How to Overcome Public Perception Issues on Potable Reuse Projects

Michael R. Markus, P.E., Orange County Water District, Fountain Valley, CA
Eleanor Torres, Orange County Water District, Fountain Valley, CA

Abstract

The purpose of this paper is to provide an overview of how the Orange County Water District (the District; OCWD) was able to insulate itself from public opposition to its potable reuse project, the Groundwater Replenishment System (GWRS).

To understand what challenges the District would be facing it is important to first understand what was happening with other projects that were being developed at the same time in Southern California. Second, it is important to understand the process by which the outreach program was developed and how it was executed. That program was ongoing and changed with the project to help anticipate and react to various issues that developed. Finally, it will be shown how important it is to continue the outreach efforts and outline the various steps the District has taken to educate people on the benefits of reuse.

Introduction

The Orange County Water District manages a very large groundwater basin (basin) in central and north Orange County in the state of California, U.S.A. It was created by the State Legislature in 1933 for that purpose and is governed by a 10-member Board of Directors that sets policy, establishes the amount of pumping out of the basin and sets tariffs. The District currently has set the amount of groundwater that can be pumped out of the basin at 77% of the total water demands for its 19 retail agencies which serve 2.5 million people. The remaining 23% of its water supply is dependent on water that is imported into the region.

The Southern California region has a semi-arid climate, which receives approximately 355 mm of rainfall per year. Most of its water is imported from two primary outside sources, the Colorado River and the Sacramento-San Joaquin Delta (the Delta) in Northern California. The Metropolitan Water District of Southern California (MWD) built a 320 km aqueduct in the 1930's bringing water from the Colorado River into Southern California and then participated in the building of a 640 km aqueduct in the 1960's from Northern California to bring water from the Delta to Southern California. These supplies are enough to meet the water demands in most years, but they are variable and the amount of water through these systems is dependent on hydrology and certainly in the future, climate change.

Groundwater basins provide an important source of supplemental supply to the imported water provided by MWD. A sustainably managed basin can provide a reliable source of low-cost water, with groundwater costing half as much as imported water. The Orange County Water District relies on rainfall, stormwater capture, Santa Ana River flows, untreated imported water and recycled water for refilling its basin. This amount of water can vary tremendously for year-to-year which means in some years the retail agencies may be pumping more water out of the

basin than is being put back into it. If the basin is over pumped, it could lead to long-term problems such as seawater intrusion or land subsidence. During a long-term drought, the only way to mitigate these problems would be to reduce pumping. This would cause the District's retail agencies to have to purchase more imported water, which would increase their overall cost of water. Another solution would be for the District to find additional sources of water to refill the basin even in times of drought. The District has found this additional source in recycled water.

The Orange County Water District and the Orange County Sanitation District (OCSD) began development of a recycled water project in the mid-1990s called the Groundwater Replenishment System (GWRS). This project currently produces 127 million m^3 of water annually that is recharged into the basin and ultimately pumped out by the retail water agencies and put directly into their distribution system. This amount of water currently provides about 35% of the supply into the basin and allows OCWD to set the amount of pumping out of the basin at a very high level. The development of this project was challenging and perhaps the biggest challenge was to address public perception issues about drinking water that originated as wastewater or sewage. This paper will explain the background and development of the GWRS project, how a very robust and well thought out public outreach program contributed to its success and what is being done today to assure that its success continues.

Background

The Orange County Groundwater Basin is a coastal basin, which is connected to the ocean. In the 1960s it was observed that seawater was starting to contaminate coastal drinking water wells and moving inland thereby potentially threatening the main part of the basin's aquifers. In response to this threat the District built a series of coastal injection wells and a 57,000 m^3/d treatment facility called Water Factory 21 (WF-21), which provided highly treated wastewater as a source of supply to the injection wells. This facility successfully stopped the advancing seawater, but in the 1980s the District determined that this facility should be expanded from 57,000 m^3/d to 132,500 m^3/d. In the early 1990s the District began to pilot test different advanced treatment technologies that could replace the processes that were being used in WF-21. During this time OCSD was looking to build an additional 8 km ocean outfall into the Pacific Ocean to be able to handle its projected peak wet weather events. The District and OCSD got together and discussed the idea of expanding the District's WF-21 facility such that it could handle OCSD's peak wet weather events, which would eliminate the need for OCSD to build its new additional outfall. It was agreed that the District could increase the size of its facility to 265,000 m^3/d, with a maximum output of 378,500 m^3/d for a 12-hour period, and then build a pipeline to its recharge facilities to take any flows greater than what the seawater barrier required. The ultimate size of the District's facility would be 492,000 m^3/d and OCSD agreed to pay for half the cost of the original 265,000 m^3/d treatment facility and pipeline if the District guaranteed, when needed, it would treat and safely discharge to the Santa Ana River up to 378,500 m^3/d for a 12-hour period. With those assurances, OCSD did not need to build its proposed new additional ocean outfall.

The size and scope of the project was extraordinary and the total investment of nearly $500 million by both agencies was substantial. There had never been a potable reuse project built at this size (265,000 m^3/d) anywhere in the world.

Outside Influences

During this time, there were several other potable reuse projects that were in various development phases and each one had severe challenges that could potentially impact the proposed project in a detrimental manner.

San Gabriel Valley Project

In mid-1992 the Upper San Gabriel Water District (USGWD) was proposing to build a 94,600 m^3/d indirect potable reuse (IPR) project that would recharge its groundwater basin in the San Gabriel Valley in Southern California. The proposed project would take tertiary treated wastewater and spread it into surface basins to recharge the groundwater basin, in compliance with California regulations. The recharge basin they planned on spreading the recycled water was upstream of a major brewery that pumped the groundwater to produce its beer. During mid-1993, the USGWD was trying to approve its environmental impact report, but the brewery inundated it with questions about the projects impact on the environment and the public. The brewery accused the proposed treatment process as being potentially dangerous and wanted reverse osmosis included. Then, in July 1994, the USGWD Board of Directors approved the environmental impact report, which opened the way for it to implement its project, but in November 1994 the brewery filed a lawsuit to stop the project claiming it had serious doubts about the water's purity. A local chamber of commerce opposed the project and the brewery contributed money to two candidates who were running for the board of directors of USGWD and opposed the project. Finally, in February 1996, the brewery agreed to drop its lawsuit when USGWD agreed to reduce the size of the project to a 47,000 m^3/d facility and recharge the water into a basin, which was downstream of the brewery[1]. Though an agreement was reached, USGWD never constructed the facility.

East Valley Water Project

In October 1995, the Los Angeles Department of Water and Power (LADWP) was proposing to build a 38,000 m^3/d indirect potable reuse (IPR) project that would recharge its groundwater basin in the San Fernando Valley in Southern California. Like the San Gabriel Valley project, the LADWP project would take tertiary treated wastewater and spread it into surface basins to recharge the groundwater basin, in compliance with California regulations. The project was supported by some environmental groups but opposed by others who asserted that recycled water posed health risks. One of the primary opponents was a brewery who was also trying to stop another project in the San Gabriel Valley. The LADWP project overcame those initial obstacles and the treatment facilities and pipeline to the recharge basin were built. Just before the project went online in mid-2000 a local Los Angeles city councilman, who was running for re-election, questioned the project and accused LADWP of failing to adequately disclose the impact of the project on the Los Angeles water supply. The councilman demanded that a supplemental environmental impact report be prepared and criticized LADWP for not informing

the public about the project[2]. Eventually LADWP decided not to implement the IPR project, but instead built an extensive pipeline system to deliver the recycled water for irrigation (parks, golf courses, greenbelt areas) and industrial uses as a non-potable recycled water supply.

San Diego Water Repurification Project

In June 1993, the San Diego Water Authority agreed to serve as the lead agency to determine the feasibility of the San Diego Water Repurification Project. This project was planned to be a 76,000 m^3/d advanced treatment plant that would utilize microfiltration/ultrafiltration, reverse osmosis, ozonation, and chlorination and then pump the water to a surface reservoir where it would spend about 28 months in the reservoir before finally going through conventional water treatment. The feasibility study was completed in May 1994 and reviewed by an independent expert panel, regulatory agencies and a citizens' advisory panel that had been put together by the Water Authority. In early 1995, the city of San Diego's water utility department took over as the lead agency and began pilot testing of the different treatment processes. At the same time, the city hired consultants to provide a 10% design and prepare a required environmental impact report. In early 1996 the control of the project was transferred to the city's wastewater department because under the city structure this department was better suited to fund and complete the construction. The project still had wide support, but another water project was being developed whereby the city could purchase about 50% of its water supply from agricultural interests at a lower price than its imported water supply, which shifted the need for the reuse project. During the 1998 political campaign season, the project became an issue in several closely contested races at the local, state and federal levels. The issues that opponents to the project used included inciting public fears about "drinking sewage" and opponents using the term "toilet to tap" to reinforce this notion. Opponents also claimed that the water would be served primarily to African American communities and was using them as test subjects. Finally, the opponents raised concerns about "unknown" contaminants that might be present and pass through the treatment process. Two scientific panels reviewed the project in 1998, one, which consisted of national experts put together by the National Water Research Institute (NWRI), and the other consisting of local scientists assembled by the San Diego County Board of Supervisors. The NWRI panel recommended moving forward with the project, but the local panel did not. Because of those recommendations, in January 1999 the Board of Supervisors voted to stop the project[3].

It is important to understand this background because just as the GWRS project was beginning these three projects were in various stages of development and the fate of all three was determined before the District acted in 2002 to complete design and move forward with construction.

All the issues these projects encountered had to be considered as the District executed its outreach strategy with the knowledge that even the best laid plans can be derailed at any time. This certainly was the case with the San Diego project where it had done early outreach and stakeholder involvement and it was proposing to use advanced treatment that was well over and above what was being proposed for the San Gabriel and Los Angeles water reuse projects. It pilot tested the technology and received approval from the regulators. San Diego

had an expert and citizens' advisory panel engaged all along the way and yet, in the end, the project was stopped because of politics.

Phase 1

The Orange County Water District first met with OCSD on January 20, 1997 to discuss if OCSD was interested in building a joint project. After agreeing to pursue his, the boards of directors for both agencies agreed to call the project the Orange County Regional Water Reclamation (OCR) Project. The two agencies then decided that they would form the Joint CSDOC OCSD/OCWD Ad Hoc Committee (the Committee) consisting of three members and three alternates from each agency. For any item to be approved, two directors from each agency had to vote for approval. All project matters would be voted on by the Committee and if the matter included any type of expenditure, moved on to each agency's board of directors for final approval.

The first Committee meeting was held on March 6, 1997. The Committee discussed preparation of required environmental impact studies, governance issues and, most importantly, public relations or outreach. It was both visionary and strategic that the directors identified public outreach as a key component to assuring success for the project.

Early Outreach Planning

After this first Committee meeting, a request for proposals (RFP) was prepared by staff which identified that the work that was being requested would be the first phase of the outreach, which would last for approximately 18 months and coincide with the development and approval of the project environmental impact report. The first phase work would include:

1. Research – Reviewing case studies of other projects being developed and identification of target audiences
2. Plan Strategy – Development of a public relations strategy and action plan. The action plan would look at a statement of potential issues, development of messaging specific to issues identified during the research phase, development of a project identity possibly including a new project name and logo, formulation of objectives and strategies for each public or important segment and a program administration plan
3. Implementation – Preparation of support literature, presentations, press releases and various board and public meeting attendance
4. Evaluation – Collection and codification of results.

The RFP was sent to 24 public affairs firms in early May 1997 and 13 firms attended a pre-proposal meeting. The District ultimately received proposals from six firms and planned on interviewing all 6 teams. Staff proceeded to interview and rank the six firms that submitted proposals and put forward a recommendation to hire Morrison & Associates for the Phase 1 work to the Joint Cooperative Committee (the Committee). The Committee did not agree with the staff recommendation and chose to interview the consultants themselves. A special Committee meeting was held in late July 1997 with five firms being interviewed (one declined to interview) and the Committee selected Adler Public Affairs to perform the Phase 1 outreach.

During the selection process, the staff had prepared an extensive report to the Committee recommending what it felt was the most qualified firm and tried to strongly persuade the Committee to approve its recommendation. In the end, it was the Committee members who chose who they felt was the best qualified firm.

Staff had felt that they had put together a very logical basis for its recommendation and chose to defend it against the Committee, but the Committee felt it had more expertise in the field of public affairs and exercised its authority to select the consultant. The important lesson for staff was that it had to be more aware of deferring to the Committee on the non-technical project related issues and focus on the technical issues, where the Committee fully trusted its expertise and judgement.

Early Work

Over the next several months the team identified the project need and surveyed 500 area residents to test commonly used water industry terminology, supply vs. safety issues, project description, name identification, arguments for and against the project and cost issues. Four focus groups were conducted, during which time, the issue of water supply was found to be of great concern and there was virtually unanimous understanding of and support for reverse osmosis technology.

The survey that was performed laid the groundwork for the development of the messaging that would be relied upon to communicate with the public regarding the project. Some of the major findings that came out of the survey from respondents were:

1. When asked what their main concern about water in Orange County was, 40% said safety/health
2. When asked what they think about the quality of drinking water, 37% worried about the safety of the drinking water
3. When asked about Orange County water supplies and anticipated population growth, 59% said that Orange County does not have enough water unless new supplies are found
4. When asked what term relating to water was most favorable, 83% favored the term purified water
5. When given the choice between recycled water, reclaimed water, repurified water, reprocessed water and purified water, 71% chose purified water as the best choice
6. When asked if they were aware of a new water project in Orange County that would reclaim and purify wastewater, 25% were aware.

Because of the information gained by these efforts, in mid-1997 the Committee changed the name of the project from the “Orange County Regional Water Reclamation Project (OCR)” to the “Groundwater Replenishment System (GWRS)”. The survey also pointed out that an extremely large percentage of people were not aware of the project, which heightened the need for a robust outreach program if the project was to be successful. By the end of the year,

the outreach consultant had developed the following material to be help with the initial outreach campaign:

1. Press release – The press release was created to inform the public of the scoping sessions that were being held to review the proposed environmental impact report that was being developed for the project. It was determined that we needed to be fully transparent with the public as to what we were proposing to do. The press release highlighted the need for the project, the advanced treatment process that was being proposed, how the water would be used, the regulatory oversight, the cost of the project and the quality.
2. Fact sheet – The fact sheet simply defined different terms that were frequently used, but not commonly known by the public.
3. Project question and answer sheet – The questions that were developed for this piece of collateral material was based on the results of the most common questions that came out of the survey and focus groups and what were considered the most important questions that needed to be addressed. The questions were: What is the Groundwater Replenishment System that is being explored?; Why is it being considered?; Where would the system be located if it is built?; How much would the system cost?; Would it be safe?; What advanced treatment process would be used?; Who would ensure it was safe?; What schedule is under consideration?; How would the Groundwater Replenishment System help in a drought?; What effect might the project have on water rates?; How will the public be consulted on this decision? and Who can be contacted for more information?.
4. Briefing paper – The briefing paper attempted to explain where Orange County residents' water comes from and the importance of a safe and adequate alternative source of water supply. It then referenced five other projects that were considering similar projects and a groundwater recharge project in California that had been operating for decades without any ill effect. The paper attempted to show what was being proposed was becoming common place.
5. Media messages – The media messages were developed mainly as statements that could be used with the media to help answer any questions posed. The messaging focused on the quality of the water, the advanced treatment that was being proposed, how it helps the county's water supply reliability, how past recycled water projects have had no ill effect on any users of the water, how Orange County's water supply already includes recycled water in it and that the project would have the close scrutiny of the regulatory community.

Phase 2

In early 1998, almost all the activities that had been a part of the Phase 1 program had been completed. The foundation had been laid in that through polling and focus groups the messaging and talking points had been developed. The environmental impact report had not been completed and was scheduled for adoption towards the end of the year. Staff believed that it was important to develop a speaker's bureau and begin an aggressive outreach program as a part of the Phase 2 work, which would cover the next 12 months and target the following groups:

1. Business Outreach – Target a list of top businesses in Orange County and provide one-on-one presentations. It was also proposed to have a business luncheon to present the project to a wider group of businesses. It was felt that support from this group would help provide the community at large to support the project once they understood the relevance of this project to the future economic stability in Orange County.
2. Government Outreach – This would be a continuation and expansion of the ongoing program focusing on city council presentations and continued visits with state and federal legislators and their staffs.
3. Community Outreach – Develop a Citizens Advisory Committee of 20 to 30 individuals and hold quarterly luncheons to brief and update the Committee on the project and seek its input on the various issues being discussed.
4. Friends of the Groundwater Replenishment System – This was an ongoing campaign of obtaining support letters and resolutions for the project. This support provided project credibility and helped support grant opportunities.
5. Other Target Audiences – This group included the technological and scientific community and retail water agencies. It also included service organizations such as chambers of commerce, Kiwanis clubs and religious groups.

It was determined that most of the speaking engagements would be given by the staff of the two agencies with limited support from the consultant. It was extremely important to build this base of support at this critical stage of the project and over 125 presentations were given during the year. The public hearing on the EIR had just taken place and in the next few months the EIR would be approved and the preliminary design of the project would be starting. Very large amounts of money were about to be spent and important decisions made, and so assurances had to be made that we did not have unknown groups that would attempt to derail the project.

Phase 3

The staff reviewed what had been done the previous two years and came to the unanimous agreement that it should continue to educate the service area about water reuse and the GWRS through various mediums such as newsletters, mailings and presentations. It was also agreed that there needed to be an increase in public information efforts in Phase 3 to achieve the following goals, strategies and tactics:

1. Goals - Obtain support from target audiences for the project, move forward with project development without any negative movements from target audiences and to build a coalition of supporters and technical experts in various areas including science, medicine, environment, business, education, and government.
2. Strategy – Update and create a public awareness campaign team to continually conduct community, government and media outreach to keep the flow of communication regular and predictable. Also, use straightforward and up-front layperson's language when educating target audiences about the project (avoid jargon and abbreviated language).
3. Tactics – For community relations: (1) Continue public speaking engagements; (2) Continue newsletter on a quarterly or bi-annual basis; (3) Lobby business and

community leaders; (4) Offer community copies of the project video; (5) Develop a GWRS website; (6) Consider forming an expert panel. For governmental relations: (1) Send a quarterly update letter to city, state and federal representatives; (2) Send quarterly update letters to other water agency board members; (3) Offer presentations to city council members in the service area to give them updates. For media relations: (1) Continue proactive media relations on a regular basis; (2) Conduct media training; (3) Offer video to local cable stations for airing; (4) Develop a crisis communication plan.

The Committee asked staff to solicit proposals through the RFP process for the Phase 3 work. Staff sent RFPs to 16 firms and received five proposals. Staff then evaluated the proposals and narrowed it down to three firms that were invited to participate in interviews. The interview panel consisted of members of the Committee and staff. The Committee awarded the Phase 3 public outreach to the firm of Nelson Communications Group in early May 1999.

Over the next 9 months, the project's preliminary design was nearing completion and the issues of cost, financing and governance were all being addressed. At the same time, the public outreach was moving forward and had received support letters from 16 of 23 cities and 12 chambers of commerce within the District's service area.

In 1999, a potentially volatile problem arose when the California Department of Health Services (DHS) set a health-protective interim action level of 20 parts per trillion (ppt) for N-Nitrosodimethylamine (NDMA), a cancer-causing carcinogen. The action level was a lower threshold than was allowed in food products. Normally, an approved testing method would be instituted before an interim action level for a contaminant were to be set, but that was not the case with NDMA. In May of 2000, staff was alerted to a possible problem of NDMA being found in potable reuse.

In fall 1999, OCWD began developing new testing method to detect levels of 1 to 2 ppt. In 2000, OCWD began using the new testing method on wells near seawater intrusion barrier. NDMA was found in Water Factory 21 injection water and ranged from less than 2 ppt to 150 ppt.

This information could have been a deal breaker for the proposed GWRS project and could have impacted WF-21, which was still in operation at the time, and OCWD's reputation. From the project onset, the agencies were adamant that transparency be the cornerstone of all communications. They believed it was important to be the first to communicate any problems, be factual and not hold back bad news to maintain the public's trust. This potential problem put that directive to the test.

In May 2000, results of the new testing method were verified by an outside lab and confirmed OCWD's findings. In addition, all active drinking water wells operated by local water retail agencies tested for NDMA, but only two were detected above 20 ppt. At OCWD's recommendation, the impacted retail agency took those two wells out of service.
Staff quickly began preparing a communications plan, issued a press release, set-up a toll-free hotline, and invited members of the local media to meet and discuss the findings. This proactive approach included the disclosure of the test results and the actions OCWD and

OCSD were currently taking to reduce NDMA in WF-21 water and the proposed GWRS project. The solution included a three-pronged effort to prevent precursor compounds that form NDMA from entering OCSD, optimizing both agencies' treatment processes to remove NDMA and evaluating a DHS-approved UV treatment process for the proposed GWRS project. OCWD effectively communicated how concentrations in drinking water wells is reduced by dilution and, that based on data, Orange County's groundwater was safe. Changes were made to the WF-21 process and OCSD's wastewater flows to reduce NDMA to 20 ppt or less and UV with hydrogen peroxide was ultimately implemented at the GWRS to combat NDMA concentrations that occur when chlorine is used in the potable reuse process. This information was actively shared with local retail agencies, city councils, service organizations, regulatory agencies, and media. This outreach effort resulted in balanced stories in key newspapers and online publications and no public or political outrage; only one misguided quote from a person that had been turned down to do a joint study earlier that year.

A few months later, in July of 2000, there was concern that the outreach program needed to be increased because the boards of directors of both the District and OCSD would be taking a vote within six months as to whether to proceed with the final design and move forward with the project. It is also interesting to note that during this time, the LADWP East Valley Water Project was drawing political and local opposition, which added to the need to increase GWRS outreach efforts and make sure that the project succeeded.

The one thing that had been learned through the focus groups was that the more information the public received about the GWRS and the need to ensure a safe, reliable water supply, the stronger the support from the public. At this point in time, staff recommended holding two additional public workshops, cable television and radio advertising, additional media relations, an expert spokesperson and direct mail to targeted audiences. The proposed budget for this work was between $525,000 - $600,000. The Committee ultimately decided to conduct additional public opinion research (polling), two to four public workshops, direct mail outreach and media relations with a budget of $110,000 for this additional effort. The Committee did not see the need for a major media effort using cable television or radio advertising.

The polling was done by the same firm that was hired three years earlier and some of the major findings from the polling were:

1. When asked about Orange County water supplies and anticipated population growth, 78% said that Orange County does not have enough water unless new supplies are found, which was a 19% increase over the prior survey
2. When asked if they were aware of a new water project in Orange County that would reclaim and purify wastewater, 53% were aware, which was a 28% increase
3. When asked if they favor the project, 36% were in favor, which was a 17% increase
4. When given the statement that "The trouble with trying to repurify sewer water is that even our best technology can't get out all the impurities and germs", 60% agreed, which was an 11% decrease.

What this information indicated was that the outreach campaign was working in that more people were aware of OCWD's messaging and the project, but also that more work had to be

done to convince people that the technology proposed for the project was proven to remove harmful constituents. This finding led to increased efforts in funding additional medical/scientific community outreach.

All the outreach efforts had helped bring the project to the end of the preliminary design. Four years since the inception of the project, the Boards of Directors of OCWD and OCSD were ready to vote as to whether to move forward with the project, or not. In those four years, the following was learned:

1. Key messaging: (1) The health and safety of the water was proven; (2) The cost was lower than alternative supplies; (3) The technology that was being used (microfiltration and reverse osmosis) was proven and used in other industries; (4) The project provides the highest quality water, which is near distilled; (5) The project provides a drought-proof water supply that also improves the overall groundwater quality; (6) The need for the project is based on future population growth and future challenges to imported water sources.
2. Planning efforts: (1) The project is a public education challenge; (2) Once the project is explained it is accepted; (3) The strategy is to first educate business, political, community and media leaders and then move on to the general public; (4) The objective was to build a foundation of project support for decision makers in Orange County; (5) Outreach must continue up to and through project approval; (6) The public will focus more and more on the project as approval approaches.
3. Execution: (1) Had given over 400 presentations; (2) Briefed elected officials, business, media, community and key environmental groups; (3) Continued a program that included brochures, facility tours, quarterly newsletters, project website, direct mailing, consistent media coverage, videos to groups, development of a crisis response team, microfiltration and reverse osmosis models, and information booths at special events.

Because of these efforts, the project had no active opposition and on March 28, 2001, the boards of directors of OCWD and OCSD voted to move forward with the project.

Phase 4

Shortly after the approval to move forward with the project, the Committee decided to form a subcommittee to specifically deal with the outreach efforts for the project. The Groundwater Replenishment System Public Information and Education Subcommittee (the PIE) was subsequently formed and consisted of two Directors from each agency, who reviewed all outreach efforts before taking it to the Committee for approval. The PIE determined that the outreach should continue through the end of the first phase of construction and that outreach efforts should be increased.

The PIE determined that the next phase of outreach must use different, more costly methods such as direct mail, radio and television advertisements and other means to reach, educate and gain the support of a greater number of the population. With that in mind, the Committee asked staff to solicit proposals through the RFP process for the Phase 4 work. The firms submitting on the work were to develop a proposed public education work plan that would

involve research, planning, design, implementation, and evaluation. The elements of the plan were to include:

1. A comprehensive public education and outreach plan for each of the four years of the program (two years of the contract and two years of the follow-on contract)
2. A comprehensive media plan, including media advocacy, media tours, editorial boards, special events, and press releases
3. A creative, comprehensive and innovative mix of advertising and marketing plans for targeted audiences which would include: (1) A comprehensive justification for the proposed marketing mixes as appropriate for each target audience, including leverage and added value opportunities with media buy proposals; (2) Production of television and/or radio spots, direct mail pieces, newspaper advertisements over the 4-year period; (3) Development and production of all collateral materials; (4) Plan to involve community-based organizations and direct community outreach: (5) Translation to language-specific needs; (6) A children's educational program; (7) A 90-day plan providing a foundation for future efforts as well as a fast start; (8) Development and maintenance of a master calendar; (9) Development and maintenance of a community and business outreach database.

Staff sent RFPs to 22 firms and received six proposals. Staff then evaluated the proposals and narrowed it down to three firms that were invited to participate in interviews. The Committee awarded the Phase 4 public outreach to the firm of NCG Porter Novelli in early October 2001.

Over the next two-year period, the team executed the plan as several construction contracts, amounting to over $40 million, were awarded and various components of the GWRS project were being implemented. By the time that the District was ready to award the $292 million Advanced Water Purification Facility element of the GWRS, the outreach efforts had continued on a successful track. There continued to be no significant organized or active opposition to the project and the following initiatives had contributed to that success:

1. More than 700 presentations had been given to various stakeholder groups.
2. The integration of a minority outreach component had resulted in the endorsements from 15 prominent minority leaders and minority organizations. Previously there had been no organized minority outreach or cultivation of minority endorsements, which was a major oversight. Minority outreach was a very important factor since 43% of the population at the time was minority with a very large Hispanic and Vietnamese communities. What was discovered very early is that many people in these communities had a basic mistrust of water systems because the systems in their home countries were very poor and many brought that mistrust with them when they came to the United States.
3. Community groups and businesses continued to actively support the program as evidenced by securing more than 200 letters of support.
4. Working with neighborhoods potentially impacted by construction through distribution of flyers, direct mail postcards and personal door-to-door contact.

5. Sustained communication with elected officials through regular meetings and e-mail blasts.
6. A robust media program, which resulted in more than 40 media reports which were primarily balanced or positive. Articles appeared in *The Wall Street Journal* and on ABC World News Tonight.
7. The establishment of the Community Leadership Advisory Council (the CLAC) composed of business, minority, environmental, and scientific leaders. The CLAC consisted of 20 members who assisted in outreach efforts and third-party media relations activities.
8. New and revamped communications tools including brochures, redesigned website and white papers.

Some additional polling had been done to test the results of the outreach efforts attempting to measure the success of the messaging. The findings of the polling indicated that the total project awareness was flat indicating a need to find messaging that was penetrating, explaining both the current and the future need for the water. The public was recalling that the project used advanced purification technologies, that it blended with existing groundwater and was as safe as bottled water. The most important messages were that the water quality was monitored around the clock, that the water exceeded drinking water standards and the state-of-the-art treatment processes that were being used. The toughest messaging was that it was drought-proof and people were skeptical about the cost messaging.

Because construction projects were beginning, it was decided to incorporate construction outreach activities into the overall project outreach efforts. The focus of this outreach was to go into affected neighborhoods and explain the project to the residents that would be most impacted by construction activities. By listening to the resident's concerns and acting on those concerns, it diffused any potential problems that could have arisen.

In September 2003, the Committee awarded Porter Novelli a one-year extension to its public outreach contract. The outreach continued to focus outreach on the following groups: health & medical; local, state and federal elected officials; minority; business; media; and, building industry.

Over the course of the following year, staff achieved the following:

1. Health and Medical Outreach – (1) Received six additional national public health and medical endorsements; (2) Received seven local public health and medical endorsements; (3) Received a total of 36 public health and medical endorsements to date (26 local and 10 national).
2. Government Outreach – (1) Coordinated two workshops for elected officials; (2) Briefed 10 new council members and two city councils; (3) Briefed nine planning commissions.
3. Minority Outreach – (1) Cultivated support from three medical clinics and county-wide minority health organizations; (2) Received an endorsement from Vietnamese Catholic Bishop Luong; (3) Hosted informational tables at minority events reaching thousands of residents in the Vietnamese, Korean and Filipino communities; (4) Placed articles in

minority news publications; (5) Received 20 minority leader and minority organization endorsements.

4. Media Outreach – (1) Placed 26 balanced and or positive local media stories; (2) Taped three cable television public affairs programs; (3) Distributed eight press releases announcing project milestones.
5. Construction Outreach – (1) Implemented an aggressive construction community outreach program utilizing two community liaisons that gained the support for the project around the treatment plant facility and proactively outreached to neighbors in three cities potentially impacted by pipeline construction.

In September 2004, the Committee reassessed the outreach needs. At this point in time, all the construction contracts had been issued and were in various stages of completion. The Committee had decided that the goals of the business and health and medical outreach had been reached and decided not to actively pursue focused efforts in those areas. The Committee also decided that for the following year that at least half the budget should be devoted to the construction outreach because of the intense activity in this area, which included building a 22-km long pipeline. Outreach would continue with the remaining target audiences of minorities, government and media. The Committee awarded a one-year extension to the Porter Novelli contract to perform these activities.

Over the next three years, outreach continued at the same level with the same amount of resources being spent. The construction projects were completed without any major difficulties and there were no instances were neighborhood groups protested because they were being ignored. The culmination of the efforts was realized when the GWRS began producing 265,000 m^3/d in January 2008 with no active opposition to the project. However, the outreach did not stop and, as you will find, continues today.

Phase 5

A positive article about the GWRS appeared in the New York Times in November 2007, two months prior to the opening of the project. That article helped put the project on national and international radars and drew more media attention than ever before. The Committee wanted to build upon that momentum. In addition, with more eyes on the project, maintaining support for the agencies' $481 million investment and helping other projects get off the ground were priorities that drove project's post-opening outreach efforts.

The GWRS also influenced how consumers started to look at wastewater – as another resource they should take care of and reuse. Prior to the project coming online, telling the wastewater side of the story was limited for fear that people would only focus on the source water for such projects. Messaging focused mostly on the water purification side of the project and was methodically communicated to the public and media by OCWD staff, not OCSD staff. As more favorable media coverage of the GWRS increased, OCSD's Board of Directors expressed the desire to have a greater role in media efforts and tours involving dignitaries.

As such, the Committee directed staff to continue speaker's bureau efforts, update messaging and print and digital materials, make enhancements to the GWRS tour program, and apply for

industry awards. Most of these efforts would be done without the assistance of outside consultants. Since the outreach framework from Phases 1-4 was still relevant, staff modified it and built upon it to address new issues and interests as they arose.

Branding and Logo:

Much of the same need and benefits originally communicated in the pre-operation outreach still holds true today. However, about a year after coming online, federal environmental rulings significantly impacted imported water supplies from Northern California to Southern California, the cost of imported water increased significantly and the Southwest United States encountered the first year of a six-year drought. The gap between the cost of imported water supplies and OCWD's local groundwater that included GWRS water was growing and continues to grow, making the GWRS project more economical, sooner than originally projected. Building the project to accommodate future population growth was a part of pre-operation messaging, but anti population growth groups in California started to become more vocal about projects in general. Staff chose to deemphasize that benefit and focus more on the cost of the water compared to other options and the reliability potable reuse provides during times of drought. Though drought-resiliency became a more prominent talking point, staff also stressed that potable reuse should not be viewed as a project of last resort, but rather as part of a diversified water portfolio when feasibly possible.

With a desire from OCSD to have greater project visibility, the agencies underwent joint branding exercises to best determine how to fold the important story about wastewater source control into talking points and print and digital materials and to create a protocol for engaging with media and government officials.

The Committee and staff participated in branding exercises, led by the Utility Branding Network. These exercises resulted in the creation of a new project logo by LJG Partners, which was selected through an RFP process. In addition to the full title of the project, the new logo included the prominent project acronym since many staff and industry professionals were referring to the project by its acronym. It also featured three water drops in different shades of blue to represent the three-step advanced purification process.

Print and Digital Materials:

With new Committee-approved messages and logo, staff worked with LJG Partners to create a new website that allowed media to better access information and project b-roll footage, and the Acorn Group to create a GWRS technical brochure. Additional print and digital materials were created in-house.

A nontechnical brochure was created for non-technical visitors or interested parties and a 24-page technical brochure, similar to a Water Factory 21 brochure, was created for guests with a scientific background. Over time, the non-technical brochure was phased out as the general public and media found value and interest in the technical aspects of the project.

Social media also came on the scene after the plant came online, so social media channels and protocol were created so the GWRS could have a presence and voice in the new communications forum.

New PowerPoint presentations were also created to reflect the new messaging and logo and to include animations, videos and infographics to appeal to a wide variety of audiences.

Speaker's Bureau:

Staff continued to implement a very active speaker's bureau. While the pre-operation presentations were mostly given locally, the District began receiving requests to present at forums outside California and abroad. With a growing demand for presentations, more staff were trained to provide presentations. Today, about 20 staff and board members have been trained for the speaker's bureau program. The program has not wavered. In the 2017-2018 fiscal year alone, more than 50 presentations were given offsite at conferences and meetings, more than 70 were provided to approximately 7,500 children at the District's annual Children's Water Education Festival and nearly 200 presentations were given onsite to tour guests and media.

Tour Program:

Before the GWRS came online, OCWD offered tours of the demonstration facility, so people could see the technology for themselves and taste the final product water. In 2008, OCWD hosted about 2,500 tour guests. In 2018, numbers will reach nearly 5,000. Approximately 70% of tour guests are students from about 60 Orange and Los Angeles counties' high schools and colleges. The tour program has become a part of the curriculum for many state collegiate environmental studies, engineering and nursing programs. The remaining 30% of tour guests is a mix of water industry professionals, service organizations, chambers of commerce, elected officials, and media. The project continues to pull in interest from many international guests and has hosted visitors from almost every continent. Tours and the GWRS technical brochure are available in English, Spanish, Korean, Chinese, and Vietnamese to accommodate this international interest.

Enhancements to the tour program also included plant signage and samples of membranes guests could see and touch up close, incorporating a headset sound system so guests could wander through the plant and still hear the tour guide clearly, the inclusion of videos created by vendors Trojan and Evoqua, and the creation of giveaway bags and other tour mementos. Like the speaker's bureau program, about 20 staff and board members were trained to provide tours to ensure consistent messages are communicated and to accommodate about 200 tour requests annually. One staff member is designated fulltime to coordinate tours and provide most of the tours. Tour guide kits, that include laminated talking points, were created and are used by staff to refresh their memories before going out with a tour or to use as a quick reference to help answer guests' questions.

Joint GWRS and OCSD tours are also now a big part of the program. Prior to the project coming online, it was almost unthinkable to encourage guests or media to tour the sanitation

side as part of the GWRS experience for fear that viewing the sewage may be unpalatable and close people's minds to water recycling. With more than a year of operations under their belts, the agencies decided that allowing guests to tour both facilities to see all the steps, from beginning to end, provided an opportunity to tell the important source control story and to reinforce all the safe guards in place to ensure only high-quality water makes it out of the GWRS plant. Incorporating OCSD's pre-GWRS tour also provided an opportunity to highlight the unique collaboration between two public agencies to meet multiple needs and maximize taxpayer dollars.

Two other tour enhancements included the creation of a $1.3 million permanent exhibit in 2016 that touches upon every aspect of OCWD's operations and tells the big picture story of water on Earth and in California. The exhibit was created by Discovery Science Center, Cinnabar and Rodriguez Designs and includes animations by New Water ReSources that demonstrate the geology of the groundwater basin and how the GWRS refills the basin and combats seawater intrusion, and videos of global water recycling projects from the Australian Recycling Centre of Excellence's Global Water Connections map. The exhibit became part of the H2O Learning Center at OCWD.

The newest component of the tour program is Next Generation Water Leaders, which is a program for middle school and high school classes that includes a presentation, GWRS tour, exhibit scavenger hunt, and a hands-on water quality testing activity. Staff from OCWD and the non-profit organization Inside the Outdoors facilitate these visits. The program is meant to expose students to careers in water, inspire students to become stewards of the environment and reinforce common core standards for Science, Technology, Engineering, and Mathematics curriculum.

Surveys:

In outreach Phases 1-4, focus groups and surveys were completed with groups that reflected demographics in OCWD's service area to gauge support for the project. Positive media sentiment and the growing number of requests for media interviews, tours and speaker's bureau presentations validated continued support and interest for the GWRS. With these monitored numbers, the Committee decided to forego doing additional focus groups and have staff survey tour audiences instead to evaluate how effective the new tour presentations and tour itself were in influencing support not just for the GWRS, but for water reuse in general. Tour survey results indicate that the number of guests who strongly support advanced purified (recycled) water as part of their drinking water supply nearly double after taking a GWRS tour and tasting the GWRS water. From July 2017 through June 2018, 93% of surveyed tour guests supported or strongly supported having advanced purified/recycled water as part of their drinking water supply.

Water Tastings:

Throughout the years, OCWD would often get requests from other water agencies and policy makers for samples of GWRS water to feature at conferences and community events. Tastings offsite were very limited and cumbersome. In 2016, OCWD, OCSD and WateReuse

Association California Section successfully passed legislation, Assembly Bill 2022, that allows limited bottling of advanced purified water. OCWD made a previous attempt in 2010, but the legislation stalled in an environmental quality committee and was pulled when the author of the bill was forced to resign from the legislature due to an unrelated matter. In 2017, OCWD and OCSD became the first in the Western Hemisphere to bottle this water. The bottling kicked off a year-long celebration to commemorate the 10-year anniversary of the GWRS which included tabling at water industry events and mainstream events throughout California, like music and food festivals and the USC-UCLA rival football game. OCWD and OCSD utilized the services of Dick Jones Communications to help manage the year-long outreach plan. Approximately 17,000 people tasted GWRS water during the 10-year anniversary campaign.

Media:

The bottled water roadshow started with a media kick-off event on Hollywood Boulevard, where there is typically heavy tourist foot traffic, on the first day of summer in 2017. Los Angeles was experiencing a heat wave and all media outlets were looking to, at the very least, mention the new season and record temperatures in their daily broadcasts. Staff created displays that resembled lemonade stands to help reinforce how reused water quenches Californian's thirst. Media kits boxes that included bottles of GWRS water were mailed out to 50 members of the media and social media influencers inviting them to the press conference to unveil the bottled GWRS water. All these tactics, timing and appealing visuals with the opportunity to pull people and ask them their opinions about the water and water reuse, resulted in pre-launch day coverage by National Public Radio and coverage by five Los Angeles market television stations and two nationally- syndicated radio shows on the day of the event. Immediate post-event coverage interviews also appeared on Green Sense Radio, Water Deeply, SiriusXM radio podcasts, and News4 San Antonio. One local television station syndicated its video and story via the CNN Network to TV news stations across the United States. The event press release was picked up on 223 news and information websites with 88 million potential views. Total audience impressions for the kick-off event exceeded 150 million.

Media coverage has been overwhelmingly positive in Phase 5, with stories covered in coveted outlets including 60 Minutes, National Geographic and the CBS Morning News. In fiscal year 2017-2018 alone, staff responded to 108 media inquiries and archived 2,145 articles. Monthly potential viewership ranged from 1.8 million to as high as 133 million. The phrase "toilet-to-tap" continues to find a place in some media stories, but not as often as the early years of the GWRS. When it is mentioned, it is often just used by writers and reporters to try and draw viewers' attention to the story and is then followed by accurate information that debunks the myth. WateReuse California Section's recently formed Communications Collaborative Group has decided to focus some of its efforts to create an alternative phrase for media and the public to latch onto.

Awards:

The Committee thought it important that staff apply for water, engineering and communications awards to continue interest in the project and provide another means of validating continued

support of the project. Since coming online in 2008, OCWD has garnered more than 50 awards related to the GWRS project; most notably, the Stockholm Industry Water Award, The Lee Kuan Yew Prize and the Governor's Environmental and Economic Leadership Award for OCWD's environmental education and outreach programs.

The year-long 10-year anniversary campaign culminated with OCWD and OCSD achieving a Guinness World Record for purifying the most wastewater to drinking water in a 24-hour period of time. The award required the commitment of multiple judges throughout the time period and included past and current consultants, vendors, staff from elected officials' offices, and supporters. The record announcement was made at a community open house for approximately 1,200 guests. It was a great way to celebrate this GWRS milestone and, like the media kick-off event, generated excellent media metrics.

Conclusion

The success of the GWRS project was based on many factors, but one of the primary factors contributing to its success was, and continues to be, its outreach program. The key to outreach on any project is to be transparent, start early in the process and continue through the life of the project.

The first step for a successful outreach process needs to be to identify the issues key stakeholder groups may have with a proposed project. This is done by utilizing polling and focus groups to identify those issues and then developing talking points and collateral materials that can answer any questions that may materialize. The initial focus then needs to be on identifying key stakeholder groups, going out and giving presentations on the project and obtaining written support letters from those groups. The outreach must be flexible and continually evaluated so that it can change as conditions change and new issues and opportunities arise.

As my Public Information Officer told me early in the project "Mike, this is not an engineering project, it's a PR project".

References

1. Los Angeles Times, "Smaller Water Reclamation Plan Appeases Miller Beer", February 9, 1996
2. Los Angeles Times, "Sewer Water Reclamation Plan Comes Under Fire", June 6, 2000
3. R. Rhodes Trussell, Paul Gagliardo, Samer Adham, Patricia Tennison, MWH, City of San Diego and Katz & Associates, Inc., "The San Diego Potable Reuse Project an Overview", IWA Conference, Hong Kong