Scottsdale Water Campus
Arizona’s First Direct Potable Reuse Full Scale Permit
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Water Campus History

- Initially
  - WRP
  - AWT
    - Membrane Filtration
    - Reverse Osmosis

- Expansion
  - AWT
    - Ozone
    - MF → Ultra Filtration
    - Ultra Violet Photolysis
Next Generation – Direct Potable Reuse
DPR Rule Changes

• January 1, 2018 – State DPR Prohibition Lifted
  o Phase I – R18-9-E701
    ▪ Outline elements for design and source water monitoring
  o Phase II – delayed
    ▪ Needs to outline specifics rule requirements

• July 2018 – ADEQ Asks for Projects
First Steps

• October 4, 2018 - ADEQ and Scottsdale Water Meet
  o Scottsdale Water outlines thoughts on demonstration project
  o ADEQ expresses need for someone to be first and help determine process

• October 18, 2018
  o Team from ADEQ tours Water Campus
  o COS outlines intent to have DPR taps at end of AWT – not at CAP plant
    o Tap 1 – Water for making beer (water-based products)
    o Tap 2 – Taste testing for tours and Citizen Academy
  o Discuss preliminary issues
    ▪ Log removal requirements
    ▪ Emerging contaminants
    ▪ Monitoring before distribution of water
Additional Treatment

• Though the Water Campus has all treatment necessary to meet quality standards an additional treatment skid is being added:
  o Redundant UV
  o GAC for polishing
  o Remineralization
  o Chiller

Design, construction and permit support provided by WATERWORKS ENGINEERS
Permit Application

• February 7, 2019 – Scottsdale Water Submits Permit Application
  o Individual Reclaimed Water Permit
    ▪ No application available for DPR
    ▪ Included preliminary proposal for Design Report criteria
      o No pilot study – AWT has been operating 20 years
      o Log Removal credits of 10/8/8 – split between California and Texas
      o Short list of Emerging contaminants
      o Drinking water standards monitoring
      o Process Control Monitoring – prior to release of water for events
Challenges

• Laboratory license for emerging contaminants
  o ADHS unable to license Scottsdale WQ Lab because compounds not regulated.
  o Will analyze as process control

• Determination of Public Water System
  o Number of people served during taste tests will be less than threshold to classify as non-public water system
    ▪ Not required to do any drinking water monitoring for a drinking water program.
    ▪ System will be locked out while not in use to prevent access
Challenges

• Operator certification or training
  o Not currently a license that covers reclaimed and drinking water together
  o ADEQ not requiring dual certification but Scottsdale water is working toward dual certification
  o Scottsdale Water will provide drinking water training by Water Quality staff

• Demonstration of technical, financial and management capability
  o Water Campus has been in operation for 20 years so technical and management are proven
  o Provided financial statement
Challenges

- “Source Water” location determination
  - Sampling per rule is required at location deemed to be “source water” and meet A+ requirements
    - For Water Campus that was determined to be UF Influent
  - For log removal credit “source water” starts at tertiary treatment - prior to ozone, filtration and disinfection
Final Steps

• April 30, 2019 – Scottsdale Water Submits Design Report and O&M
  o New treatment skid is fully design and build begins

• Involvement of Maricopa County
  o ATC/AOC – Not required as program was not delegated
  o Drinking Water – Not a public water system
  o County Prohibition – under review
Draft Permit

• June 7, 2019 – ADEQ issues draft permit
  o Edited version submitted back to ADEQ June 21, 2019
  o Final Draft will require a 30 day public comment period

• New Source Sample – UF Influent
  o Results submitted July 9, 2019

• Finished water sample – Taken from DPR Skid, Tap 1
  o In Process
Questions?

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