

Committee Item 6-b

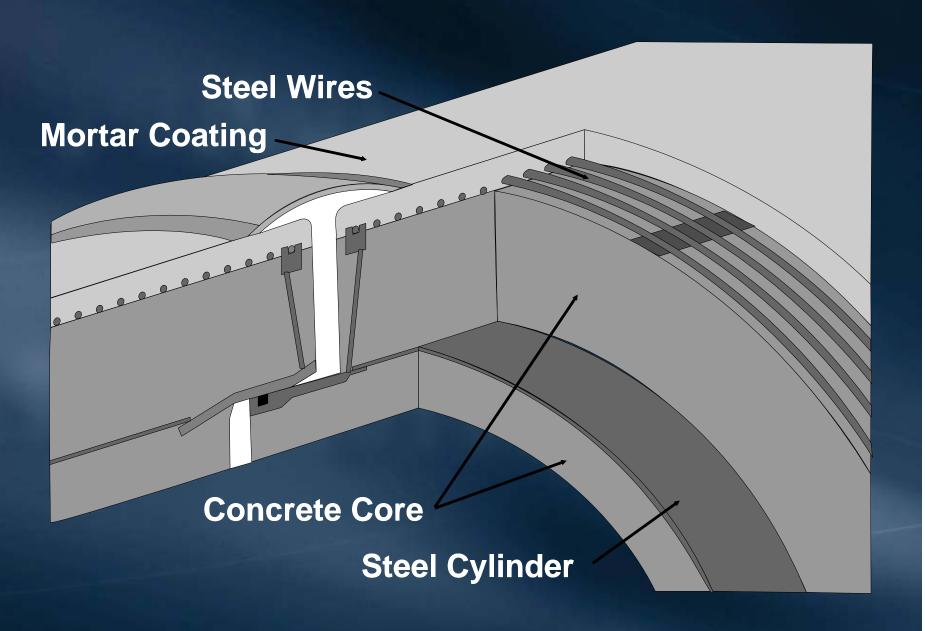
Oral Report on Prestressed Concrete Cylinder Pipe Assessment Program Engineering and Operations Committee July 12, 2010

Prestressed Concrete Cylinder Pipe (PCCP) Assessment Program

- PCCP Background
- Existing Monitoring & Replacement Strategy
- Replacement Alternatives

Metropolitan Distribution System Total = 800 miles PCCP = 163 miles (20%) Size = 42 to 201-inches Pressures up 300 psi Joseph Jensen Water **Treatment Plant** LOS ANGEL Constructed 1962-mid-1980 **VENTURA** F.E Weymouth Water Treatment Plant Robert B.Diemer Henry J. Mills Water Water Treatment Plant Treatment Plant Other. 79 mi RIVERSIDE **PCCP** 163 mi Robert A. Skinner Treatment Plant Steel Reinf. **ORANGE** 324 mi Conc. 234 mi SAN DIEGO

PCCP Cross Section



Monitoring Strategy

- Inspection Cycle
 - Every 5 years
 - 30 to 40 miles per year
- Inspection Methods
 - Visual (interior & exterior conditions)
 - Electromagnetic Testing (WBs)
 - Impact Echo Testing (Concrete Thickness)
- Results
 - Evaluate using established criteria

Detected Wire Breaks

Total 163 miles = 43,054 segments

No Wire Breaks 99% (42,655 segments) 1% Wire Breaks (399 segments)

Repaired 332 segments (0.8%)

67 segments (0.2%)
To be monitored

Criteria for Repair/Replacement

- No. of wire breaks per segment
- Pressures
- Corrosivity of adjacent soils
- Location (isolated, commercial, residential, etc.)
- Broken Backs

Overall Repairs

Repair/ Replacement Options – 163 Miles

	Total Cost (Billion)		Schedule (Years)	Cost/ Year (Million)	
Steel Lined	\$	1.5	40+	\$	38
Parallel Alignment	\$	3.1	20+	\$	155
Carbon Fiber	\$	5.0	80+	\$	63

Summary

- Current Program
 - Cost Effective
 - Reduces Risk
 - Less Disruptive

