Regional Recycled Water Program

Engineering & Operations Committee
Item 6b
March 12, 2018
Outline

- Progress to Date
- Demonstration Plant Construction
- Program Conceptual Assessment
- Looking Forward
Regional Recycled Water Program
Initial Progress

✓ Pilot-scale studies (2010-2012)
✓ Progress report to Metropolitan Board (Sep 2015)
✓ Board approval of Demonstration Plant & Feasibility Study (Nov 2015)
✓ Presentation on Feasibility Study to Board (Jan 2017)
✓ Award of const. contract for Demonstration Plant (July 2017)

Conceptual planning studies underway (2017-2018)
Demonstration Plant start-up (Dec 2018)
Current Activities - Demonstration Plant

- Construction approximately 30% complete
- Complete construction - Late 2018
- Commence start-up & operation - Late 2018
Demonstration Plant Objectives

- Provide data for regulatory acceptance
- Confirm viability of MBR process
- Optimize full-scale treatment process design
- Establish cost clarity for treatment
- Confirm operational dependencies/interfaces with LACSD
- Provide vehicle for public outreach & acceptance
0.5 MGD Demonstration Plant

- **Aerobic and Anoxic Tanks**: 0.50 mgd
- **Membrane System for MBR**: 0.25 mgd
- **Reverse Osmosis**: 0.50 mgd
- **UV/AOP**: 20 gpm

- **JWPCP Non-nitrified Secondary Effluent**
- **Waste Activated Sludge to JWPCP**
- **RO Brine to JWPCP**
- **Return to JWPCP**
Location of AWT Facilities at JWPCP
AWT Demonstration Plant

- Chemical Feed Systems
- RO
- UV/AOP
- MBR – Aerobic & Anoxic Tanks
- MBR – Membrane Modules
Aerial View of Site
MBR Reactor Basin
Tank Farm Area
LACSD Secondary Effluent / AWT Influent Pipe
LACSD Power Supply Construction
LACSD Construction Support
Independent Advisory Panel

- Richard Bull - Toxicology
- Joe Cotruvo - Chemistry
- Chuck Hass - Microbiology
- Thomas Harder - Hydrogeology
- Michael Stenstrom - Wastewater Treatment
- Adam Olivieri - Water Regulations/Permitting
- Vernon Snoeyink - Pipeline Corrosion/Water Chemistry
- Paul Westerhoff - Drinking/Advanced Water Treatment
- Ed Means - Facilitator
Additional Activities - Full-Scale Assessments

- Conceptual planning, evaluation of phasing, & additional GW modeling
- Source water assessments & nitrogen mgmt. studies
- Institutional & financial arrangements needed for implementation of full-scale program
- Public outreach effort focused on Demonstration Plant
Potential Full-Scale Alternatives

Groundwater basins potentially served by program
- Central Basin
- West Coast Basin
- Orange County Basin
- Main San Gabriel Basin

Potential program phasing approaches
- Single Phase - 150 MGD
- Two Phases - 100/50 MGD or 50/100 MGD
- Three Phases - 50/50/50 MGD or 25/75/50 MGD
Full-Scale Phasing Alternatives

Segment 1
13 miles

Segment 2
16 miles

Segment 3
15 miles

Segment 4
10 miles

Segment 5
5-8 miles

PS-1

PS-2

JWPCP

Montebello Forebay
Injection Wells
12 MGD

Rio Hondo Spreading Grounds

Santa Fe Spreading Grounds

80 MGD

60 MGD

OC Spreading Grounds

15 MGD

West Coast Basin
Injection Wells

80 MGD

Long Beach Injection Wells
4 MGD

Redondo Beach

Torrance

Anaheim

Montebello Forebay
Injection Wells
12 MGD

80 MGD

Port

Beverly Hills

West Covina

Pomona

Chino Hills

Little Saugus

Pacoima

Los Angeles

Universal City

Glendale

Pasadena

La Canada

Burbank

Beverly Hills

Baldwin Park

El Monte

El Monte

Norwalk

Long Beach

LA County

Orange

Fountain Valley

Huntington Beach

Fountain Valley

Huntington Beach

Fountain Valley
Schedule

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- **Construction**
- **Operations/Testing**
- **Studies**
- **Other**

**Completion**
A NEW SOURCE OF WATER FOR SOUTHERN CALIFORNIA

Water is too precious to use just once. So the Metropolitan Water District of Southern California is making a major investment in a potential water recycling project that will reuse water currently sent to the ocean.

INTRODUCTION

The Regional Recycled Water Program, a partnership with the Sanitation Districts of Los Angeles County, will purify wastewater to produce high quality water that could be used again. The program will start with a demonstration facility and could eventually become one of the largest advanced water treatment plants in the world.
THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

1928