

LOGGING SAFELY AROUND HIGH VOLTAGE FACILITIES



Bruce Bashor
Journeyman Lineman
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Bonneville
POWER ADMINISTRATION

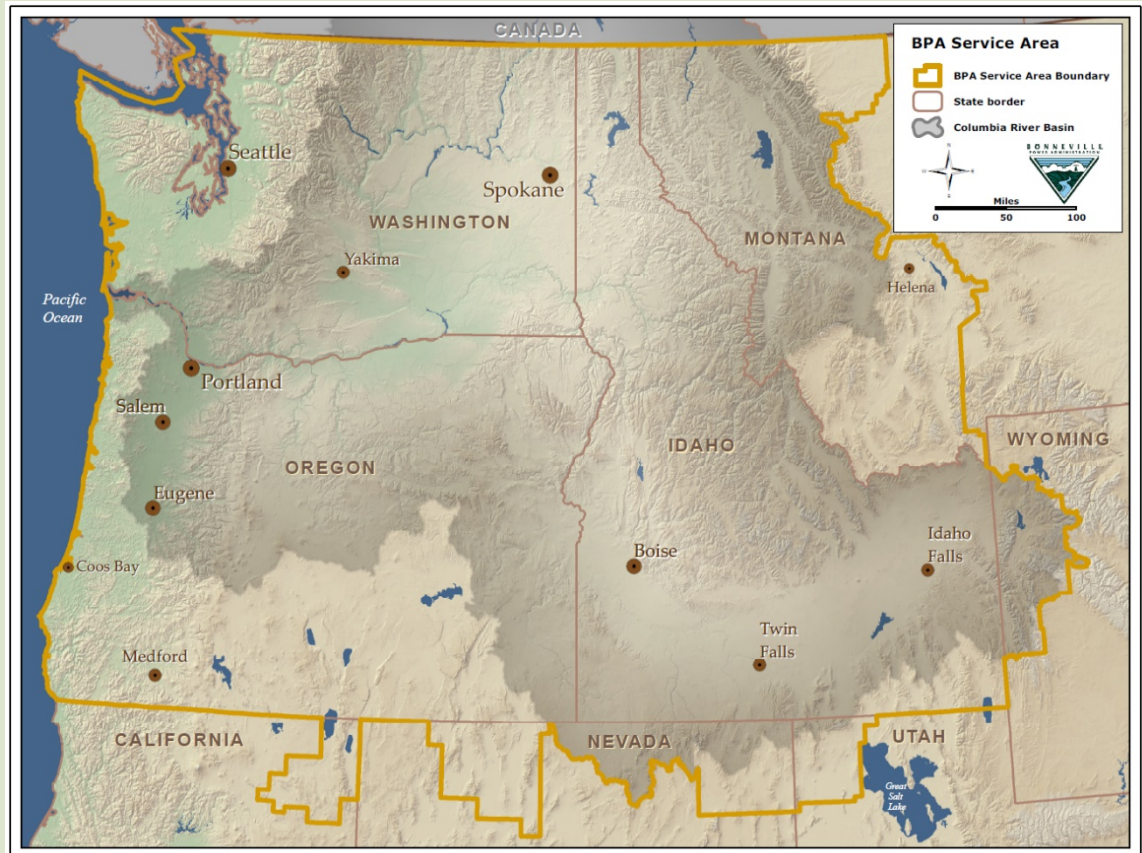


**Jennifer
Strombom**
Natural Resource
Specialist
Salem



THE BPA SYSTEM

- 15,000 circuit miles;
300 substations
- Primary Electrical Transmission System of the Pacific Northwest
- 8 state reach--Oregon, Washington, Idaho, Montana, and parts of Wyoming, Utah, Nevada, and California
- 7 Regions containing 16 Districts



BPA OBJECTIVE

YOUR SAFETY!

**COMMUNICATION
COORDINATION
COOPERATION**



BPA OBJECTIVE: COMMUNICATION

- Identify the utilities that could be affected at your logging site and communicate with them about your upcoming work plans.



Chemawa-Salem Alumina No.1

Mile 2

Structure 13

- Utility identifiers can be found on poles, towers, and pylons. This is the easiest and quickest way to relay your location.

Santiam- Chemawa No.1



Example of utility pole marker



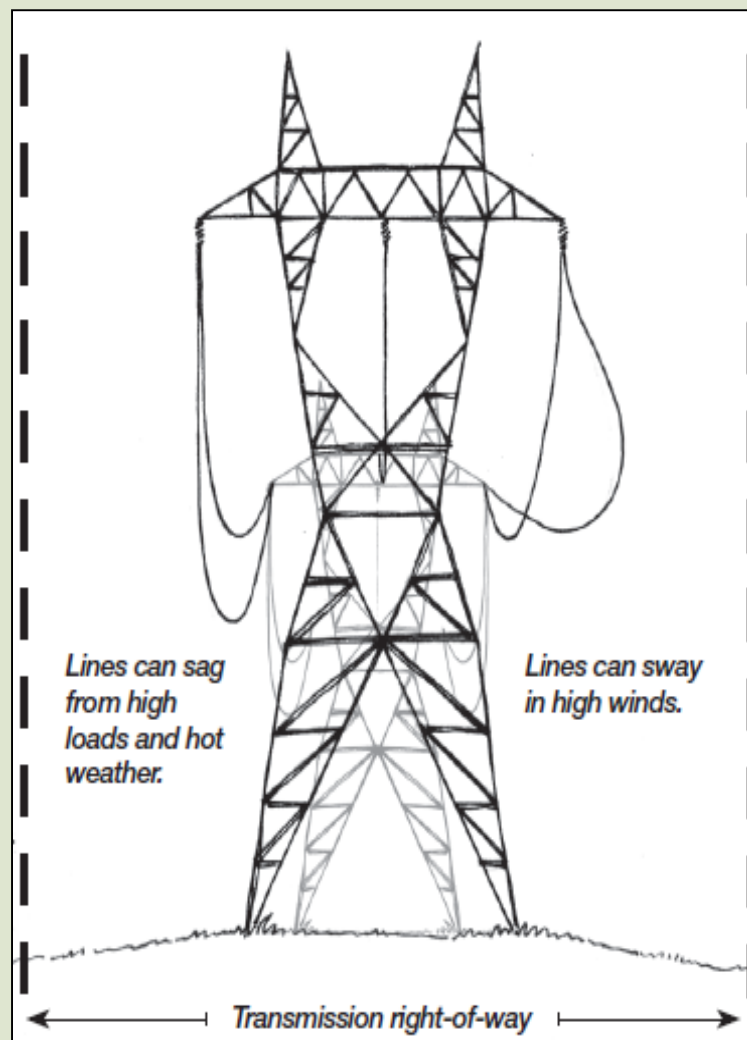
BPA OBJECTIVE: COORDINATION

- BPA and most other utilities can meet with you on site to take clearance measurements, go over landing and loading locations, and determine the safest means for you to complete the job.
- **These safety measures can only be done with notice!** Work with the utility to schedule for clearances (line outage) and hold orders (protective relays), safety watchers, temporarily lowering or moving lines, etc.



BPA OBJECTIVE: COOPERATION

- Stick with a plan! If plans change, communicate and re-coordinate with the utilities to ensure you are maintaining appropriate clearances between conductive booms, load lines, and equipment to energized facilities at all times.
- **BPA requires 25' of clearance at all times between conductors and equipment.**
 - Conductors rise and fall (sag) with increased ice or snow loading, increased electrical current, and temperatures, and can sway during strong wind events



BPA RESPONSIBILITIES

- **Public Safety**
 - Awareness, Education, Communication
- **System Reliability**
 - Keeping the Lights on
 - Keeping the Way Clear
- **Low-Cost Provider**
 - Preventative Maintenance
- **Environmental Stewardship**



PUBLIC SAFETY

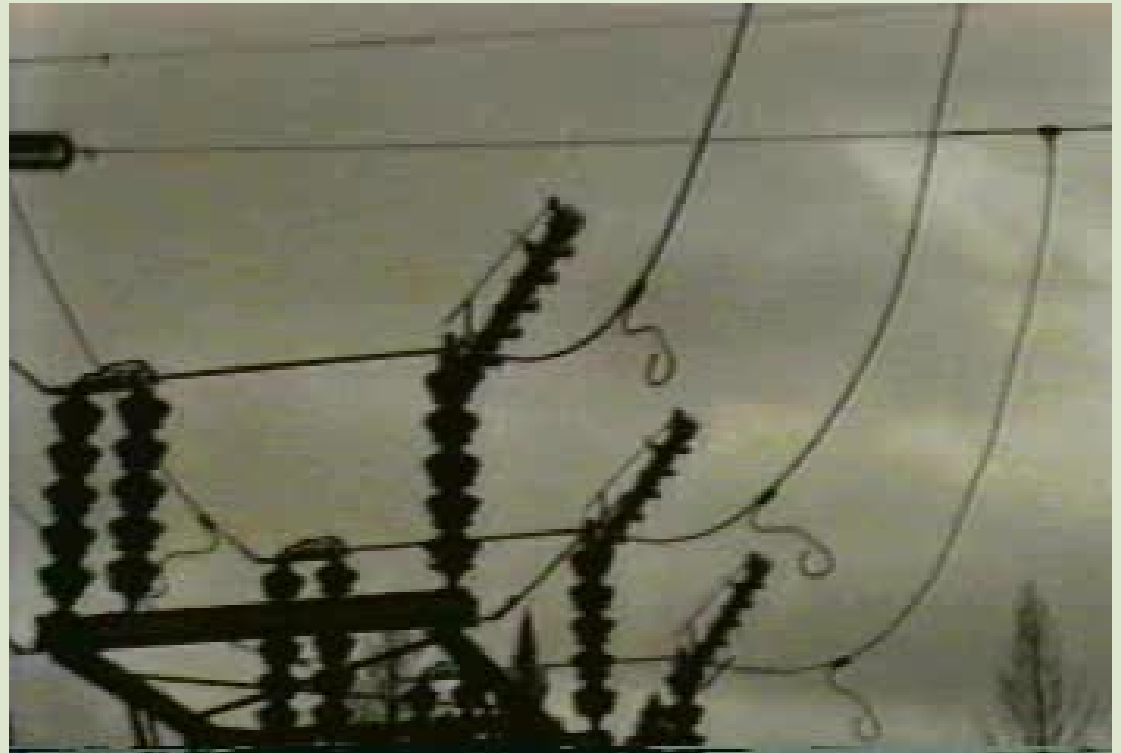
- Behavior of Electricity
- Industrial Activities
 - Ground Logging
 - Mechanized Logging
 - Cable Logging
 - Helicopter Logging
 - Construction and Development Activities





PUBLIC SAFETY: BEHAVIORS OF ELECTRICITY

- Moves @ 186,000 mi/sec (light speed)
- Path-to-Ground
- Step-and-Touch Potential
- Induced Voltages



PUBLIC SAFETY: GROUND LOGGING

- Trees
- Equipment
- Landings
- Final Site Condition



PUBLIC SAFETY: MECHANICAL LOGGING

- Heavy Equipment
 - Feller-Bunchers
 - Loaders/Boom Arms
 - Decking and Loading
- Final Site Condition
 - Landings
 - Roads
 - Debris piles



PUBLIC SAFETY: CABLE LOGGING

- Cables
 - Anchors
 - Shock Load Failures
- Guy Snubs
 - Induction
 - Fire Danger
- Final Site Condition



PUBLIC SAFETY: HELICOPTER LOGGING

- Landing and Loading Sites
- Line Clearance and Crossing



PUBLIC SAFETY: CONSTRUCTION AND DEVELOPMENT ACTIVITIES

- Construction and Development Activities
 - Heavy Equipment
 - Building/Structure Encroachments
 - Blasting—1000' buffer
 - Fueling Equipment—spark potential



PUBLIC SAFETY: WHAT YOU CAN DO

- **COMMUNICATE**

- Contact the Utility before work begins

- **COORDINATE**

- Develop Safe Operating Plan (Controlled methods)
- Schedule for flexibility (Clearance or Hold Order)

- **COOPERATE**

- Follow-through on decisions- **DON'T TAKE CHANCES**
- Let us know when your done
- Leave the site without future hazards (fringes, leave trees, access road improvements, gates, locks, etc.)





SYSTEM RELIABILITY

Keeping the Lights On

Continuity of Service

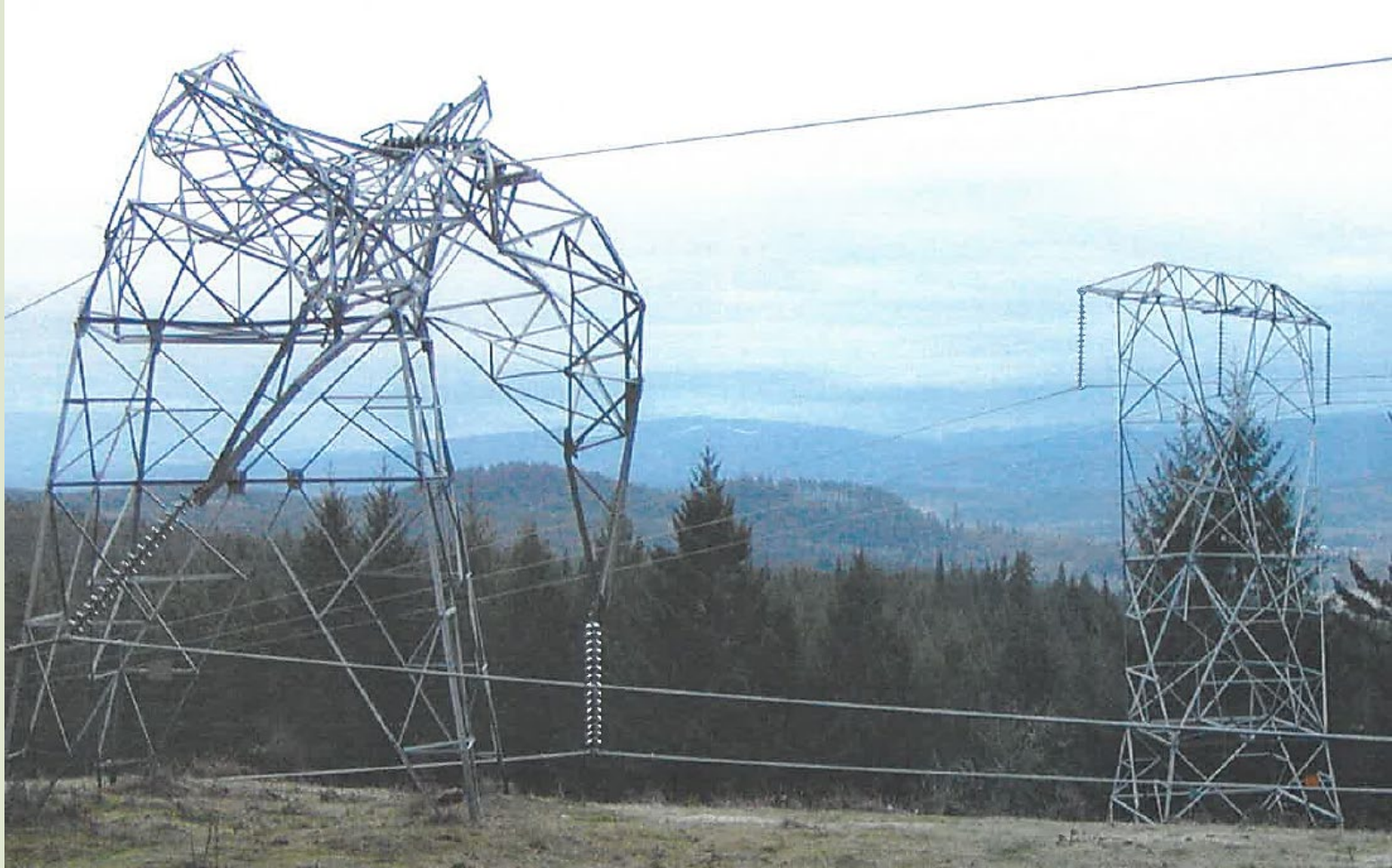
Cascading Effect

East Coast 2003

SYSTEM RELIABILITY: UNSCHEDULED OUTAGES



SYSTEM RELIABILITY: UNSCHEDULED OUTAGES



SYSTEM RELIABILITY: KEEPING THE WAY CLEAR

- Access Roads
 - Existing/Final Condition
 - Restrictive Access
 - Gates, locks, tank traps, boulders
- Structure Sites and Work Areas
 - Slash/debris piles
- Trees Left Behind
 - Leave and wildlife trees, logging fringes



SYSTEM RELIABILITY: LOW-COST PROVIDER

- Preventative Maintenance
 - Right-of-Way Vegetation Management Program
 - Danger Tree Program
 - Line Maintenance Program
- Safety Awareness



ENVIRONMENTAL STEWARDSHIP



Maintenance designed in accordance with all
Federal Environmental Requirements



IF THINGS GO WRONG: EQUIPMENT

- Stay on or in your equipment
- Move equipment away from lines if possible
- If you must leave equipment, JUMP as far away as possible with both feet together, hop away
- Don't touch equipment and ground together
- Stay Clear of all downed power lines and any objects or equipment contacting power lines
- Keep all others away
- Activate EMS (call 911) if needed
- Call Utility Immediately



IF THINGS GO WRONG: TREE FELLING

- Before you begin- Use control measures to ensure trees fall away from the power lines (wedges, jacks, equipment, winch lines, etc.) and ensure you have an emergency route to get away from the base of the tree.
- If the tree goes towards the power lines, run for your life!
- Do not go back for your equipment.
 - If a tree comes within arcing distance or contacts energized lines, electricity will flow down the tree and into the roots and into the earth below.
- Keep all others away
- Activate EMS (call 911) if needed
- Call Utility Immediately



IF THINGS GO WRONG: GROUND PERSONNEL

- Get Clear, Stay Clear, Keep Others Away
- Stay Clear of all downed power lines and any objects or equipment contacting power lines
- Activate EMS (call 911) if needed
- Contact Utility Immediately



BPA CONTACTS

Counties	Contacts
Multnomah, N. Clackamas, Washington (Portland Metro Area), Columbia, Clatsop	Troy Anderson 360-418-2590 Troy Dalrymple 360-418-8002
S. Clackamas, Marion, Linn, Polk, Yamhill, Tillamook, Rural Washington	Nathan Ward 503-304-5962 Jim Turner 503-304-5961
Benton, Lane, E. Douglas, SW Linn, E. Lincoln	Nick Wenzl 541-988-7051 <u>Bruce Bashor 541-988-7052</u>
W. Lincoln, W. Douglas, Coos, Curry	Andy Crosby 541-751-4001 Doug Williams 360-949-3243
Hood River, Wasco	Scott Williams 541-296-4684 / 4685 ext. 144

EMERGENCY: BPA Dittmer Dispatch Center
24/7 contact @ 800-392-0816



THANK YOU QUESTIONS?

