WASHINGTON UTC UTILITIES AND TRANSPORTATION COMMISSION

Thursday, Feb. 8, 2007

Utility Preparation, Response and Recovery from the December 13-14, 2006 Wind Storm

Telecom Utilities Panel

Qwest Corporation

Qwest Spirit of Service®

For every one dollar spent on prevention two or more dollars are saved in recovery. ***FEMA***

We take it to heart…..

Qwest
Spirit of Service®

Qwest's Disaster Prevention & Recovery Strategy

- **Priority on prevention through sound infrastructure design, diverse network architecture, integrated security measures, aggressive network monitoring, and continuity planning**

- **Continual disaster recovery readiness through multi-hazard response structure, training, exercises, and resource identification**

Qwest Disaster Prevention – In The Design

- **Site selection & building construction standards**
- **Corporate wide fire and life safety program**
- **Flood and earthquake mitigation**
- **Physical security program**
- **Information/cyber security program**
- **Back-up power at critical locations**
- **Ringed SONET architecture**
- **Multiple data centers for internal IT systems**
- **System/application redundancies**
- **IT network hardware redundancies**
- **Redundant functions between critical call centers**

24x7 Monitoring Centers

- **Real estate work environment center**
- **Security response center**
- **National network operations centers**
- **Local network operations center**
- **Data networks operations center**
- **IT systems operations center**
- **WEB hosting operation center**

Primary and Backup Locations for all Monitoring Centers

Qwest BC/DR Corporate Standards

- Business continuity planning is required for all critical departments
- All critical plans are tested and updated annually
- All departments have designated crisis contacts
- All critical departments are represented on the Emergency Response Teams
- All plans and teams are tested annually
- Emergency response team certification standards and business continuity planning are part of corporate compliance plan
- Compliance status is reported to executive leadership bi-annually

Qwest's Washington Network - Disaster Prevention Design Characteristics

What does Qwest do to prepare its network for weather-related incidents such as the December '06 windstorm? *It all starts with network design:*

- Central offices powered via commercial AC converted to -48v DC via rectifiers with battery backup and emergency generators

- Interoffice facilities utilize fiber optic technology with route diversity and automatic protection switching

- Underground copper cable for local loop is air pressurized to keep water out

- Buried plant used where economically feasible – jelly filled cable keeps water out

- Aerial network designed to meet certain storm loading criteria – National Electric Safety Codes - codes dictate strength of poles and support facilities

Preparation for Storms on the Way

Once a major storm is on the way, what does Qwest do to prepare for it?

- In vulnerable areas for aerial plant, Qwest proactively partners with joint use pole partners for obstacle removal

- Ensures that adequate restoration materials and equipment are on hand and in working order: ample fuel for CO generators; fuel up trunks, portable generators and cords - inventoried and in working order

- Perform battery routines at remote terminals (design is 8 hour backup portable generators are required to charge batteries)

- Notify support centers and schedule additional personnel if necessary

Restoration After the Storm

What restoration activities did Qwest perform in the aftermath of the wind storm?

- Evaluated network conditions via monitoring centers and on-site inspection

- Prioritized service impacts in accordance with TSP (Telecommunications Service Priority) guidelines – 1. fire, life, and public safety; 2. outages impacting large numbers of customers; 3. outages impacting multiple customers; 4. outages impacting single customers

- Fixed downed lines and replaced/recharged batteries to ensure ongoing RT operation – dispatched appropriate technician skill sets for RT maintenance; trouble shooting; damaged electronics; repair/replace poles, cables, and service wires

- Crews worked overtime schedules and a limited number of personnel were brought in from other locations

Key Learnings

What were the key learnings from the storm? What was done well? Where could improvements be made?

Done well:

- Network design – problems generally limited to distribution plant
- Skilled work force performed well – implemented mandatory overtime

imported additional personnel from E. WA, MT, and OR

- Deployment of portable generators kept service up
- Defined plan executed well by network management

Areas for improvement:

- Update motor vehicle and other support equipment databases
- Build loaned employee profiles into data bases