

From Vulnerability to Resilience:
**Why Ports Need Tailored Hazard
Mitigation Plans**

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Agenda

- 1 Introduction to Hazard Mitigation Plans
- 2 Targeted HMPs for Ports
- 3 FEMA Funding Tied to HMPs



Introduction to Hazard Mitigation Plans

Introduction



Natural Hazard Mitigation

Sustained long-term and short-term actions taken to protect people and prevent property damage and service interruptions caused by natural disasters.



Black & Veatch Team Experience

More than 150 years of combined experience in the field of hazard mitigation and 100+ planning efforts nationwide



Purpose

A Hazard Mitigation Plan is created in compliance with the Disaster Mitigation Act (DMA) of 2000 to assess and mitigate the impacts of natural hazards on a defined planning area.



Municipal HMPs Black & Veatch is currently supporting that include Ports:

- City of Oakland LHMP (Port of Oakland is a Participating Agency)
- San Joaquin County Multi-Jurisdictional HMP (Port of Stockton is a Planning Partner)



HMPs = Federally recognized frameworks design to reduce risks from natural hazards

Hazard Mitigation Planning Hits and Misses



Hits

Crescent City Harbor District
Port of Long Beach
Port of Los Angeles
Port of Oakland
San Mateo County Harbor District

California ports have participated in local hazard mitigation plans and are eligible for federal mitigation grant funding to help implement large-scale projects.



Misses

Port Hueneme

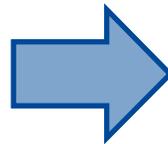
The 2023 atmospheric river flooding event caused \$30-40 Million in damage to the Port's Shoreside Power System. The Port did not have an approved HMP and was therefore not eligible to apply for mitigation funding to rebuild the infrastructure to a resilient standard.



Approved HMPs = \$\$ for resilience projects

Risk Assessments for International Ports

Data-driven analysis informs risk from natural hazards & helps prioritize resilience projects based on loss estimates.



Outputs include:

- ✓ Asset impacts
- ✓ Economic impacts
- ✓ Service impacts – supply chain interruption, functional downtime



Domestic and international ports become more resilient

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Targeted HMPs for Ports

Targeted HMPs for Ports



Ports are lifelines for global trade/local economies.



Ports combine complex infrastructure, specialized services and face compounded risks from flooding, storm surge, sea level rise, and other hazards resulting in supply chain disruptions.



HMPs can address the following:

- Vulnerability of critical assets (berths, warehouses, power systems)
- Operational continuity plans for extreme weather
- Interdependencies with transportation networks and utilities
- Climate adaptation measures (elevating structures, flood barriers)

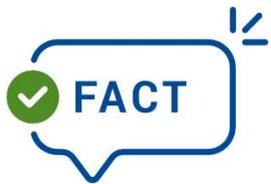


Stand-alone HMP addresses unique needs of a Port

Dispelling HMP Myths



Developing an HMP is a heavy lift.



- ✓ Local capacity may be an issue, but an experienced consultant team can do the heavy lifting.
- ✓ Joining a multijurisdictional plan can lighten the lift but is not as effective to address specific needs of ports.



HMPs are expensive to develop.



- ✓ Costs are modest (\$175 - \$200k) compared to the potential losses from asset damage and service disruptions.
- ✓ Planning grants may be available, but self-funding is ideal for a streamlined process.
- ✓ Cal OES extended the HMP planning grant window under DR-4856



Developing an actionable HMP is achievable!



FEMA Funding Tied to HMPs

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FEMA Hazard Mitigation Act (HMA) funding is tied to having a FEMA-approved and locally adopted HMP.



State of California prioritizes planning grants for mitigation



Ports without these plans may miss out on millions in mitigation and resilience grants.



Black & Veatch team has helped California jurisdictions secure more than *\$112 million* in mitigation funding to implement projects.



No Plan, no \$\$

Thank you!

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