

Permitting the Pure Water Demonstration Facility

Jim DuBois
**Permit & Regulatory
Compliance Officer**
**Compliance & Regulatory
Affairs Office**



**REGIONAL WASTEWATER RECLAMATION
DEPARTMENT**

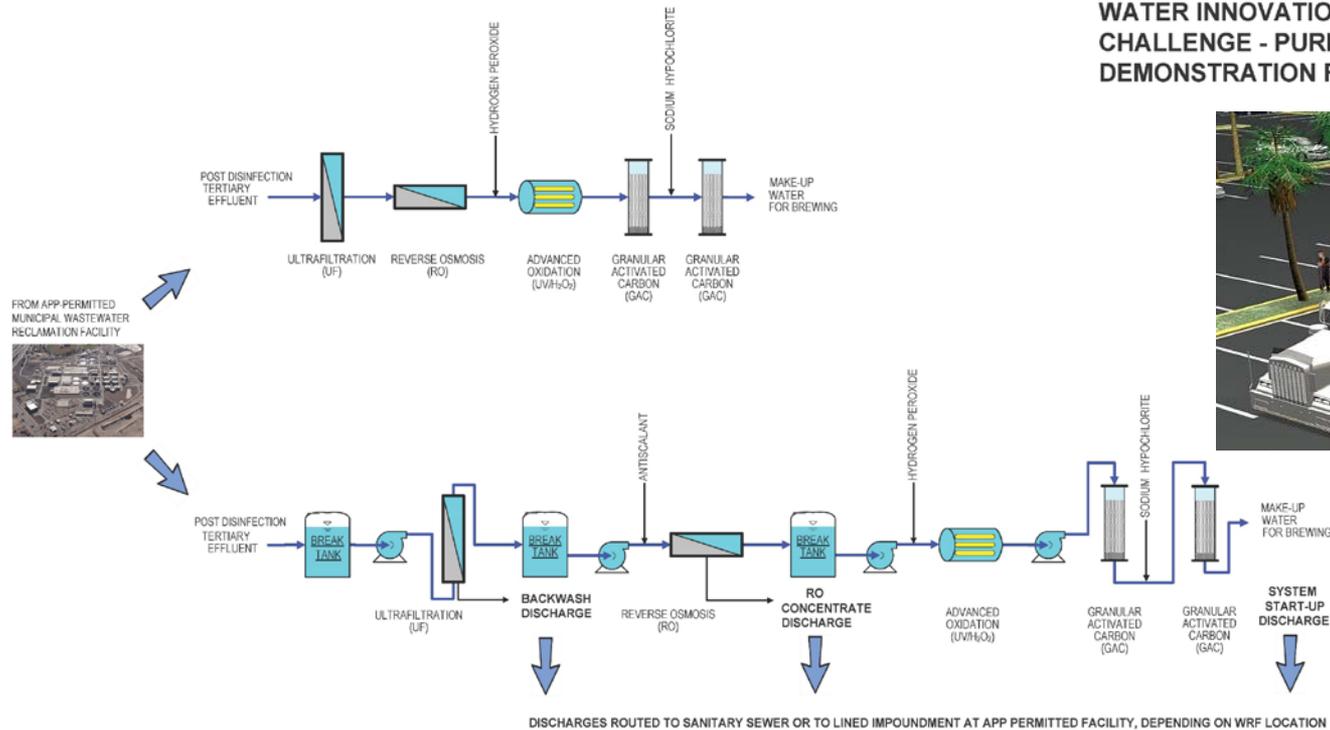
Once upon a time...



...there was no direct potable reuse in Arizona!

Not Your Typical WWTP

Figure 1: PROCESS FLOW DIAGRAM FOR WATER INNOVATION CHALLENGE - PURE WATER DEMONSTRATION FACILITY



- Advanced Treatment Components
- Mobile Facility & Multiple Sources
- Source Not Sewage, It's Reclaimed Water

Current Reclaimed Rules

R18-9-704(G)(2)(a):

“Prohibited activities: Providing or using reclaimed water for any of the following activities: a. Direct reuse for human consumption.”

Original Permit Strategy for Pure Water Challenge

R18-9-701(1):

“The following is not a direct reuse of reclaimed water:

a. The use of water subsequent to its discharge under the conditions of a National Pollutant Discharge Elimination System Permit.”

...but, this looked like a loophole

Tried Permitting Under APP

R18-9-A210(A)(1) or (A)(2):

“A pilot project necessary to develop data for an APP for the full-scale project” or “a temporary facility with discharge lasting no more than six months.”

...but, the facility had no discharge

Permit Under Reclaimed Rules

R18-9-705:

This individual permit was previously used for industrial wastewater that is combined with reclaimed water or where reclaimed water is used in processing of crops or substances that may be used as human or animal food.

...an individual permit that could be flexible

ADEQ Substantive Policy Statement

Recognized that advanced water treatment systems using A+ and B+ reclaimed water produced a product that was so highly treated that it no longer should be regarded as "reclaimed water" precluding the prohibition of reuse for human consumption.

Top Similarities - Permit for Pure Water Challenge and ADEQ's New Potable Recycled Water Permit:

1. "Pure Water" and "Purified Water" labels used
2. Potable Use distinguished from Reuse
(advanced treatment facility is the reuser)
3. Uses individual permit approach – allowing facility specific permit requirements
4. Design Report for Technology Demonstration like BADCT in APP's
(UF-RO-UV/AOP-GAC-disinfection)
5. Uses logarithmic reduction targets for microbial control

Top Similarities (continued)

6. Source Water can be A+ or B+ and Source Water Quality must be demonstrated
7. Relies on Operational Monitoring for Process Control and must have O&M Plan and Operator Training
8. Recognizes advanced treatment produces a high purity product that is well within drinking water new source performance expectations

