Aligning Seawater Desalination in California with Key State Policies

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What I’ll Cover

• Brief overview.
• Key policy components for planning and permitting seawater desal.
• Importance of coordinating project design with policy requirements.
Water Issues in California –

History of:
- Complexity
- Controversy
- Contentiousness
- Connections between water, development, environment, growth, quality of life, etc.

- Desal is no different.
Coastal Commission Perspective on Seawater Desalination

- Acknowledges the role of seawater desalination in California’s water portfolio:
  - Commission has approved over 30 projects, including full-scale facilities, test and pilot projects, geotech and hydrogeologic studies for site selection, etc.

- Requires case-by-case review to ensure projects conform to policies and protect coastal resources:
  - Based on intake and discharge designs, selection of appropriate site, necessary mitigation, etc.
Key Coastal Act Policies

• **Marine Biology/Water Quality**: will project avoid/mitigate effects of intake and discharge?
• **Growth-Inducement**: will it induce growth beyond coastal resource capacity?
• Is it the “least environmentally harmful feasible alternative?”
• Does it ensure **public access** to and along the shoreline?
• Is it subject to **coastal/seismic hazards**?
• How will it mitigate its **energy use & greenhouse gas emissions**?
• Will it protect coastal **scenic and visual** qualities?
Key Components of 2015 State Board Desal Policy

The Policy covers:

• Siting;
• Design;
• Technology; and
• Mitigation measures
  – of a project’s intake and discharge. Also establishes minimum mitigation requirements and provides definitions.
Shared Goals: Protect Marine Life by Minimizing Entrainment to the Extent Feasible

Key Coastal Act policy:
Maintain, enhance, and where feasible, restore marine life populations by minimizing the adverse effects of entrainment.

Key Water Code policy:
Use the best available and feasible site, design, technology, and mitigation measures to minimize the intake and mortality of all forms of marine life.
Shared Goals: Siting

Shared Coastal Act and Desal Policy Goals:

• **For Intake** – Avoid sensitive habitat (e.g., kelp, reefs)
• **For Discharge** – Keep brine away from sensitive habitat
• **For Facility** – Consider proximity to, and availability of, existing infrastructure (for example, consider co-location with WWTP or other existing discharges).

**Coastal Act:**

• Avoid upland sensitive habitat areas (e.g., dunes, wetlands, etc.).
• Address sea-level rise, coastal erosion, coastal and seismic hazards.
• Ensure adequate public services available to support project.
Shared Goals: Best Alternative

Key consideration: Does a proposed project represent the “least environmentally damaging and feasible alternative” to provide the needed water supply?

Coastal Commission review can include a three-part test:
• Is the facility coastal-dependent?
• Does it include all feasible mitigation measures?
• Are there no less environmentally-damaging and feasible alternatives?

Desal Policy: Evaluates the best combination of site, design, technology, and mitigation measures to minimize intake and mortality of marine life.
Shared Goals: Water Supply Considerations

Coastal Act:
• Will project induce growth beyond coastal resource or public service capacity?

Desal Policy:
• Is proposed water supply consistent with approved Urban Water Management Plan?

Consider:
• Other supply options – maximizing conservation? is additional recycling feasible?
• What’s desal’s role in overall water portfolio – reliability? baseload? growth?
Effective & Comprehensive Permit Review

Seawater desal generally requires the following State approvals:

• **CEQA review:** (sometimes by local gov’t).
• **State Lands Commission:** tidelands lease.
• **Coastal Commission:** coastal permit.
• **State/Regional Water Boards:** NPDES/ Waste Discharge permit.
• **Public Health:** drinking water permit.
Decision-making – much more than a State permit process!

Preliminary project planning

CEQA (and NEPA?)

Permitting – local, state, and federal

A final project!

Water District / Applicant

Other involved agencies

Local governments

Federal agencies

State permitting agencies

Stakeholders
Decision timeline examples

Timeline: Sand City
- Start: 1998
- Planning: June 04 to Jan 05
- CEQA: Jan 05 to May 05
- Permits to Construct: May 05
- Funding/Construction: Jan 05 to May 05
- Start of Operations: April 2010
- Total: 12 years
- Construction: 11 months

Timeline: Poseidon Carlsbad
- Start: 1998
- Planning: May 04 to June 05
- CEQA: Aug 06 to Nov 07
- Permits to Construct: Aug 06 to Nov 07
- Funding/Construction: May 05
- Total: 18 years
- Construction: ~30 months
State review & coordination

Preliminary project planning

Water District / Applicant
Other involved agencies

State permitting agencies

Seawater Desalination Interagency Working Group
- California Coastal Commission
- Department of Fish and Wildlife
- Department of Public Health
- Department of Water Resources
- Ocean Protection Council
- Public Utilities Commission
- Regional Water Quality Control Boards
- State Coastal Conservancy
- State Lands Commission
- State Water Resources Control Board
Project Review Flow & Permitting

- CEQA Review
- Local permits/landowner approval (State Lands Commission)
- Coastal Commission
- State/Regional Water Quality Board

Time
Choosing “Easy” or “Difficult” Design & Review

<table>
<thead>
<tr>
<th>“Easier” review:</th>
<th>“More difficult” review:</th>
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<tr>
<td>Away from shoreline.</td>
<td>On or next to shoreline.</td>
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<tr>
<td>Subsurface intake.</td>
<td>Open-water intake.</td>
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<tr>
<td>Public facility.</td>
<td>Private facility.</td>
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<td>Defined service area with known level of build-out.</td>
<td>Unknown or extensive service area.</td>
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<td>Consistent with UWMP and water portfolio includes significant conservation.</td>
<td>Not part of a local/regional plan; in an area without much effective conservation.</td>
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<td>Early, extensive coordination w/agencies &amp; stakeholders.</td>
<td>Poor or little coordination.</td>
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Agency Recommendations to Desal Applicants

• Use policies/regulations/guidelines to guide facility design and siting.
• Benefit from coordination during pre-application.
• Benefit from coordination throughout review.
• Coordinate, coordinate, coordinate!
Questions?