

Qwest

Disaster Preparedness

Program Overview

2007



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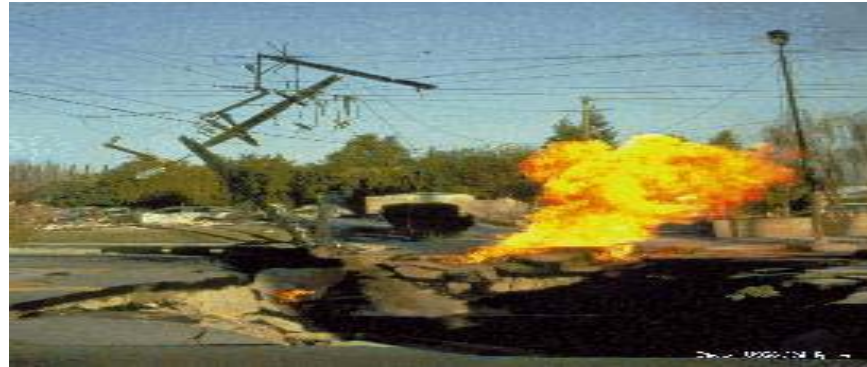
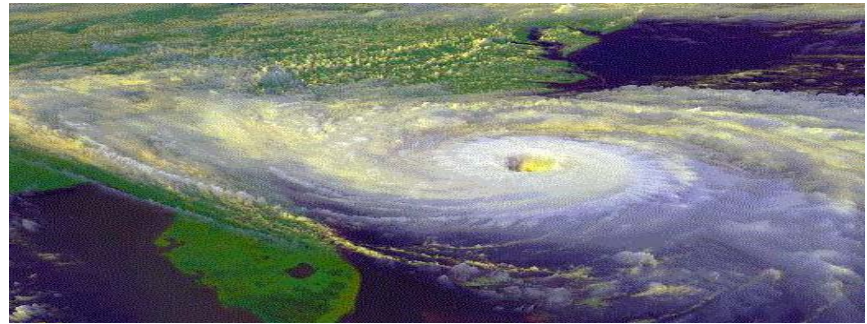
Qwest Company Profile

- **Global network – voice and data**
- **Local voice network in 14 states**
- **National long distance**
- **Services: Voice communications**
 - Wireless communications**
 - Data/Internet communications**
 - Web hosting/disaster recovery products**
 - Remote IT solutions**
- **40,000 employees**
- **Presence in 42 states, and Washington D.C.**
- **45 million square feet of space in over 7000 buildings (CO, admin, data centers, cyber centers, warehouses, garages)**
- **Regulated and un-regulated services**



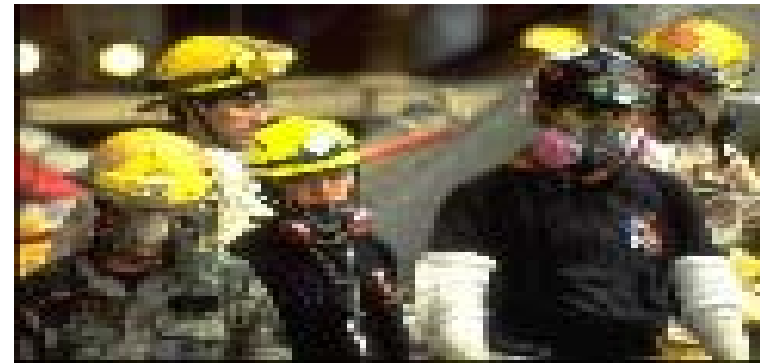
Types of Threats We Plan For....

- **Natural hazards**
 - **Floods**
 - **Lightning**
 - **Wild Fires**
 - **Hurricanes**
 - **Tornadoes**
 - **Blizzards**
 - **Earthquakes**



Threats Continued.....

- **Manmade Disasters**
 - **Infrastructure fires**
 - **Equipment failures**
 - **Damage to critical equipment**
 - **Hazardous materials release**
 - **Sabotage and terrorist**
 - **Cyber intrusions & viruses**
 - **National Special Security Events (NSSE)**



More Threats

- **Infrastructure Failure**
 - **Loss of power**
 - **Loss of water**
 - **Loss of HVAC**
 - **Loss of communications**



Virtual Threats

- **Cyber events**
 - Internal threats
 - Data disclosure (ex: privacy, identity theft, corporate espionage)
 - Systems misuse
- **External threats**
 - Internet attacks - worms, viruses, bots
 - Malware
 - Denial-of-service attacks
 - Hackers / intrusions



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

We take it to heart.....



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Components of Qwest's Disaster Preparedness Program

- **Corporate commitment & executive support**
- **Initial and iterative risk assessment on all critical components**
- **Integrated Risk Management programs & budgets**
 - **Environmental, health and safety**
 - **Corporate security - physical and cyber**
 - **Business continuity and emergency response**
 - **Risk finance & insurance – risk assessment and financing to limit exposure**
 - **Corporate compliance – governance board for tracking and reporting to executive leadership**
- **Internal and external communication response plans**



Disaster Preparedness Drivers

- **The “Spirit of Service”**
- **National security - legal obligations**
- **FCC and PUC requirements**
- **Fiduciary responsibility - shareholder value**
- **Contractual obligations - business, government, co-locators**
- **Competitive advantage**
- **Brand protection**
- **SURVIVABILITY!**



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



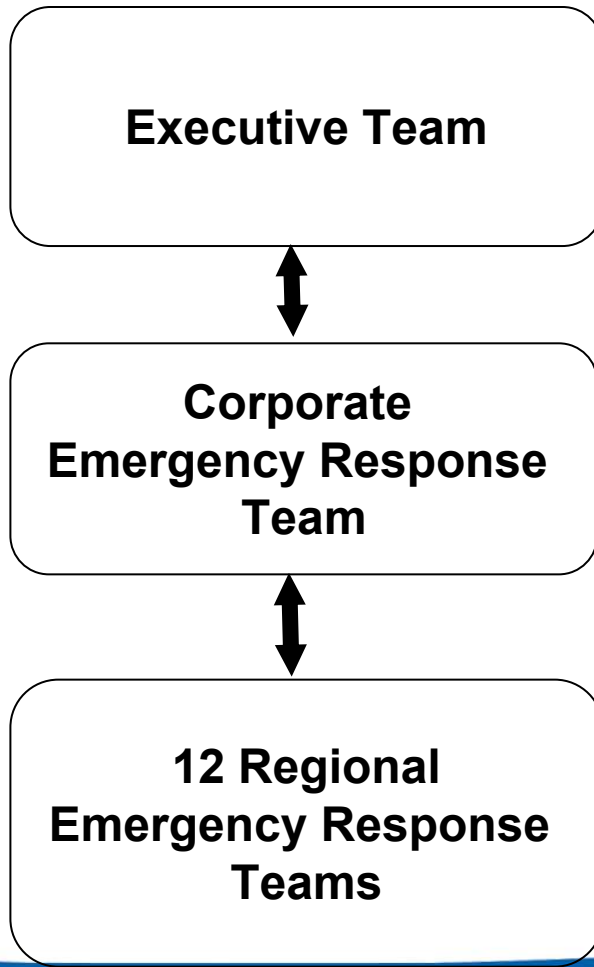
Qwest BC/DR Corporate Standards

- 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 Emergency Response Structure

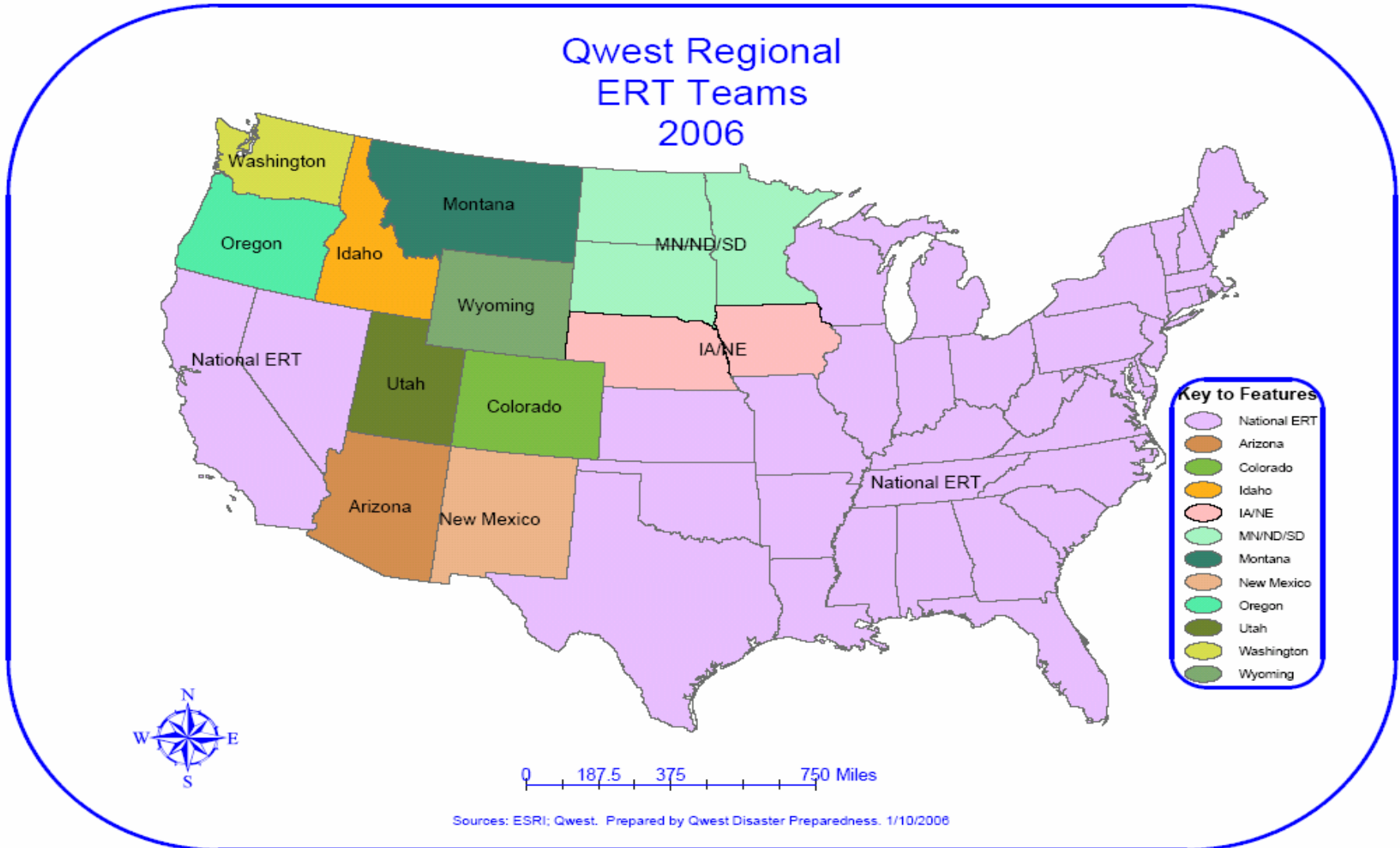
The Qwest response hierarchy provides an integrated and coordinated approach in responding to and recovering from disasters impacting Qwest Services, Revenue, or Employees



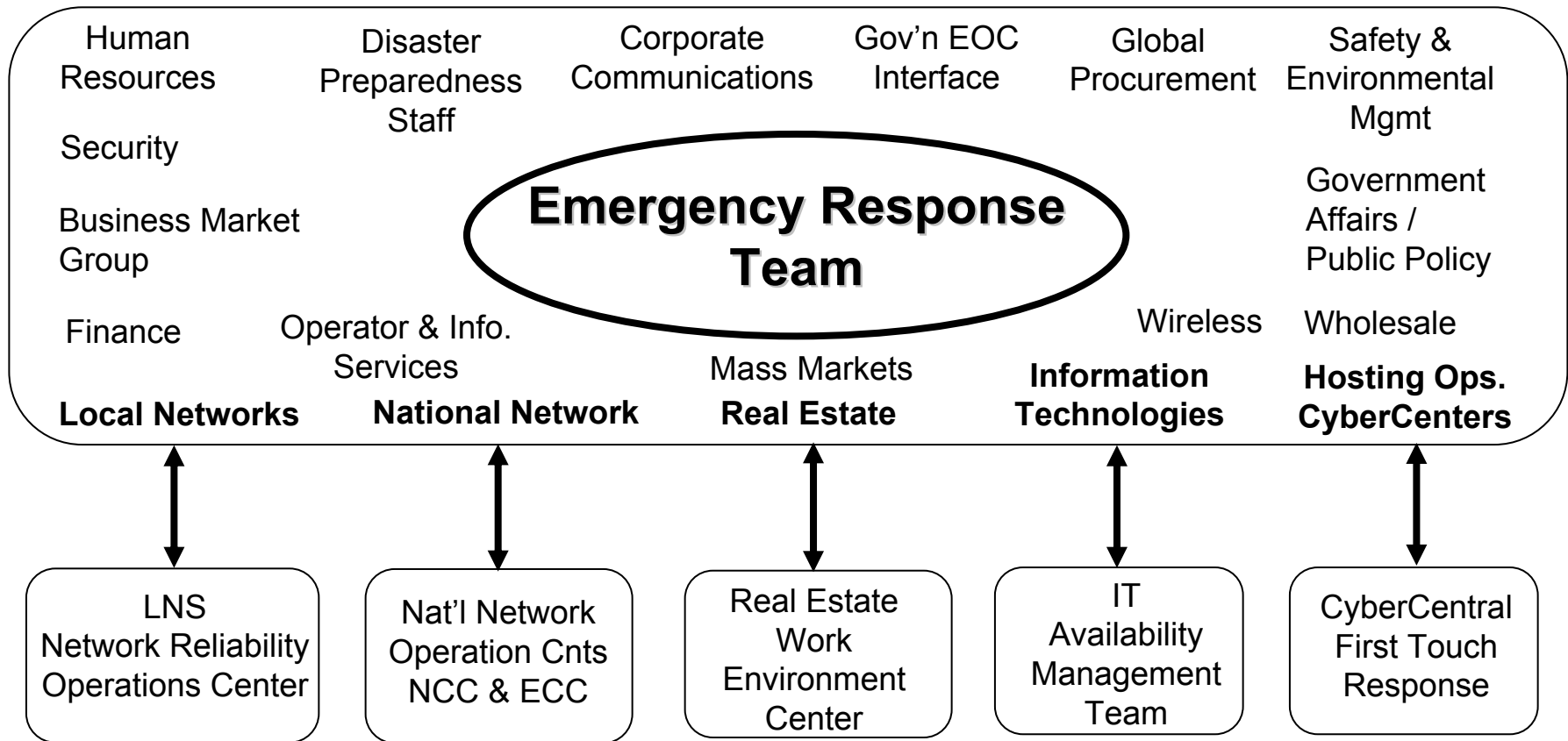
- Activated during disasters of extreme severity, including catastrophic natural disasters and/or national emergencies.
- Responsible for providing strategic leadership to the corporate emergency response team.
- Comprised of CEO and Sr. leadership
- Manages response to disasters impacting multiple regions or those that are non-geographic.
- Comprised of VP's from all business units.
- Manage the response to regionally-based disasters.
- Facilitate cross functional coordination and response across all impacted business units or support groups.
- Comprised of management from business functions/units with a presence or responsibility within each region.



12 Emergency Response Teams (ERTs)



Emergency Response Team Structure

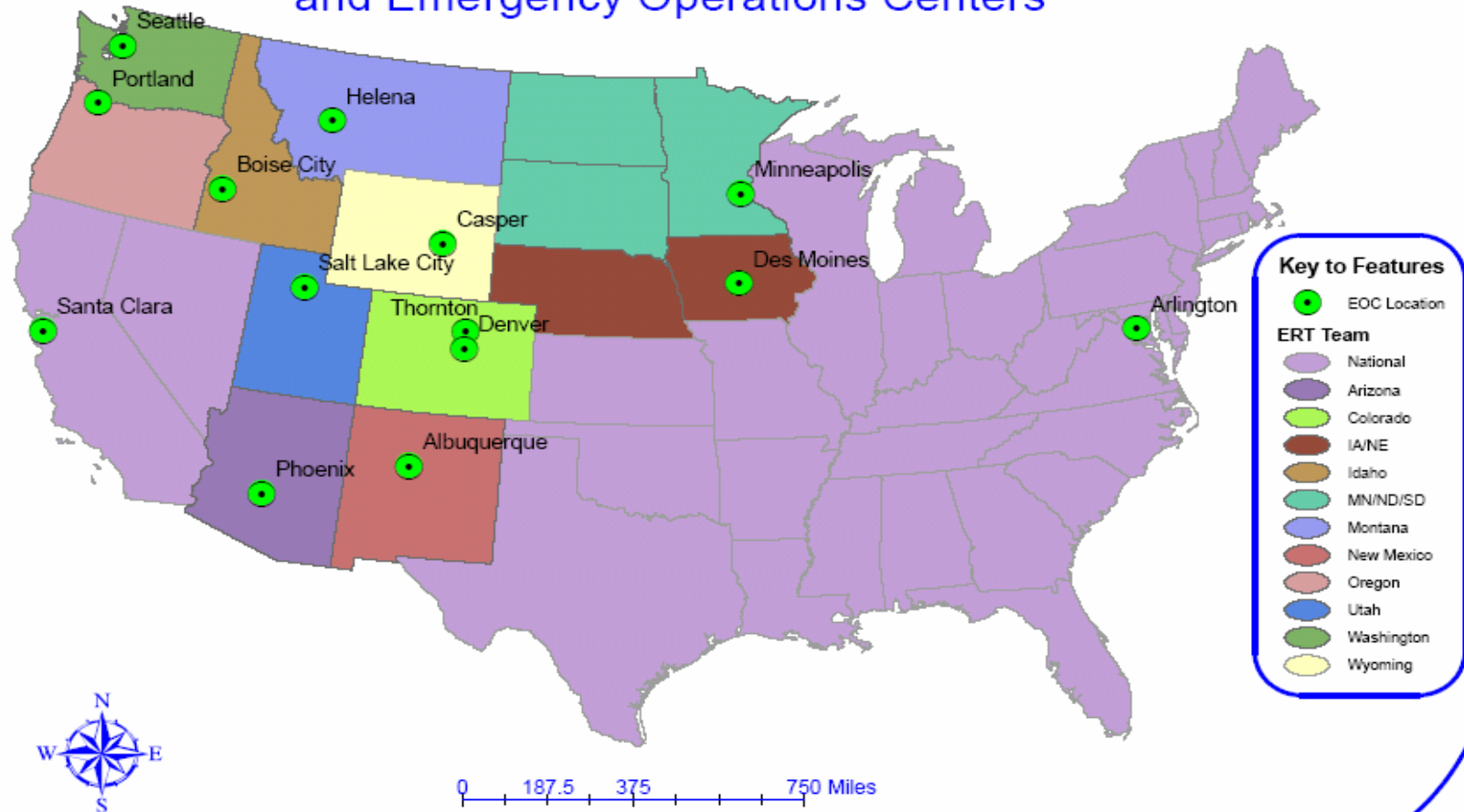


24 * 7 monitoring centers act as eyes and ears of the corporation

Business units invoke internal problem management processes and execute response plans in accordance with ERT priorities.



Qwest Regional ERT Teams and Emergency Operations Centers



Sources: ESRI; Qwest. Prepared by Qwest Disaster Preparedness. 11/2/2004



Qwest EOC/ERT Certification Requirements

- **All business units w/customers, employee, sites, or system in an ERT region must be represented on the team**
- **All business units represented by both a primary and alternate**
- **Government EOC interface identified & trained**
- **Activation process in place and tested tri-annually**
- **All team members trained**
- **Annual exercise conducted**
- **EOC supported by stand-by power**
- **Alternate EOC location identified**
- **Communication tools - primary and alternate - in place and functional**
- **Office supplies and first aid kit on-site**
- **Local maps available for review**



LEC & CLEC Service Restoration Priorities

- **Critical network components required to facilitate restoration**
- **Telecommunications service priority (TSP)**
 - **TSP restoration priority 1**
 - **TSP provisioning priority E**
 - **TSP restoration priorities 2-5**
 - **TSP provisioning priorities 1-5**
- **Emergency services**
- **Business customers with restoral contracts**
- **Residential - community at large**



Disaster Recovery Resources & Capabilities

- **Alternate communications capabilities –**
 - **High frequency radios in 10 EOCs**
 - **Satellite phones deployed to response teams, key executives, and EOCs**
 - **Alerting and coordinating network (ACN)**
 - **Gov't emergency telecommunications system**
 - **SHARES – mutual telco-Gov't HF radio capabilities**
- **Pre-negotiated vendor agreements for:**
 - **Network disaster prevention and support**
 - **Hardware restoration and recovery**
 - **Facility restoration and cleanup**



Resources & Capabilities Continued...

- **Mobile response units**
 - Three POP trailers for national network
 - Two DMS-100 switches for local network
 - Portable microwave radio response and recovery
 - Portable/trailerized power equipment
 - Mobile wireless communications – Cell Phones and COWS
- **Rapid Emergency Action and Countermeasures team- REAC** (This team is used for maintaining and recovering network or data center systems/equipment in potentially contaminated environments.)
- **Flight operations** – (used for rapid deployment of personnel and/or equipment)
- **LEC/ILEC mutual aid agreement process in place**



Homeland Security & Infrastructure Protection Initiatives Private – Public Partnerships

- Member organization; National Security Telecommunications Advisory Committee (NSTAC). This is an independent advisory committee to the President of the United States.
- Member organization Network Reliability Interoperability Council. Key priority is enhancing communication provider mutual aid agreements and disaster preparedness best practices. <http://nric.org>
- National Communications System (NCS) Provides early warning and close federal interaction during national emergencies. NCS is part of the Department of Homeland Security.
- Active with federal, state and local government agencies in disaster planning, exercises, and interdependency vulnerability mitigation.



NRIC

The Network Reliability
and Interoperability Council



Samples of Real Events.....

Blizzards, Flooding, Tornadoes, and Fires – both wild and building specific

- **Snowstorm and Power Outage, Utah**
- **Radio Tower Ice Up, Arizona**
- **Blizzard, Colorado/Wyoming**
- **Glacier Park Fire, Montana**
- **Bosque Wildfire, New Mexico**
- **Thornton Fire, Colorado**
- **Denver Tech Center Fire - Proactive Customer Care Issues, Colorado**
- **Major Water Intrusion to Critical Facility, Colorado**
- **F4 Tornado, Wright Wyoming**

Hurricanes

- **Jeanne**
- **Dennis**
- **Katrina**
- **Ophelia**
- **Rita**
- **Wilma**



Sample of Real Events.....

Cyber Incidents, Power Outages, Man Made Threats/Events, or Other

- **SQL Slammer Worm, Nation Wide**
- **Blaster Worm/Welchia Worm & other variants, Nation Wide**
- **Power Outage, East Coast**
- **Bomb Threat, Idaho**
- **Vandalism, New York**
- **NSSE, Democratic Convention, Boston**
- **NSSE, Republic Convention, New York**
- **Train derailment with hazardous chemical spill, Graniteville, SC**



Information prepared by.....

Qwest ***Disaster Preparedness*** ***Organization***



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