

Qwest Corporation's Planning Overview
Howard Hanson Dam – Potential Flooding
Auburn, Kent, Tukwila, and Renton

Washington Utilities and Transportation Commission Review
October 29, 2009

Current Situation

The U.S. Army Corps of Engineers (USACE) discovered a leak in the Howard Hanson dam's right abutment in January 2009

The dam *is not* in immediate danger of failing, and temporary solutions are currently being implemented.

Due to the leak the USACE has placed restrictions on the pool elevation of the dam. These restrictions could result in severe water run-off that may exceed these pool restrictions, creating a risk to downstream communities for high flood levels (from 1 to over 10 feet) for the next 3-5 years.

This could potentially result in:

- Large power outages (electricity & gas)
- Destruction to buildings
- Sewer and water system problems
- Potential interruptions of communications
- Major closures of transportation corridors
- Failure of levees not designed for the resulting water flows

City Planning Initiatives

USACE and City Emergency Planners are planning and preparing for four disaster scenarios:

- Levee overflow
- Levee bank deterioration
- Debris flow and water obstruction
- Complete levee failure

Levee Rehabilitation:

- Currently raising levees an additional 3' to accommodate 13,900 cfs with three feet of freeboard
- Levee inspections on 7 X 24 basis if flows go to 9000 cfs
- Utilizing flood models provided by USACE at 17,600 cfs and greater for planning, mitigation and response

Qwest Employees, Facilities, and Critical Services

Critical facilities

- 5 Central Offices
- Tukwila Cyber Center
- MRI Warehouse
- Administrative (Engineering) office
- 3 Garages
- Numerous outside plant equipment

Employees - 235

- Network Services
- BMG
- Mass Markets
- Wholesale
- Finance
- IT

Critical Services

- 911
- FAA
- Emergency Services (Fire, Police, Hospitals, etc.)
- Government facilities
- Local Dial Tone
- Numerous large and small government and business services and applications

Qwest's Current Planning Initiatives

- **Identification of critical infrastructure and network services (CO's Garages, CEV's, etc.) within flood plane areas for potential flood mitigation and Business Continuity / Disaster Recovery (BC/DR) plan implementation**
- **Development of data and resource library for all building elevation certificates and flood mitigation solutions**
- **Development of alternative procurement strategies for critical inventory at Kent Warehouse**
- **Establishment of local interface with Office of Emergency Management for city flood planning information and potential assistance with road access, and flood mitigation**
- **Secure portable network equipment alternatives:**
 - **Disaster Recovery Trailer (transport and fiber)**
 - **Generators**
- **Identification of fuel suppliers to meet short notice fuel demand for generators**
- **Development of preliminary disaster recovery plans for critical equipment and services**
- **Development of messaging for Qwest customers and employees**

Specific Recommendations

Work with Corporate Real Estate to perform the following:

- **Develop proper flood mitigation strategies for critical facilities and network outside plant equipment**
- **Ensure all facilities have been inspected and proper flood mitigation strategies have been implemented.**
 - **Sealing of all external building openings such as roof, conduits, vents, etc.**
 - **Installation of check-valves in floor drains of O'Brien CO, State St. CO, and Tukwila Cyber Center**

Ensure BC/DR plans are in place to continue functions and services at other critical facilities in the Green River Valley should flooding become imminent

Ensure all Business Unit's have DR plans in place for worst case scenario (total loss)

Continue to analyze all USACE and City flood and levee data for assistance in determining the correct water barrier strategy.

Qwest's Ongoing Planning Activities

Continue to update leadership of all potentially impacted business units to ensure a coordinated planning approach and CMT readiness

Maintain regular communication with local city emergency managers to ensure Qwest has the most up to date flood and levee data

Risk Management and Disaster Preparedness will continue to assist BU's with BC/DR planning and any other issues requiring corporate assistance

Retain a professional consultant for additional guidance on interpreting USACE flood and levee data and recommendations for flood mitigation efforts