raucher and George Tchobanoglous are co-authoring a paper on triple bottom line that may be available this year. The larger WRRF project is not going to get started until next year. Let's see what the paper looks like.

- Andria Ventura: Should this Committee produce deliverables like white papers on issues like the balance between recycling wastewater vs. not distributing it back to the environment? Or a white paper on communicating with the public?
 - Jeff Mosher: There are communities already thinking about these issues. LADWP is doing this type of work right now. Maybe Evelyn Cortez-Davis can describe what LADWP is going, SCVWD could describe what their outreach, or Al Lau can talk about Padre Dam's efforts.
 - Jeff Mosher: We could focus one meeting on discussing WRRF 13-02 and invite Ron Wildermuth to speak (he is a member of the Project Advisory Committee on WRRF 13-02).
 - Conner Everts: For these types of presentations, we should have an audience attend these meetings.
 - Garry Brown: Let's proceed with having a communications focus for the next Advisory Committee meeting.
 - Jeff Mosher: The subcommittee should meet to discuss the next Advisory Committee meeting agenda.
 - Add Keith Solar, Andria Ventura, Mike Wehner, and Traci Minamide to the subcommittee for next meeting

- Regarding appointing a liaison between the Expert Panel and Advisory Committee, it was recommended that the role of liaison not be limited to the Chair of the Advisory Committee. Different Advisory Committee members can be asked to attend various Expert Panel meetings.
 - The next Panel meeting will be held at OCWD and will focus mostly on surface water augmentation. It is not a public meeting, but observers may be invited.

Mike Wehner and Randy Barnard will both attend that meeting on behalf of the Advisory Committee. Mike Wehner will be asked to report back to the Advisory Committee. If any other Advisory Committee member would like to attend the meeting, please inform Jeff Mosher of your interest.

- The agenda for the next Advisory Committee meeting should be announced at the July 24-25 Expert Panel meeting. The Expert Panel should be notified of the topic of each Advisory Committee Meeting, should they like to attend.

6. FUTURE TOPICS AND WORK FOR ADVISORY COMMITTEE

- Jeff Mosher: We need the dates and locations of the next 2-3 meetings of both the Expert Panel and Advisory Committee meetings for planning purposes.
- Traci Minamide: Determine milestones for each meeting.
- Keith Solar: Are we alternating meetings with the Expert Panel?
 - Jeff Mosher: The Advisory Committee should meet first to better inform the Expert Panel. Also, the Advisory Committee may meet more frequently than the Expert Panel.
- Garry Brown: Set the themes and dates for the next three to four Advisory Committee meetings. Let's start structuring these meetings.
- Traci Minamide: Identify what we want the Expert Panel to do and tie that into the schedule of the research projects being undertaken.
- Garry Brown: Work backwards from the 2016 deadline and set milestones.
 - Jeff Mosher: NWRI will pull together a schedule and use the agenda subcommittee to help us. We can also get information from WRRF to get the project schedule.
- Andria Ventura: It's good that we are mixing up the geography of the Advisory Committee meetings (i.e., Sacramento and Orange County). Suggestion: Hold the next Advisory Committee meeting in the Bay area. Some of the Expert Panel members in the Bay area might attend the meeting. Use East Bay MUD or SCVWD as the hosting facility.
 - Mike Wehner: Jim Fiedler of SCVWD offered to use their facility.
 - Jeff Mosher: The Hyperion plant is a good location. Marsi Steirer would probably also suggest a meeting at the City of San Diego.
 - Mike Wehner: Suggestion: Hold the meeting on a Friday to help with the commute.
- Garry Brown: What is the frequency of meetings?
 - Jeff Mosher: The frequency would be based on number of topics you will cover in a certain timeframe.
 - Jeff Mosher: At the first Expert Panel meeting, we will discuss how the Panel will get their work done and the frequency of meetings needed to complete this work.
- Andria Ventura: If special topics come up, maybe we can hold a meeting using remote technology.
- Ray Tremblay: This group wants to be informed on a lot of subject matters. Meetings could be held quarterly or semi-annually. It depends on our charge.
 - Garry Brown: I think we should look at quarterly meetings and be flexible.
 - Mike Wehner: Defining the charge is up to DDW.

- Randy Barnard: DDW has to meet what the statutes require. We need to meet the statutes first, and then whatever information extra comes up is great.
- Jeff Mosher: NWRI will develop the meeting minutes and future potential topics, and we will review them with Garry Brown.

7. PUBLIC COMMENTS

Toby Roy of San Diego County Water Authority had the following comments:

- Suggestion: After each agenda item, please slate time for for public comments.
- Regarding public safety, risk, failure, and other issues, a body of knowledge already exists for IPR projects (e.g., there is a framework that defines what is “safe” in the Safe Drinking Water Act). Suggestion: Have the regulatory framework build upon what already exists to ensure consistency between IPR and DPR.

Jeff Pasek of the City of San Diego had the following comments:

- A number of reports, documents, and regulations were discussed today, but nobody knows or understands what is in all of them. Suggestion: Craft a compendium or field guide for potable reuse in California (e.g., a bibliography to use as a reference tool).
 - Ray Tremblay: Joe Cotruvo of Joseph Cotruvo & Associates had a project on collecting information on the regulatory framework across the nation.
 - Jeff Mosher: We can get that report.
 - Jeff Mosher: Published material is easy to compile, but “gray literature” is harder to gather. The WRRF 13-03 project is considering developing a website to compile much of this information.
 - Brian Bernados: DDW has developed a list of references for the Expert Panel to review, and we can share that information with the Advisory Committee.

8. AGENDA ITEMS FOR FUTURE MEETINGS

No additional items were identified.

9. FINAL DISCUSSION

None at this time.

10. ADJOURNMENT

There being no further business to come before the Advisory Committee, the meeting was adjourned at 1:30 p.m. on July 11, 2014.

Garry Brown, Chair