

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA – STAFF BRIEFING

Item No. 7a
Date of Meeting: October 20, 2009

DATE: October 7, 2009

TO: Tay Yoshitani, Chief Executive Officer

FROM: Ralph Graves, Managing Director Capital Development
 Kathleen Gleaves, Emergency Preparedness Manager, Seaport
 Ron Harmon, Emergency Preparedness Manager, Aviation

SUBJECT: Emergency Management Planning – Green River Flood Planning

TODAY’S BRIEFING:

This memo and accompanying presentation provides information on the condition of the Howard Hansen Dam and potential effects of flooding along the Green River due to releases from the dam this winter. The presentation also describes efforts underway by the Port to maintain critical Airport, Seaport and Corporate operations and to cooperate in regional disaster preparedness.

BACKGROUND

Background – Green River and the Howard Hanson Dam

The dam, constructed in 1962, is located upriver from Enumclaw and has served as a flood protection dam for the Green River and numerous cities in south King County, including Auburn, Kent, Tukwila and Renton. Once past Renton, the Green becomes the Duwamish River and flows by several Port properties before emptying into Elliott Bay.

The U.S. Army Corps of Engineers discovered significant damage and leakage within the earthen portion of the dam following last winter’s record rainfall. The Corps is installing a “grout curtain” due for completion in November. The curtain is a temporary fix at best and cannot be thoroughly tested until next summer.

To ensure the stability of the structure, the Corps will not allow the dam’s reservoir to hold as much water as it has in the past. While this cautious operation will protect against failure of the dam, the resulting water releases may cause repeated flooding in the valley below. The Corps estimates the likelihood of major flooding from a single event as one-in-three.

Since the dam’s construction, the valley communities have experienced rapid growth. Hundreds of residences; manufacturing, industrial, and retail developments; and other infrastructure have

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sprung up in the valley. Transportation routes, pipelines, electrical substations, communications nodes, and government buildings all have a home in the flood zone. Many important local, regional and state transportation corridors cross the valley, as do the BNSF and UP railroads' north-south mainline and the Stampede Pass line. Locally-built levees lining the river are old. Many were never built to withstand the flow rates likely to result from a significant storm event. The combination of increased population density, critical infrastructure, old levees and unchecked river flows is cause for deep concern.

Port Impacts

- The Port faces a wide range of direct and indirect impacts from flooding that may result from Howard Hansen dam releases this winter.
- Seattle-Tacoma International Airport may experience loss of electrical service from valley substations for a period of days or weeks.
- Closure of the pipelines will affect supplies of jet fuel and natural gas.
- Depending on the extent of the floods, evacuation of some communities may be necessary. An estimated 1,800 Airport employees, including workers at airlines, concessionaires and suppliers may be displaced. One hundred and ninety employees in the Seaport and Corporate divisions live in or transit through the impacted areas.
- Road, bridge and rail line closures may result in major congestion and stem the flow of goods into and out of docks at the Port, as well as at terminals, air cargo facilities, and warehouses. Flooding could affect distribution of goods to other centers outside the region.
- Debris dislodged by fast-running water could flow into the Duwamish River and may present significant hazards to navigation in Elliott Bay. Increased siltation may hamper navigation along the waterway, turning basin and at the docks. Private docks, shipping facilities, bridges and other structures may be damaged by debris.
- The Port has received many requests from the local business community and nearby municipalities to provide space for storage of goods and materials or evacuation needs. (Port staff members are evaluating these requests in light of our availabilities and needs.)
- Storm water back-ups may cause flooding in some low-lying buildings in the South Seattle area, including the Port's Maintenance Shop.
- Waterways may be affected by sewage and storm-water overflows.
- The Port's police and fire departments anticipate increased demand for services from Port facilities, as well as calls for mutual aid from valley cities.

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NEXT STEPS

Flooding of the Green River will likely not be a one-time event. The Corps estimates permanent repairs could take from three to five years. Local jurisdictions, aided by federal grants, are rushing to complete levee improvements and mitigation projects and plan for the evacuation of up to 35,000 residents, and their pets and livestock. Levees are being reinforced, and efforts are underway to install protection for, or to relocate, critical infrastructure and services.

Port staff members have been developing response plans to the flood potential. This includes updating operational contingency plans at Sea-Tac Airport, the Seaport and other Port facilities; assisting tenants and customers in maintaining their business operations; communications plans for employees, tenants, vendors and the public; and coordinating with local, state and federal governments.

Port staff members are also coordinating with their counterparts in valley cities, county and state governments to develop contingency plans, and are beginning discussions with freight, railroad and distribution companies about potential impacts to their operations.

In the last two months, Port staff members have participated in regular meetings coordinated by King County, met with the Red Cross, attended the utilities briefing, the truckers' association briefing and a symposium for business owners organized by the combined chambers of commerce in the valley cities.

Specific topics include:

- Identifying impacts to freight movement at both the Airport and Seaport
- Engaging in outreach and communications to tenants, shippers, and customers
- Refining land use policies – identifying available lands, determining what needs the Port may have internally and what properties or facilities can be made available to outside entities
- Identifying and mitigating potential damage to Port properties and facilities
- Identifying and mitigating potential operational impacts at all facilities
- Preparing for loss of electricity, jet fuel, gas and other utilities
- Preparing for clean-up and recovery

Currently the City of Renton and King County have declared a State of Emergency. The cities of Kent, Tukwila and Auburn will soon follow suit. The State recently increased its response level to the Howard Hanson Dam to a Level 2, ** and FEMA is already working with local

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jurisdictions. Emergency Declarations by state and local governments open the way for increased federal assistance now and in the future.

**Note on Terminology:

- Level 1: Normal Operations.
- Level 2: Staff members are monitoring the situation, providing coordination specifically for the dam issue. Staff members dedicated to it full time on a continuing basis Mon-Fri 8-5.
- Level 3: 24/7 Operations at the State EOC.
- Level 4: Catastrophic; full mobilization of State resources.