



Annual Report on Seismic Resilience Activities

Engineering & Operations Committee
Item 6a
February 8, 2021

Overview

- Background
- Recent Achievements
- Near-Term Activities
- DWR Seismic Resilience

Background

Steps Toward Seismic Resilience



1930's
Construction of
Colorado River
Aqueduct



1971
San Fernando
Earthquake



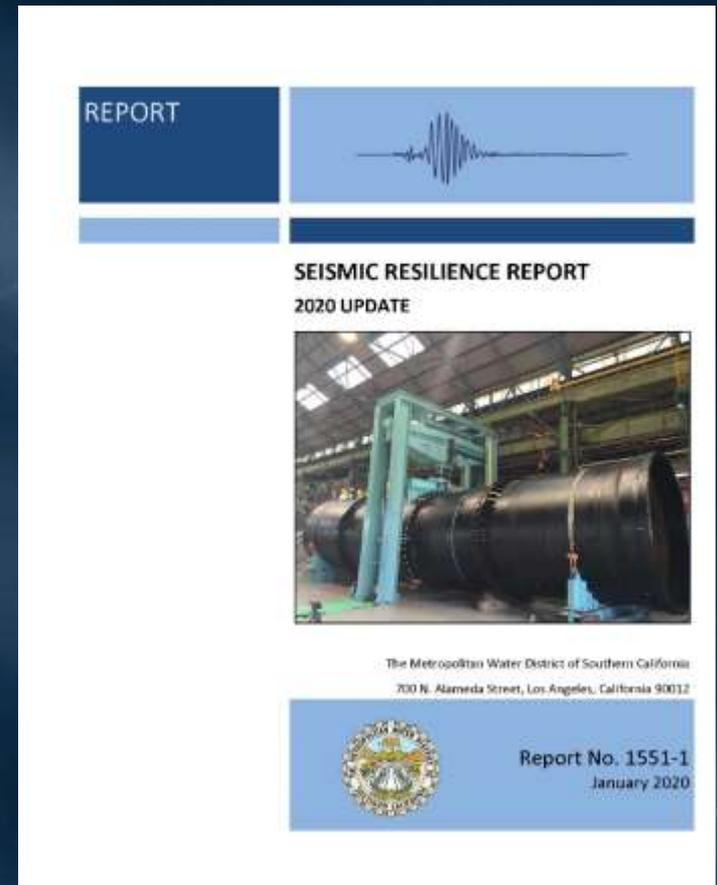
1994
Northridge
Earthquake



2011
Christchurch
Earthquake

Background

- Seismic Resilience Report (2018)
 - Initial report
 - Defined strategy
 - Identified goals
- Report Update (2020)
 - Documented achievements
 - Established new goals



Seismic Resilience Strategy



Planning – Recent Achievements

- Regional Recycled Water Program
 - New in-region water resource
 - Initiated environmental planning
- Delta Conveyance
 - Improves reliability of water supplies that flow through Delta
 - Under environmental review
- High Desert Water Bank
 - Provides emergency reliability to SWP only areas downstream of DWR's Edmonston Pumping Plant
 - In design

Engineering – Recent Achievements

Facility and Pipeline Seismic Improvements

Seismic Upgrade Project	Phase
Headquarters Seismic Upgrades and Building Improvements	Construction
Diemer West Basin and Filter Rehabilitation Project	Construction
Casa Loma Siphon Seismic Improvement	Final Design/Procurement
Weymouth Inlet Channel Seismic Upgrade	Final Design
San Gabriel Tower and Spillway Improvements	Preliminary Design
Weymouth Admin and Control Bldgs	Preliminary Design
Sepulveda Cyn Hydroelectric Plant and Pressure Control Structure	Study



Diemer West Basin and Filter Rehabilitation Project

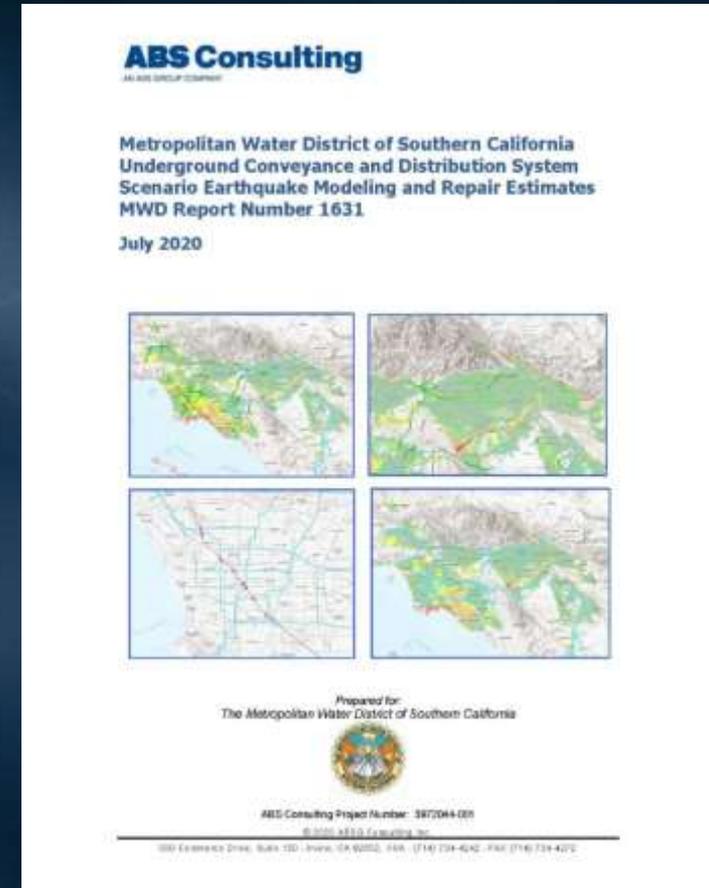


Casa Loma Siphon Improvement

Engineering – Recent Achievements

Special Seismic Assessments

- Earthquake Scenario Modeling and Repair Estimates
 - Conveyance and Distribution System
 - 12 earthquake scenarios
 - Estimates number of pipeline repairs from:
 - Fault rupture
 - Shaking
 - Liquefaction
- Results inform asset management program, emergency response exercises and upcoming studies



Operations – Recent Achievements

- COVID-19 Real-Time Emergency Response
 - Metropolitan EOC and 12 ICPs were virtually activated for over three months during 2020
 - Lessons learned adaptive to seismic response
 - Implementation of a duty officer program with 24-7 rotating on-call coverage for emergency response
 - Creation of an Internal Common Operating Picture Dashboard that includes an incident map, weather alerts, and live social media updates for quick access to incident data
- Emergency Response Training Exercises
 - 39 exercises, workshops, & seminars during 2020
 - One large functional exercise (*Great California ShakeOut*)

Agency Partnerships – Recent Achievements

- Seismic Resilience Water Supply Task Force
 - Task Force Meeting – Aug.
 - Management Oversight Committee Meeting – Nov.
 - Established new goals



Los Angeles Aqueduct



California Aqueduct



Colorado River Aqueduct

Near-Term Activities

● Planning Initiatives

- Update Emergency Storage Objectives
- Review spatial distribution of storage
- Identify and mitigate system constraints
- Explore development of a Hazard Mitigation Plan

● Engineering

- Continue implementing seismic improvement projects
- Update Outage Duration Estimates for Seismic Events
 - Results will facilitate Metropolitan and member agency planning
- Explore joint venture for seismic testing facility
 - EBMUD, UC Berkeley, Metropolitan
- Submit technical papers for conferences & workshops

Near-Term Activities

● Engineering

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Near-Term Activities

● Operations

- Implement lessons learned from full-scale EOC activation from COVID-19 response
- Continue 5-year exercise plan

● Agency Partnerships

- Exercise the Joint Agency Emergency Response Plan for Metropolitan, DWR and LADWP
- Convene working groups

● Reporting

- Annual Board updates
- Next written update 2025

State Water Project Modernization Program

- Long-term program to modernize facilities across the state
- Address seismic and hydrologic risks to California's water infrastructure
- Multiple projects initiated in 2019



Castaic Dam Modernization Program



Pyramid Dam Modernization Program



Perris Dam Remediation Project



