Outline

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Exceptional Drought of 2014

- Drought began in 2011 with 2013 driest year since 1895
- 2014 – “Ridiculously Resilient High Pressure Ridge” steers storm path away from Central Coast
- State of emergency declared by governor in January 2014; Executive Orders in April 2014
- Cambria at risk of running out of water by end of year
- CCSD Board enacted Emergency conservation measures included penalties for overuse and a total ban on all outdoor watering
- CCSD Board authorized emergency contracting to complete an Emergency Water Supply Project.

July 14, 2014
US Drought Monitor
Project Overview - Timeline

- January 17, 2014 – Governor declares state-wide drought emergency
- January 30, 2014 – CCSD Board declares local Stage 3 water shortage emergency & authorizes emergency contracting
- February 7 – Design contract awarded to CDM Smith for Emergency Water Supply
- May 15, 2014 – Emergency Coastal Development Permit approved
- June 18, 2014 – CDPH Groundwater Recharge Reuse Regulations adopted
- June through July 2014 – CCSD Completes 218 rate setting process & obtains a bank loan to fund construction
- August 7, 2014 – Construction contract awarded to CDM Constructors Inc.
- Sept 9, 2014 – Division of Drinking Water conditionally approves Title 22 Engineering Report
- November 14, 2014 – RWQCB issues Permits for Title 22 indirect reuse & Title 27 Evaporation pond
- December 2, 2014 – Plant commissioning begins
- January 20, 2015 – Plant production begins
Project Overview - Supply Concept
Advanced Water Treatment

• Uses 3-step process similar to other California Indirect Potable Reuse projects
• Built on previous projects for more efficient and flexible facility
Membrane Filtration

- Universal Ultra Filtration rack by H2O Innovations
- Using Toray HFU membranes
  - PVDF
  - 0.01 micron
  - 30 gfd
  - 92% Recovery
  - Used at San Diego Demo Plant
- Can also be fit with alternative membranes
Reverse Osmosis

- Hydranautics ESPA4 membranes
  - Lower rejection than traditional ESPA2
  - 14 gfd flux higher than traditional IPR, allowing trailer mounted system
  - 85% recovery for primary
  - Secondary RO achieves 92.5% overall recovery
  - Brine sent for evaporation
Advanced Oxidation

• Trojan UVPhox system similar to larger facilities
• Provides redundant pathogen barrier and CEC destruction
• Working with DDW to convert to first full-scale UV/Chlorine installation
Permitting

• Project Permits Included:
  – Emergency Coastal Development Permit
  – Title 22 Permit - jointly developed by the RWQCB and Division of Drinking Water
  – Title 27 Permit – issued by RWQCB for evaporation pond.
  – Enrollment into NPDES General Permit for Low Threat Discharges – Further conditioned and required by RWQCB for mitigation water
  – Modification of Waste Discharge Order to allow filter backwash into percolation pond
  – Storm Water Pollution Prevention Plan
Costs

Project costs to date:

Project soft costs(*) ........................................... ~ $2,480,000
Original Construction Contract......................... $6,647,919
Change orders ................................................. ~ $ 666,000

Total .................................................................~ $9,800,000

* Includes some early construction work on wells.
Future Steps/Considerations

• Regular Coastal Development Permit & Supporting EIR for Emergency Project (Per County Land Use Ordinance)

• Coordination with Army Corps on Long-term Supply
  – Environmental Impact Statement
  – Can an alternative be found to the current evaporation pond?
  – Renewable energy

• Will future regulations allow for direct reuse?
Questions?