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Getting Past the “Yuck Factor”: Public Opinion Research Provides Guidance for Successful Potable Reuse Outreach

LEVERAGING THE RIGHT
RESEARCH, TERMINOLOGY,
AND TOOLS CAN MAKE ALL
THE DIFFERENCE IN
SUCCESSFULLY GARNERING
PUBLIC SUPPORT FOR
POTABLE REUSE WATER.

When potable reuse projects run into opposition, it is never because of problems with the technology; instead, the biggest barrier is usually public and political opposition. Some use the specter of potable reuse as a warning to their communities to conserve or else drink “toilet water.”

In other instances, grassroots opposition emerges from public concerns—whether well informed or not. Increasingly, project proponents have realized the importance of community engagement and the associated public opinion research to identify obstacles in public perception and strategies to overcome them. Knowledge of a community’s opinions about potable reuse will help a project sponsor develop a community information and engagement program to address community concerns early in the planning process. This article focuses on the research findings from the WaterReuse Research Foundation’s *Model Communication Plans for Increasing Awareness and Fostering Acceptance of Direct Potable Reuse* WRRF-13-02 (2015) and subsequent focus-group work that has built upon this initial effort.

CALIFORNIA'S DIRECT POTABLE REUSE RESEARCH INITIATIVE

As water agencies throughout the country have continued to study and plan how to meet their water demands, especially as effects from weather variability are more evident, they have begun to focus on water supply diversification. With this focus came the realization that California could not achieve the state's water recycling goal of 1.5 million acre-ft of recycled or reclaimed water by 2020 and 2.5 million acre-ft of recycled water by 2030 with nonpotable or purple-pipe systems alone (WateReuse Research Foundation & WateReuse California 2014). This led to increased interest in potable reuse and the successes other water utilities experienced with their own potable reuse communication projects.

As a result of the Orange County Water District's successful Groundwater Replenishment System, the indirect potable reuse (IPR) model was viewed as a way to get this new water source over the finish line. IPR involves putting purified water in an environmental barrier such as a groundwater basin or surface water reservoir prior to the water being distributed to taps. However, not every city or water agency has a suitable environmental barrier for IPR. Thus, WateReuse California identified acceptance of direct potable reuse (DPR) as the water supply source that would allow the state to achieve its recycling goals. The DPR Research Initiative was launched as a way to help kick-start the move toward DPR. More than \$6 million was raised to conduct research projects into technological processes (as effective as the three-step process used at the Groundwater Replenishment facility); pretreatment and real-time monitoring to ensure safety and quality of the product water; advancing public acceptance through a communication-planning study; and more. The communication research known as WRRF-13-02 has moved beyond the initial focus of developing

model state and local communication plans and is now including the production of informational materials to help agencies implement the WRRF-13-02 plans.

Some previous research has proved what those in the industry have known for some time—the more

of communication challenges and successes they experienced. One-on-one meetings were also conducted with legislators and special-interest groups to learn about their attitudes, perceptions, and support of potable reuse projects. The findings from the literature review and interviews

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educated community members are, the more accepting they will be of this new water supply source. The failure of some potable reuse projects underscores the importance of keeping decision-makers well-informed and engaging the public, particularly those segments of the community that might be concerned or less informed about this new water source. Research such as a statistically valid telephone survey that yields information about opinions, regardless of how educated or informed the residents are on the topic of potable reuse, is a critical component of any communication effort.

RESEARCH CONDUCTED FOR WRRF-13-02

The research project team used several research techniques to accomplish the first two steps in its guiding principle of “Listen, Learn, Retool, Engage.” After conducting an extensive literature review of previous research related to potable reuse acceptance and attempted approaches for communication, research team members held a series of one-on-one meetings. They talked with water utility general managers and communication staff members to gain an understanding

were used to develop a set of messages that were tested in focus groups and in telephone surveys in two communities—the city of San Diego and the service area of the Santa Clara Valley Water District (because these two areas, combined, are demographically representative of the state of California). Each step in the research process fed into the next, and team members adjusted their approach as new information was received. All of the information from the research was then used to formulate a State Level Communication Plan and a Community Level Outreach Plan. The end product is a how-to guide for potable reuse communication on both statewide and community levels.

Key research findings from WRRF-13-02. Keep in mind that the focus group participants and telephone survey respondents were *real* customers who did not have any in-depth information about water and especially about potable reuse. They knew that they turned on their shower that morning and had water, so there was no reason for them to think further about this topic amid all the other issues they had to worry about that day.

Overall, focus group participants had highly positive impressions of

recycled water for nonpotable uses. Most saw it as a prudent and worthwhile way to expand water supplies. In addition, most were even comfortable with the idea of *indirect* reuse of recycled water for drinking. However, most expressed initial discomfort with the idea of *direct* potable reuse

of recycled water. As much as they could believe it was technologically feasible to make wastewater safe for drinking, they simply lacked confidence that their community was ready to make it a reality. Over the course of the session, however, after exposure to detailed messaging,

most participants became much more comfortable with the idea of DPR—particularly after hearing the details of the multistage treatment process applied to wastewater to make it safe to drink.

The telephone surveys also showed higher initial comfort with IPR,

Research-Based Communication Dos and Don'ts

The focus groups and public opinion telephone surveys conducted for WRRF-13-02 in 2014 and updated from focus groups conducted for the San Diego County Water Authority in May 2015 yielded findings that provide guidance on what to do and what not to do when communicating with the public about the complex topic of potable reuse. Here is a straightforward list of dos and don'ts—the only caution is to make sure individual community research validates this advice:



- *Do* leverage public concern about ongoing water shortages to consolidate support for potable reuse, but *don't* rely on a current drought—weather conditions can change.
- *Do* underscore the need to act now in order to ensure an adequate supply of water for future generations.
- *Do* emphasize the role of water agencies, as opposed to other levels of government, in overseeing the process.
- *Do* emphasize the role of scientists and public health professionals in designing and monitoring the process.
- *Do* place special emphasis on communication with women, communities of color, non-English speakers, seniors, and less well-educated and affluent communities.
- *Do* continue to use “purified water” or “advanced purified water” as terms for the potable reuse product.
- *Don't* simply assert that technology has already made it possible to make any water safe to drink.
- *Do* emphasize the stages of the treatment process.
- *Don't* rely on the words “microfiltration, reverse osmosis, ultraviolet light,” or any other purification process steps alone—provide some brief explanation of what each purification step does to make the product safe.
- *Do* highlight the frequency and sophistication of monitoring and testing processes, including that monitoring occurs continually.
- *Do* note that public health and environmental protection agencies have reviewed and approved the potable reuse process.
- *Do* highlight the successful implementation of potable reuse in other communities.
- *Do* compare with bottled water—many think it has a high standard of purity.
- *Do* appeal to the broader principles of environmental protection as a rationale for expanding the use of recycled or reclaimed water.
- *Don't* rely on messaging about the broad principle of recycling, but recognize that the public generally believes nonpotable reuse has been implemented successfully.
- *Don't* rely on arguments that potable reuse will end up reducing rates or assume the public will be willing to pay a lot more for recycled water.
- *Don't* rely on elected officials, taxpayer advocates, or business owners alone as messengers—they do not speak to the health issues at the core of public concerns.
- *Do* err on the side of presenting the public with more information rather than less—detailed, well-sourced, credible information is capable of moving the public, even when there is strong initial opposition.

illustrating once again that there is a comfort level in knowing a “natural process” is involved (i.e., residence time in an underground aquifer or a surface water reservoir). But after receiving additional information about potable reuse and the multi-stage treatment process used to make the water safe to drink, most participants became more comfortable with the idea of potable reuse. In addition, “purified water” and “advanced purified water” were favored by participants as terms to describe the potable reuse water.

Recent focus group research.

Research is still being conducted by agencies interested in learning more about what community members think about potable reuse and how to improve communication with them about the topic. The San Diego County Water Authority recently explored ways to talk with representatives of groups who had expressed the greatest opposition to the potable reuse concept during the initial research. Four focus groups conducted in May 2015 underscored that information and education are critically important when communicating about potable reuse. While the initial “vote” showed overwhelming opposition to the concept, providing additional information—especially about the treatment process, quality of the product water, and the extensive monitoring systems in place—was key to moving individuals in these four groups from two-to-one opposition to two-to-one support. The sidebar on page 60 lists things to do and not do when communicating about potable reuse.

Likewise, the four focus groups conducted in El Paso, Tex., in April 2015 found that almost all participants supported potable reuse once they received additional information about the technology proposed for the advanced water purification process and the high-quality water those processes produce. Interestingly, individuals in these groups also expressed a preference in terminology: they preferred the terms “cleaning” wastewater and “filtering” water rather

than “treating” it or sending it through a facility for “treatment.” Certainly, the language used to discuss potable reuse is an element that should not be ignored as it can either help build support or, on the other hand, contribute to the lack of understanding that results in project failure.

HOW TO APPLY THIS RESEARCH

WRRF-13-02 provides those involved with or planning a potable reuse project a catalog of promising and proven methods and messages for advancing potable reuse. The combination of literature review, face-to-face meetings, and public opinion research indicates that public acceptance of potable reuse can be achieved by implementing a coordinated, consistent, and transparent communication plan. There are two communication plans included in the research project. One is a state-level plan to be implemented, ideally, by a statewide organization to foster a supportive atmosphere in which potable reuse can be judged on its own merits without being immediately dismissed as infeasible. The other model plan that can be used by any community is a local communication plan that identifies key messages, audience groupings, and outreach strategies and tactics that can be used in a community engagement program. Before implementing the community-level plan, an agency should conduct research in its own community to learn about attitudes and perceptions about water and potable reuse as a source to augment existing supplies. Once that research has been completed, agency staff members can review the plan elements and select those that will be most successful in their individual community.

The communication plans available in WRRF-13-02 are based on recommendations from research. To achieve success when communicating about potable reuse, agencies need to ensure that their community engagement programs will

- develop trust (build relationships, offer plant tours);
- be consistent in terms of outreach (start early, continue throughout the project);
- provide information about potable reuse and where it is in use to increase familiarity;
- be consistent with messaging and terminology;
- instill confidence in the quality of water (talk about the treatment process);
- be transparent (discuss costs, water quality, safety, environment); and
- be prepared (expect tough questions and misinformation).

Taking information gleaned from these studies and individual research will help create and refine messaging materials and methods to successfully foster acceptance of potable reuse. Each utility must take the time to engage its own community, which will also build trust in that agency as a safe and reliable water supplier—expanding a community’s water portfolio for the future.

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System project, which has set the standard for potable reuse outreach. She was also co-principal investigator with **Mark Millan**, principal at *Data Instincts Public Outreach Consultants* in Windsor, Calif., for the *WateReuse Research Foundation's* research project to design model communication plans for raising awareness and understanding about direct potable reuse (WRRF-13-02). Tennyson is an active volunteer with AWWA, serving as a past chair of the Public Affairs Council and beginning a tenure as a member of the Technical and Educational Council. **David Metz** is president of *Fairbank, Maslin, Maullin, Metz & Associates* in Oakland, Calif.

<http://dx.doi.org/10.5942/jawwa.2015.107.0163>

REFERENCES

- WateReuse, 2015. *Model Communication Plans for Increasing Awareness and Fostering Acceptance of Direct Potable Reuse*. WRRF-13-02. WateReuse, Alexandria, Va.
- WateReuse Research Foundation and WateReuse California, 2014. *California Direct Potable Reuse Research Plan, Version 3.1*. WateReuse, Alexandria, Va.



AWWA RESOURCES

- Money Matters—Potable Reuse Water and Pricing: What Does the Future Hold?. Kostiuk, K.; Pardiwala, S.; & Wright, J., 2015. *Journal AWWA*, 107:7:28. Product No. JAW_0082135.
- Achieving Reliability in Potable Reuse: The Four Rs. Pecson, B.M.; Trussell, R.S.; Pisarenko, A.N.; & Trussell, R.R., 2015. *Journal AWWA*, 107:3:48. Product No. JAW_0081671.
- Total Water Solutions—Direct Potable Reuse—Australian Style. Matthews, K., 2015. *Journal AWWA*, 107:7:18. Product No. JAW_0082143.

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