# WATER RESEARCH FOUNDATION



# **Advancing Potable Reuse Initiative**

### **Purpose and Goal**

Under the **Advancing Potable Reuse Initiative**, the Water Research Foundation (WRF) will:

- Raise funds to conduct research to advance potable reuse in the U.S.
- Establish potable reuse indirect and direct potable reuse
   as a solution to the nation's water supply challenges.
- Establish potable reuse as a reliable and sustainable component of integrated water management.

#### WRF proposes:

- Using \$3 million from the California State Water
   Resources Control Board (SWRCB) for potable (\$1.5M for non-potable).
- Raising \$4 million in matching funding from utilities and consulting firms across the U.S.

## **Background and Approach**

WRF will build on the 2012-2016 Direct Potable Reuse (DPR) Research Initiative, which produced research that addressed major knowledge gaps.

A number of potable reuse research needs remain that address regulatory, scientific, and technical questions for indirect potable reuse (IPR) and DPR.

The proposed initiative will address questions in states across the U.S. that are developing potable reuse regulations and/or implementing projects.

The initiative will address the research identified by the California SWRCB Expert Panel and other sources as needed for the development of DPR regulations.

### Accomplishments of the DPR Initiative (2012-2016)

WRF, in partnership with WateReuse California, launched the DPR Initiative in 2012 to advance DPR as a water supply option in California. The California legislature mandated the investigation of the feasibility of developing water recycling criteria for DPR.

Based on **\$6** million of support from utilities, consulting firms, and manufacturers, over **\$24** million of research was conducted under the initiative.

**Regulatory Concerns** 

redundancy, robustness,

Treatment and process

reliability through

and resilience

24 Projects

Under the initiative, 34 DPR research projects were funded that addressed regulatory, utility, and community topics. The research results are available online.

Documents published under the initiative included the following:

- The Framework for Direct Potable Reuse (2015) provides a comprehensive overview of the key elements that make up a DPR program and serves as a key resource on the topic of potable reuse.
- FRAMEWORK FOR DIRECT POTABLE REUSE

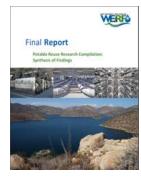
The Potable Reuse
Research Compilation:
Synthesis of Findings
(Reuse-15-01, 2016)
summarizes and
synthesizes research
results from the 34
DPR Research Initiative
projects into a cohesive
document.

# **Utility Concerns**

- Economic and technical feasibility
- Train operators
- 19 Projects

# Community Concerns

- Public awareness
- 6 Projects



Attachment 2 Pg. 1 of 2

#### **Current Needs and Research Process**

Recent activities have resulted in a range of research priorities for potable reuse, including:

- SWRCB 2015 Research Workshop
- **SWRCB Expert Panel**
- **DPR Research Initiative**
- Synthesis of DPR Research Report (Reuse-15-01)



#### **Proposed Process and Timing**

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<b>Early 2018</b>	Finalize funding agreement with the SWB.					
2017-2018	Meet with key parties – utilities, consulting firms, and manufacturers – to raise the funding to leverage the SWRCB grant funding.					
2017-2019	Define a multi-year research agenda through WRF Research Program process (Research Advisory Council).					
2018 to 2020	Commission research projects under the multi-year research agenda.					
Quarterly	Convene Principal Investigators to discuss results of ongoing projects.					
Biannually	Develop biannual updates on progress of the projects.					
Ongoing	Disseminate research results and completed reports.					
2020 or 2021	Hold conference highlighting the results of research and the future of potable reuse.					

### **Advancing Potable Reuse Initiative Fundraising Scope**

Under the Advancing Potable Reuse Initiative, WRF proposes leveraging the \$4.5M SWB funding with a \$4M match, for a total research sum of \$7.5-8.5M. The goals are to (1) Advance DPR in California, and (2) Support potable reuse regulations and implementation of projects across the country. The match portion is needed to cover: (1) shortfall on Research implementation, (2) WRF Grant administration, Program and project management, and (3) Indirect costs (including tuition).

#### **Funding Breakdown**

	SWB Grant	WRF Initiative	Total
- 5 DPR Expert Panel Projects	\$1.0M	\$1.0M	\$2.0M
- Potable Reuse Research	\$2.0M	\$2.5-3M	\$4.5-5M
- Non-potable reuse research	\$1.5M	\$0-0.5M	\$1.5-2.0M
Total	\$4.5M	\$4.0M	\$8.5M

Execution of SWB grant 1 agreement February 28, 2018		MWD grant agreement (expected approval April 9, 2018)		2017 Research Projects (grant 2)		2019 Research Projects (grant 2)		
•	•	•				•	•	
	Execution of SWB grant 2 agreement ~March 30, 2018		Research Execution of 5 projects (grant 1) 2018 - 2020		2018 Research Projects (grant 2)		Research Completi on Date early 2021	

#### **Water Research Foundation**

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