



Department of Energy

Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

FREEDOM OF INFORMATION ACT/PRIVACY PROGRAM

March 28, 2018

In reply refer to: BPA-2018-00182-F

Jennifer Boyle
Bullivant Houser Bailey
888 SW Fifth Avenue, Suite 300
Portland, Oregon 97204
Jennifer.Boyle@bullivant.com

Dear Ms. Boyle:

This communication is the Bonneville Power Administration's (BPA) final response to your request for agency records made under the Freedom of Information Act, 5 U.S.C. § 552 (FOIA). Your request was received by BPA on October 31, 2017 and formally acknowledged on November 8, 2017.

Request

“...any and all non-privileged documents relating to the power outage at the Halsey Paper Mill located at 30470 American Drive, Halsey, Oregon 97438 caused by an incident on July 25, 2013 when a tree fell onto a transmission line. This request includes, but is not limited to: All correspondence, both internal and external, including emails, and memos; all notes, including handwritten notes; reports and report drafts; presentations; and any other documents associated with this incident involving Bonneville Power Administration, Wilson Construction, James M. Ellett Construction, and Dodge Logging LLC.”

Response

BPA has conducted electronic searches of records in the following agency offices:

Construction Management & Inspection
Vegetation/Access Road Management
Transmission Line Management - Alvey
Transmission Field Services - Eugene District
Civil Design

BPA has gathered and reviewed the 187 pages of records responsive to your request. In accord with the FOIA, BPA is herein releasing 187 pages of responsive agency records with certain minimal redactions applied to 5 pages, as explained below.

Exemption 6

BPA has applied minimal redactions under 5 USC Sec. 552(b)(6) (Exemption 6) to protect personal privacy. Exemption 6 of the FOIA protects information about individuals in "personnel and medical files and similar files" when the disclosure of such information "would constitute a clearly unwarranted invasion of personal privacy." The application of Exemption 6 requires balancing the public's interest in acquiring the information against the individual's privacy interests. If a significant privacy interest is found to exist, but there is no FOIA public interest in disclosure, the information should be protected. Here, BPA asserts Exemption 6 to withhold a limited amount of information including the employee contractor names on the incident/accident reports and telephone numbers which are not related to the business of BPA or the Executive Branch. BPA can find no public interest in the forgoing information and has therefore redacted it under Exemption 6.

Records Not Subject to Discretionary Release

Please be aware that the right of privacy asserted belongs to the individual, not to the agency, and information that falls under Exemption 6 cannot be discretionarily released. Therefore, BPA did not analyze Exemption 6 redactions under any discretionary release guidelines.

Certification

Your FOIA request is now closed with all available agency records provided. Pursuant to 10 C.F.R. § 1004.7(b)(2), I am the individual responsible for the release and redaction determinations described above.

Fee

You previously agreed to pay the applicable fees for processing the above request. The FOIA provides for the assessment of fees for the processing of requests (see 5 U.S.C. § 552(a)(4)(A)(i); see also 10 C.F.R. § 1004.9(a)). For purposes of assessment of any fees, you have been categorized as a "commercial use" requester. Requesters in this category are charged fees for search, review, and duplication costs associated with the request. BPA estimates a fee at or below the two free hours allowed for by the FOIA. Due to the minimal costs associated with this request, BPA is waiving the applicable fees.

Appeal

This decision, as well as the adequacy of the search, may be appealed within 90 calendar days from your receipt of this letter pursuant to 10 C.F.R. § 1004.8. Appeals should be addressed to:

Director, Office of Hearings and Appeals,
HG-1, L'Enfant Plaza
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585-1615

The written appeal, including the envelope, must clearly indicate that a FOIA appeal is being made. You may also submit your appeal to OHA.filings@hq.doe.gov, including the phrase "Freedom of Information Appeal" in the subject line. The appeal must contain all of the elements required by 10 C.F.R. § 1004.8, including a copy of the determination letter. Thereafter, judicial review will be available to you in the Federal District Court either: 1) in the district where you reside; 2) where you have your principal place of business; 3) where DOE's records are situated; or 4) in the District of Columbia.

You may contact BPA's FOIA Public Liaison, Sarah Westenberg, at the address on this letter header for any further assistance and to discuss any aspect of your request. Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services they offer. The contact information for OGIS is as follows:

Office of Government Information Services
National Archives and Records Administration
8601 Adelphi Road-OGIS
College Park, Maryland 20740-6001
E-mail: ogis@nara.gov
Phone: 202-741-5770; Toll-free: 1-877-684-6448; Fax: 202-741-5769

Questions about this communication may be directed to James King, CorSource Technology Group LLC, at jjking@bpa.gov or 503.230.7621.

Sincerely,



C. M. Frost
Freedom of Information/Privacy Act Officer

Enclosed: responsive agency records

Line name ALBANY-EUGENE #1115 Adno: _____ Date: 7.25.13

| Str. | style | A | B | C | X-B | Arm | Notes |
|------|-------|---|---|---|-----|-----|--|
| 16/4 | A-1 | | | | | | INSTALLED A THREE PHASE SHORT AND GROUND AT STRUCTURE. RIGGED POS.#1 CONDUCTOR AND LOWERED COND. TO THE GROUND. REMOVED TREE. RETINNED CONDUCTOR. REMOVED GROUNDS. |
| | | | | | | | |
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| | | | | | | | |

Other work done, extra materials, or Comments

PHOTOGRAPHED INCIDENT AND FILLED OUT TREE CAUSED INCIDENT REPORT.

- TIME -

TRAVEL 1.50 HRS OT
 WORK 3.00 HRS OT
 4.50

ADMIN 1.00 ((b)(6) - WRITING REPORT, ETC.) OT

Place check mark next to trucks that were used & list hours for each crew member.

| | | | | |
|----------|-----|--------------|------|---|
| Bruce B. | | 1530 TO 2100 | | Lunch From _____ to _____ NO MEALS TAKEN Boom Truck Bucket Truck Pole Truck and Trailer Backhoe and Trailer Dump Truck Flatbed |
| Vince M. | | 1530 TO 2000 | | |
| Nick W. | | | | |
| Dave E. | | 1530 TO 2000 | | |
| Tom G. | | | | |
| Alan E. | | | | |
| Randy B. | | | | |
| Mat. | TLM | Helo | Time | |

| |
|--------------------|
| Description |
|--------------------|

| |
|---|
| ALBANY-HALSEY MILL SECTION OF ALBANY-EUGENE NO 1 115KV LINE |
|---|

Reason: MAINTENANCE**System In Control:** BPA REQUEST**Switch Time:** Thu 25-Jul-2013 1600 (PDT)**Work Duration:****Work Time:** Thu 25-Jul-2013 1630 (PDT)**Duration Type:** DAILY**I/S Time:** Thu 25-Jul-2013 1800 (PDT)**Outage Duration:** 2.0 HRS/1 DAYS

| Tag Type | Tag Holder | Tag Reason |
|----------|------------|-------------------------------|
| W | (b) (6) | REMOVE TREE FROM LINE AT 16/4 |

Maintenance Headquarters: ALVEY

| Note Type | Note |
|-----------|---|
| SWITCHING | ENSURE N.O. LBD B-975 AT HARRISBURG CLOSED MAKING UP THE LOOP BEFORE BREAKING THE LOOP WITH ALBANY PCB B-1272. DROP 17 MILES OF LINE WITH B-1229 LINE SECT DISC. CLEARANCE LIMITS WILL BE B-1272 L/S AND A/B DISCONNECTS AT ALBANY AND B-1229 LINE SECT DISC AT 18/2. |

Requested by: ZELLER,EDWIN**Requested on:** Thu 25-Jul-2013 1555 (PDT)**Submitted by:****Submitted on:****Work required best date:****Updated by:** ZELLER,EDWIN**Updated on:** Thu 25-Jul-2013 1601 (PDT)

Description

-HOLD- ALBANY-HARRISBURG (B-975) SECTION OF ALBANY-EUGENE NO 1 115KV LINE INCLUDING HALSEY MILL TAP

Reason: MAINTENANCE**System In Control:** BPA REQUEST**Switch Time:** Thu 25-Jul-2013 0700 (PDT)**Work Duration:****Work Time:** Thu 25-Jul-2013 0800 (PDT)**Duration Type:** DAILY**I/S Time:** Thu 25-Jul-2013 1730 (PDT)**Outage Duration:** 10.5 HRS/7 DAYS

| Tag Type | Tag Holder | Tag Reason |
|----------|-------------------------------|--|
| H | (b) (6) (WILSON CONSTRUCTION) | REMOVE DANGER TREES ALONG ALBANY-HARRISBURG SECTIONS OF ALBANY-EUGENE LINE BETWEEN 16-23MILE |

Maintenance Headquarters: ALVEY

| Note Type | Note |
|-----------|---|
| SWITCHING | C/O RECLOSING AND TAG B-1272 TERMINAL AT ALBANY FOR HOLD ORDER. ALVY OPS TO WORK WITH EPUD TO PICK UP AND RELEASE ASSURANCE OF NO BACKFEED. (EPUD DISPATCHING 541-284-7273 OR 541-744-7495)DOUG BARAB OF EPUD SAYS THEY CAN SUPPORT THIS. |
| SWITCHING | TAGS FOR HOLD ORDER WILL REMAIN IN PLACE BUT HOLD ORDER WILL BE RELEASED AND PICKED UP DAILY. WORKING HOURS WILL BE MONDAY-FRIDAY 0700-1730, NOT WORKING WEEKENDS. ASSURANCE OF NO BACKFEED WILL BE RELEASED AT END OF WORK. |
| SWITCHING | (b) (6) OF WILSON CONSTRUCTION CALLED REQUESTING A HOLD ORDER ON THE ALBA-HARB SECTION OF THE ALBANY-EUGENE #1 115KV LINE. THEY WILL BE REMOVING 'DANGER TREES' BETWEEN ALBANY AND HARRISBURG (STRUCTURES 1/1 THRU 23/9). WAITING ON CONFIRMATION OF DATES FROM WILSON CONSTRUCTION. (b) (6) CELL: (b) (6). |

Requested by: SEVIER,RON**Requested on:** Thu 11-Jul-2013 1034 (PDT)**Submitted by:****Submitted on:****Work required best date:****Updated by:** ZELLER,EDWIN**Updated on:** Thu 25-Jul-2013 1527 (PDT)

TREE CAUSED OUTAGE ON ALBANY-EUGENE #1 115 KV LINE
AT 16/4 ON 7.25.13

ON JULY 25TH 2013 AT APPROX. 1755 HRS I MET WITH
(b) (6) TO ASK
EACH OF THEM WHAT HAPPENED CAUSING THIS INCIDENT.

(b) (6) HAS OPERATED "FELLER/BUNCHER" MACHINES FOR APPROX.
22 YEARS AND HAD BEEN ON THIS JOB FOR FOUR DAYS.
HE AND HIS "SPOTTER" HAD WALKED THE SPANS OF TREES
THEY WERE GETTING READY TO REMOVE ON THE EAST SIDE OF
THE ROW AND FORMULATED A PLAN AS WHICH TREES TO
REMOVE FIRST. HIS "SPOTTER" - (b) (6) WAS
WEARING A HAND HELD RADIO AND STAYING APPROX. 40'
AWAY FROM THE "TEMPO" BRAND FELLER/BUNCHER MACHINE.

(b) (6) WOULD WATCH THE TREES AND COMMUNICATE VIA THE
RADIO DIRECTLY TO (b) (6) AS HE WOULD CUT EACH TREE.
BOTH MEN WERE WORKING UNDER A "HOLD ORDER" BEING HELD
BY (b) (6). THE WEATHER WAS HOT BUT "CALM" WHEN
(b) (6) WALKED THE SPAN OF TREES. AS THEY STARTED
CUTTING THE FIRST TREE THE WINDS BEGAN TO "PICK UP"
AND "SWIRL". AS (b) (6) WAS CUTTING THE THIRD TREE
AND ATTEMPTING TO SWING THE TREE AWAY FROM THE LINE
TO LAY IT DOWN IN A HARVESTED FIELD A "LARGE" GUST
OF WIND CAME UP AND (b) (6) LOST CONTROL OF THE
LARGE COTONWOOD. THE WIND PUSHED THE TREE DUE
WEST INTO THE LINE PINNING THE POSITION # 1
CONDUCTOR TO THE GROUND APPROX. 95' BOL OF 16/4.
THE LINE RELAYED OUT. (b) (6) CALLED (b) (6)
IMMEDIATELY TO INFORM HIM OF THE SITUATION AND
THAT THEY WERE BOTH OK. (b) (6) WAS NOT AT THE IMMEDIATE
SITE AT THIS TIME BUT WAS CLOSE BY LOOKING AT
UPCOMING TREES. MUNROE DESPATCH CALLED (b) (6) SHORTLY
AFTER HE RECEIVED THE CALL FROM (b) (6)

END OF REMARKS: (b) (6)

BPA - ALVEY
LINE FOREMAN I

U.S. DEPARTMENT OF ENERGY BONNEVILLE POWER ADMINISTRATION TREE-CAUSED OUTAGE REPORT

Name of Inspector (b) (6) Date of Inspection 7-25-13

TRANSMISSION LINE DATA
Name (Operated as) ALBANY-EUGENE #1 115 KV LINE Location of Outage (Structures) 95' BOL OF 16/4
Date Outage Occurred 7-25-13 Duration of Outage ?

WEATHER AT THE TIME OF OCCURRENCE
 Fair and Calm 91°F 14% Humidity Heavy Rain
 None to Moderate Wind Snow
 Strong Wind (Indicate direction) NE 15 MPH Ice
 None to Moderate Rain Not Known

TREE INSPECTION
Species COTTONWOOD Approximate DBH 28" Approximate Height 115'

LOCATION OF TREE
Distance from Centerline 81'
 Uphill Left Side
 Downhill % Slope of ground 0%
 Right Side On or Off ROW? On ? Off

TOP OF FALLEN TREE POINTED IN WHAT DIRECTION? (Check one)
 North Northeast East
 Southeast South Southwest
 West Northwest

VISIBLE SIGNS OF DEFECT
 Dead Top Visible Conks Root Damage
 Snag Basal Scars Burn Scars
 Forks Multiple Stems Lighting Scars
 Frost Damage Sun Scald Undermined Roots
 Bear Damage Basal Resinosis None Obvious

GENERAL CONDITION OF TREE BEFORE FAILURE
 Yellowing Foliage Thinning Foliage Interior Decay
 Shallow Roots Distressed Cone Crop Healthy

REASON FOR FALL OR BREAK
 Root Rot Heart Rot Dead/Dying Tree
 Ice or Snow Load Old Break Erosion/Cut Bank
 Human Caused (cut) FELLER/BUNCHER Logging Fringe High Wind
 Standing Water Saturated Soils Broken Branch
 Broken Stem Logging Activities None Obvious

Type of soil, if known UNKNOWN - HARD/DRY

If human caused, did you talk with anyone on site? If yes, what comments were made? (Please type comments below) YES NO

(b) (6) - FELLER/BUNCHER "OPERATOR"
(b) (6) "SPOTTER"
(b) (6) SUPERINTENDENT
WILSON CONSTRUCTION COMPANY
503-263-6882 OFFICE
503-729-0075 CELL
HOLDER OF "HOLD ORDER"

GENERAL REMARKS SEE ATTACHED COMMENTS, SEE PHOTOS TAKEN AT INCIDENT SITE.

The DIR report shows the amount of load lost on July 25th was **only 21-MW**, which is only about half of the actual total mill load (pulp mill + paper mill).
SCADA data shows that the actual amount of load lost was about **44-MW**.

SCADA data also shows that after initial service restoration, portions of the Halsy Mill process load had to be taken off-line -- most likely for removal of damaged product and possible equipment repair. As-of mid-day on the 29th, full operation of all processes appears to still not have been reached.

John Schaad
BPA Customer Service Planning & Engineering
Eugene, Oregon
541-988-7421
jgschaad@bpa.gov

From: Pruitt,David R (BPA) - TFEB-ALVEY
Sent: Thursday, July 25, 2013 6:05 PM
To: Ochoa,J. Diego (BPA) - TSE-TPP-2; Coulombe,Dale A (BPA) - TFE-ALVEY; Johnson,Douglass E (BPA) - TFCB-COVINGTON; Schaad,John G (BPA) - TPCV-ALVEY; Vassallo,Gregory L (BPA) - TPCV-ALVEY; Wenzl,Nicholas J (BPA) - TFEF-ALVEY; Meier,Gerald D (BPA) - TFEB-ALVEY
Cc: Cramer,James C (BPA) - NF-PASCO; Bea,Brad A (BPA) - NF-WHSE
Subject: RE: Contract tree crew fell tree into energized ALBA-EUGE line

I am forwarding this to our line foreman Nick Wenzl who will have more information about the tree since his crew is cleaning up the mess and to the safety office who have already been notified of the incident.

I hope there is an investigation planned to answer all of these questions.

This project is not being run by the field crews, so you may need to direct your questions to the PM Erich Orth and CM Dale McLain for the Albany-Eugene line rebuild job. Wilson construction was awarded the contract for the line rebuild which included removal of danger trees. My understanding is that the danger trees were being removed by a subcontractor for Wilson. I have no idea if we normally use them or not.

Thank you,

Dave Pruitt
Alvey Chief Substation Operator III
TFEB-ALVEY
Office: (541) 988-7011
DATS: 922-613
Cell: (541) 206-4076

From: Ochoa,J. Diego (BPA) - TSE-TPP-2
Sent: Thursday, July 25, 2013 5:50 PM

To: Coulombe, Dale A (BPA) - TFE-ALVEY; Johnson, Douglass E (BPA) - TFCB-COVINGTON;
Schaad, John G (BPA) - TPCV-ALVEY; Vassallo, Gregory L (BPA) - TPCV-ALVEY

Cc: Pruitt, David R (BPA) - TFEB-ALVEY

Subject: RE: Contract tree crew fell tree into energized ALBA-EUGE line

I already heard from Emerald on this and with good reason, they are pretty upset. Both mills went offline (“44 MW offline and 350 people standing around”).

Dave,

- 1) How was this tree being brought down? Were they working on sections of the tree and a limb fell on the line **OR** was this a tree falling on the line?
- 2) Was this a contract crew we normally use on our lines? It was Wilson Construction working on the line, correct?

Diego

From: Hart,Craig D (BPA) - TOV-MEAD
Sent: Thursday, July 25, 2013 10:52 PM
To: Grissom,Greg E (BPA) - TOV-MEAD; TOD - TOV Notification List
Subject: RE: Albany- Eugene #1 115kv lline danger tree incident update

1921: Line repairs made and line restored to normal operation.

Craig Hart
MCC Senior Dispatcher

From: Grissom,Greg E (BPA) - TOV-MEAD
Sent: Thursday, July 25, 2013 4:47 PM
To: TOD - TOV Notification List
Subject: FW: Albany- Eugene #1 115kv lline danger tree incident update

1631: All customer load restored to normal.

From: Grissom,Greg E (BPA) - TOV-MEAD
Sent: Thursday, July 25, 2013 3:46 PM
To: TOD - TOV Notification List
Subject: FW: Albany- Eugene #1 115kv lline danger tree incident update

1545: The clearance to remove the tree will be issued to a BPA crew rather than a Wilson crew.

From: Grissom,Greg E (BPA) - TOV-MEAD
Sent: Thursday, July 25, 2013 3:41 PM
To: TOD - TOV Notification List
Subject: Albany- Eugene #1 115kv lline danger tree incident

At 1501 today, the Albany- Harrisburg section of the Albany- Eugene #1 115kv line relayed. This line section was under a Hold Order for danger tree removal by a Wilson Construction crew. The Hold Order holder was immediately contacted. He informed us that a tree had fallen into the line, no personnel were injured. We directed his crew to stand down for the remainder of the day. A different Wilson Construction crew will remove the tree from the line under the protection of a clearance. Safety office personnel have been notified.

Forty three MW of load was dropped at Halsey Mill during the outage. We are presently switching to clear the line section for the tree removal and to re-energize the customers.

Greg Grissom
MCC senior dispatcher

Thank you Steve and Jim for your assessment.

Dale and Kathleen,
Please have Wilson comply with Steve and Jim's request below. Thank you.

Erich

From: Cramer,James C (BPA) - NF-PASCO
Sent: Monday, July 29, 2013 03:56 PM Pacific Standard Time
To: Narolski,Steven W (BPA) - TFBV-DOB1; Orth,Erich T (BPA) - TEP-TPP-3
Cc: Pruitt,David R (BPA) - TFEB-ALVEY
Subject: RE: Albany Eugene Danger Tree Safety Report 7.26.13

The Safety Office agrees and supports Mr. Narolski's request and assessment.

James Cramer
Deputy Safety Officer
Bonneville Power Administration
PH (509) 542-5433
CL (509) 539-5213

From: Narolski,Steven W (BPA) - TFBV-DOB1
Sent: Monday, July 29, 2013 3:12 PM
To: Orth,Erich T (BPA) - TEP-TPP-3
Cc: Cramer,James C (BPA) - NF-PASCO
Subject: RE: Albany Eugene Danger Tree Safety Report 7.26.13

Hi, Eric,

Thank you for Wilson's report.

Wilson states;

As stated above, Wilson Construction Company is awaiting a report from Jim Ellet Construction Co, and the investigation is ongoing. Preliminary actions are as follows: Operators of feller-bunchers will no longer throttle down while cutting trees and will use their radios for communicating with others. Operators will cease work if wind impacts their ability to control loads. Prior to removing trees, the entire area will be surveyed for additional options as to where to stage equipment or where to place fallen trees. In addition, this incident was discussed with the crew at the following morning tailboard, and will be shared with all Wilson employees.

In my professional opinion, Wilson should not be allowed to resume vegetation clearing operations system wide until the report from Jim Ellet Construction Company is received.

Furthermore, I am not confident that the cite mitigation plan mentioned above goes far enough to prevent a similar incident. There is a certain level of "street smarts" and lessons learned that a professional logger would know. Felling a top-heavy tree with full live crown with any amount of wind is problematic. If these trees trully all lean towards the railroad and powerline, then some other arresting devise (safety ropes, extra equipment guiding the tree in a safe direction, etc.) needs to be applied. Or the entire line needs to have a clearance to remove all of these trees safely without further incident.

Steve Narolski
Vegetation Mgmt. & Access Maintenance Program Manager
Vancouver Office: (360)418-2984
Cell: (360)356-2841
Fax: (360)418-2261

From: Orth,Erich T (BPA) - TEP-TPP-3
Sent: Saturday, July 27, 2013 3:36 PM
To: Narolski,Steven W (BPA) - TFBV-DOB1
Cc: Cramer,James C (BPA) - NF-PASCO
Subject: Fw: Albany Eugene Danger Tree Safety Report 7.26.13

Steve,
Attached is Wilson's initial report.

Erich

From: Woodard, Chuck [mailto:cwoodard@wilsonconst.com]
Sent: Friday, July 26, 2013 04:59 PM Pacific Standard Time
To: May,Jennifer M (BPA) - NF-TPP-1; Hinick,Kathleen (BPA) - NSC-TPP-2; Orth,Erich T (BPA) - TEP-TPP-3; McLain,Dale D (CONTR) - TETQ-TPP-3; kimberly.martinez@jacobs.com <kimberly.martinez@jacobs.com>
Cc: Crites, JR <jcrites@wilsonconst.com>; Turner, Gerald <gtturner@wilsonconst.com>; contractadmin <contractadmin@wilsonconst.com>; Mcginnis, Mike <mcginnis@wilsonconst.com>; Peveler, Mace <mpeveler@wilsonconst.com>
Subject: Albany Eugene Danger Tree Safety Report 7.26.13

All,

Attached is the Albany Eugene Danger Tree Safety Report from the incident on July 25, 2013.
Thank you.

Respectfully,

Chuck Woodard
Project Manager
Wilson Construction Co
1190 NW 3rd Ave.

PO Box 1190
Canby, OR 97013
Phone: (503) 263-6882
Fax: (503) 263-6946
www.wilsonconst.com

"Building from our past, powering the present, with our vision on the future"

Nick,

Can you give me more detail as to what you mean by "TLM's work" and who a reminder should be sent to? If you're talking about DT removal, there are DT removal contracts occurring on a regular basis. If you are talking about line work, there are contractors performing line work on BPA lines and contractors can take clearances on BPA lines for the purpose of performing that work.

Or are you talking about a "tree crew" removing a tree from off a line and rather than someone with line / structure / HV electrical expertise. When you say TLM work are you talking about TLM in the generic linemen sense, meaning someone with line expertise should be looking for damage to the conductor or structures adjacent to the tree? Or, are you thinking there is a jurisdictional issue i.e. BPA vs Contractor?

I realize I'm asking a lot of questions, but I don't want to assume I think I know what you mean.

Anyway, you can either give me a call or send me back another E-mail and I'll try to address your questions / concerns.

Thanks
Aaron

-----Original Message-----

From: Wenzl,Nicholas J (BPA) - TFEF-ALVEY
Sent: Monday, July 29, 2013 9:51 AM
To: Sundberg,Aaron D (BPA) - TFL-CHEMAWA
Subject: FW: Emailing: 7305 4.JPG, 7305 Tree Caused Outage Details.doc, 07-25-13 7305 Tree Outage Report1.PDF, 7305 outage.pdf, 07-25-13 7305 Tree Outage Report 2.PDF, 7305 1.JPG, 7305 2.JPG, 7305 3.JPG

I have one more email to send you about dispatch letting Wilson respond to clear up the tree. Maybe it was just a mix up with the excitement going but maybe a reminder needs to be sent that is TLM's work.

Thoughts?

I have spoken with our customers (Emerald PUD) and they do not want a repeat occurrence. It was extremely costly to them and to their customers at Halsey Mill. This outage resulted in a loss of 44 MW and shut down operations at Halsey Mill for 90 minutes. It took over 24 hours for them to get the mill up and running again.

At the district level we are prepared to clear the line section beginning August 6 for the work to continue, pending completion of the report and safety office approval.

Thank you,

Dave Pruitt

Alvey Chief Substation Operator III

TFEB-ALVEY

Office: (541) 988-7011

DATS: 922-613

Cell: (541) 206-4076

From: Orth,Erich T (BPA) - TEP-TPP-3
Sent: Monday, July 29, 2013 4:02 PM
To: Cramer,James C (BPA) - NF-PASCO; Narolski,Steven W (BPA) - TFBV-DOB1; McLain,Dale D (CONTR) - TETQ-TPP-3; Hinick,Kathleen (BPA) - NSC-TPP-2
Cc: Pruitt,David R (BPA) - TFEB-ALVEY; Wenzl,Nicholas J (BPA) - TFEF-ALVEY
Subject: Re: Albany Eugene Danger Tree Safety Report 7.26.13

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Cell: (360)356-2841
Fax: (360)418-2261

From: Orth,Erich T (BPA) - TEP-TPP-3
Sent: Saturday, July 27, 2013 3:36 PM
To: Narolski,Steven W (BPA) - TFBV-DOB1

Cc: Cramer,James C (BPA) - NF-PASCO

Subject: Fw: Albany Eugene Danger Tree Safety Report 7.26.13

Steve,

Attached is Wilson's initial report.

Erich

From: Woodard, Chuck [mailto:cwoodard@wilsonconst.com]

Sent: Friday, July 26, 2013 04:59 PM Pacific Standard Time

To: May,Jennifer M (BPA) - NF-TPP-1; Hinick,Kathleen (BPA) - NSC-TPP-2; Orth,Erich T (BPA) - TEP-TPP-3; McLain,Dale D (CONTR) - TETQ-TPP-3; kimberly.martinez@jacobs.com <kimberly.martinez@jacobs.com>

Cc: Crites, JR <jcrites@wilsonconst.com>; Turner, Gerald <gturner@wilsonconst.com>; contractadmin <contractadmin@wilsonconst.com>; Mcginnis, Mike <mcginnis@wilsonconst.com>; Peveler, Mace <mpeveler@wilsonconst.com>

Subject: Albany Eugene Danger Tree Safety Report 7.26.13

All,

Attached is the Albany Eugene Danger Tree Safety Report from the incident on July 25, 2013.
Thank you.

Respectfully,

Chuck Woodard

Project Manager

Wilson Construction Co

1190 NW 3rd Ave.

PO Box 1190

Canby, OR 97013

Phone: (503) 263-6882

Fax: (503) 263-6946

www.wilsonconst.com

"Building from our past, powering the present, with our vision on the future"

All,

I want to make sure you are all aware of the meeting tomorrow. Please contact Dale or Kathleen if you would like to attend.

Erich

From: Woodard, Chuck [mailto:cwoodard@wilsonconst.com]

Sent: Monday, July 29, 2013 04:42 PM Pacific Standard Time

To: Hinick, Kathleen (BPA) - NSC-TPP-2

Cc: McLain, Dale D (CONTR) - TETO-TPP-3; kimberly.martinez@jacobs.com <kimberly.martinez@jacobs.com>; Orth, Erich T (BPA) - TEP-TPP-3; Oistad, Jon <joistad@wilsonconst.com>; Peveler, Mace <mpeveler@wilsonconst.com>; Turner, Gerald <gturner@wilsonconst.com>

Subject: BPA Albany Eugene DT Veg. Management Zero Tolerance

Ms. Hinick (CO):

Wilson Construction will be holding a face to face meeting with our subcontractor and key project personnel for the Albany Eugene 115kV DT project tomorrow at 10am in our office. The purpose of this meeting will be to review our methods and means, project safety, and the zero tolerance policy described during the conference call today. Again, Wilson is very sorry for the unplanned outage, and will be working to develop an improved operating plan moving forward. Needless to say, we gained a new level of knowledge about the regulatory groups and fines/fees that surround vegetation management.

During tomorrow's meeting we plan on covering the new Zero Tolerance Policy, but we didn't receive a great amount of detail surrounding the Zero Tolerance Policy. Is there any official paperwork or information that we can use as the backbone to the requested Zero Tolerance Policy conversation?

Thank you very much for your time.

Respectfully,

Chuck Woodard

Project Manager

Wilson Construction Co

1190 NW 3rd Ave.

PO Box 1190

Canby, OR 97013

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Fax: (503) 263-6946

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King,James J (CONTR) - CGI-7

From: Martinez, Kimberly <Kimberly.Martinez@jacobs.com>
Sent: Wednesday, August 21, 2013 8:36 AM
To: AlbanyEugeneNo1@bpa.epm-hosting.com
Subject: Wilson - Stop Work Order - Albany-Eugene

Kimberly Martinez | Jacobs | Resident Engineer | Office 503.624.3132 | Kimberly.Martinez@jacobs.com | www.jacobs.com

From: Woodard, Chuck [<mailto:cwoodard@wilsonconst.com>]
Sent: Tuesday, August 13, 2013 9:35 AM
To: Martinez, Kimberly
Subject: RE: Wilson - Stop Work Order - Albany-Eugene

Yes, all work has stopped for the Albany Eugene project. I have a question into Kathleen to ask permission to remove a piece of equipment that is off the ROW, but have not heard back at this time. The only thing that is happening for AE DT's are phone calls from the property owners, and communications from Vance, Jeff, and myself. CW

Respectfully,

Chuck Woodard
Project Manager
Wilson Construction Co
1190 NW 3rd Ave.
PO Box 1190
Canby, OR 97013
Phone: (503) 263-6882
Fax: (503) 263-6946
www.wilsonconst.com



"Building from our past, powering the present, with our vision on the future"

From: Martinez, Kimberly [<mailto:Kimberly.Martinez@jacobs.com>]
Sent: Tuesday, August 13, 2013 9:31 AM
To: Woodard, Chuck
Subject: Fwd: Wilson - Stop Work Order - Albany-Eugene

Chuck,

Did you get this message?

Thanks,

Kim

Sent from my iPhone

Begin forwarded message:

From: "Hinick, Kathleen" <kchinick@bpa.gov>
Date: August 12, 2013, 9:56:12 AM MDT
To: "Martinez, Kimberly" <Kimberly.Martinez@jacobs.com>, "McLain,Dale D (CONTR) - TETQ-TPP-3" <ddmclain@bpa.gov>
Subject: RE: Wilson - Stop Work Order - Albany-Eugene

Yes the stop work order applies to Ellett because they are a subcontractor under Wilson.

Kathleen Hinick
Contract Specialist
360-619-6084
kchinick@bpa.gov

From: Martinez, Kimberly [<mailto:Kimberly.Martinez@jacobs.com>]
Sent: Monday, August 12, 2013 8:12 AM
To: McLain,Dale D (CONTR) - TETQ-TPP-3; Hinick,Kathleen (BPA) - NSC-TPP-2
Subject: Wilson - Stop Work Order - Albany-Eugene

Dale/Kathleen,

Albany-Eugene - With the Wilson Stop Work Order issued on Friday, does that apply to Ellett (Wilson's sub) placing survey stakes and re-painting Danger Tree markings?

Thanks,

Kimberly

Kimberly Martinez | Jacobs | Resident Engineer | Office 503.624.3132 | Kimberly.Martinez@jacobs.com | www.jacobs.com

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King, James J (CONTR) - CGI-7

From: Martinez, Kimberly <Kimberly.Martinez@jacobs.com>
Sent: Monday, April 30, 2012 5:19 PM
To: albanyeugeneNo1@bpa.epm-hosting.com
Subject: FW: Revised Site Specific Safety Plan Albany Eugene Rev. 1
Attachments: 47470-14 Submittal 2 SSSP Albany Eugene Rev. 1 4.17.2012.pdf

Kimberly Martinez | Jacobs | Resident Engineer | Office 503.624.3132 | Kimberly.Martinez@jacobs.com | www.jacobs.com

From: Woodard, Chuck [<mailto:cwoodard@wilsonconst.com>]
Sent: Tuesday, April 17, 2012 9:33 AM
To: Balogh, Matthew
Cc: ddmclain@bpa.gov; Hoffman, Michael (Contact); Martinez, Kimberly; Chapman, Matt (PAR Electric); Miller, Andrew; Turner, Gerald; Peveler, Mace
Subject: Revised Site Specific Safety Plan Albany Eugene Rev. 1

Matt,

Attached is the revised site specific safety plan for the Albany Eugene project. Thank you very much for your time.

Respectfully,

Chuck Woodard
Project Manager
Wilson Construction Co
1190 NW 3rd Ave.
PO Box 1190
Canby, OR 97013
Phone: (503) 263-6882
Fax: (503) 263-6946
www.wilsonconst.com



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King,James J (CONTR) - CGI-7

From: Martinez, Kimberly <Kimberly.Martinez@jacobs.com>
Sent: Monday, April 30, 2012 3:09 PM
To: AlbanyEugeneNo1@bpa.epm-hosting.com
Subject: FW: BPA Response - FW: Wilson Construction SSSP- Albany-Eugene
Attachments: 47470-14 Submittal #2 Albany Eugene 4.3.12.pdf; 3-2011, S and H Clause - Vegetation Management (15-51).doc

Kimberly Martinez | Jacobs | Resident Engineer | Office 503.624.3132 | Kimberly.Martinez@jacobs.com | www.jacobs.com

From: Martinez, Kimberly
Sent: Monday, April 09, 2012 3:14 PM
To: Woodard, Chuck
Cc: McLain,Dale D (CONTR) - TETQ-TPP-3
Subject: BPA Response - FW: Wilson Construction SSSP- Albany-Eugene

Chuck,

Please see Jennifer May's comments on the SSSP below. We will be providing the response in SharePoint, but I wanted to get this over to you due to her current schedule to review resubmissions.

Jennifer out of office 4/11-4/18; 4/23-4/26.

See note below. Don't know if this allows enough time to turn around a revision.

"If there are any Site Specific Safety Plans that are currently being revised (at my request), you will need to get them back to me no later than noon tomorrow if you want them completed before I go on leave."

Thanks.

Kimberly Martinez | Jacobs | Resident Engineer | Office 503.624.3132 | Kimberly.Martinez@jacobs.com | www.jacobs.com

From: May,Jennifer M (BPA) - NF-TPP-1 [<mailto:jmmay@bpa.gov>]
Sent: Thursday, April 05, 2012 8:49 PM
To: McLain,Dale D (CONTR) - TETQ-TPP-3
Cc: Hoffman, Michael (Contact); Martinez, Kimberly
Subject: Wilson Construction SSSP- Albany-Eugene

The Safety Office reviewed the Site Specific Safety Plan submitted by Wilson Construction Company for the Albany-Eugene 115 kV Line Rebuild. This project involves the rebuild of approximately 31 miles of the Albany-Eugene No.1 115 kV line including the removal and replacement of all existing structures, associated hardware and conductor.

Please have Wilson Construction address the following items and re-submit the Safety Plan for review:

- It appears from the Site Specific Safety Plan that this project will require the removal of 6000 – 7000 danger trees. Please review the attached Safety and Health Clause for Vegetation Management and address the appropriate precautions for this work.

Note of precaution: At a project meeting it was reported that there are a lot of buried obstructions on this project including fiber optic cables and a high pressure gas line. It will be very important for the contractor to do locates on this project.

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King, James J (CONTR) - CGI-7

From: Martinez, Kimberly <Kimberly.Martinez@jacobs.com>
Sent: Tuesday, September 24, 2013 10:26 AM
To: AlbanyEugeneNo1@bpa.epm-hosting.com
Subject: FW: Albany - Eugene Danger Trees Wilson Update
Attachments: BPA Albany - Eugene Danger Tree Removal Project Revised 9.23.2013.pdf

Kimberly Martinez | Jacobs | Resident Engineer | Office 503.624.3132 | Kimberly.Martinez@jacobs.com | www.jacobs.com

From: McLain, Dale D (CONTR) - TETQ-TPP-3 [<mailto:ddmclain@bpa.gov>]
Sent: Tuesday, September 24, 2013 10:22 AM
To: Martinez, Kimberly
Subject: FW: Albany - Eugene Danger Trees

From: Streetman, David [<mailto:dstreetman@wilsonconst.com>]
Sent: Monday, September 23, 2013 4:31 PM
To: McLain, Dale D (CONTR) - TETQ-TPP-3
Cc: Oistad, Jon; Woodard, Chuck; Turner, Gerald; Sawyer, Chad; Mcginnis, Mike; Widner, Christopher
Subject: Albany - Eugene Danger Trees

Dale,

I wanted to send you a summary of activities, and the planned schedule for the rest of the week on the Albany – Eugene Danger Tree Removal.

Today- Monday 9/23/2013

Ellett Construction's crews mobilized back to the site.

With the help of Wilson's designated safety professional Chris Widner, Ellett's crew reviewed and familiarized themselves with the Site Specific Safety Plan. (The latest copy is attached to this email.)

Tomorrow – Tuesday 9/24/2013

Ellett will go on the ROW and do some marking (e.g. re-mark trees, mark skidder paths, etc.) there will be NO EQUIPMENT used, only marking.

On Tuesday evening Wilson's site Superintendent Chad Devine will move to the Albany – Eugene Danger Tree Removal Project, and will be ready to start work on Wednesday morning.

Wednesday 9/25/2013

The crews will show up on site and attend the safety kick off meeting. The crew will then proceed to the ROW and have a Task Hazard Analysis (THA) meeting. After which the crews will resume work. The work they will be performing is only for the skidding and clean-up of previously felled trees.

Thursday 9/26 and Friday 9/27

Crews will show up have a safety meeting, a THA meeting on the ROW, and then continue work on skidding and cleanup of the previously felled trees.

Please let me know if you have any questions, comments, or concerns.

Thank you,

David Streetman
Project Controls
Wilson Construction Co.
Office:(503)263-6882
Cell: (510)364-4827
Fax: (503)263-6946
www.wilsonconst.com



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King, James J (CONTR) - CGI-7

From: Martinez, Kimberly <Kimberly.Martinez@jacobs.com>
Sent: Saturday, August 03, 2013 2:01 PM
To: AlbanyEugeneNo1@bpa.epm-hosting.com
Subject: BPA Albany Eugene DT Veg. Management Zero Tolerance

Kimberly Martinez | Jacobs | Resident Engineer | Office 503.624.3132 | Kimberly.Martinez@jacobs.com | www.jacobs.com

From: Woodard, Chuck [<mailto:cwoodard@wilsonconst.com>]
Sent: Monday, July 29, 2013 4:43 PM
To: Hinick, Kathleen
Cc: ddmclain@bpa.gov; Martinez, Kimberly; Orth, Erich; Oistad, Jon; Peveler, Mace; Turner, Gerald
Subject: BPA Albany Eugene DT Veg. Management Zero Tolerance

Ms. Hinick (CO):

Wilson Construction will be holding a face to face meeting with our subcontractor and key project personnel for the Albany Eugene 115kV DT project tomorrow at 10am in our office. The purpose of this meeting will be to review our methods and means, project safety, and the zero tolerance policy described during the conference call today. Again, Wilson is very sorry for the unplanned outage, and will be working to develop an improved operating plan moving forward. Needless to say, we gained a new level of knowledge about the regulatory groups and fines/fees that surround vegetation management.

During tomorrow's meeting we plan on covering the new Zero Tolerance Policy, but we didn't receive a great amount of detail surrounding the Zero Tolerance Policy. Is there any official paperwork or information that we can use as the backbone to the requested Zero Tolerance Policy conversation?

Thank you very much for your time.

Respectfully,

Chuck Woodard
Project Manager
Wilson Construction Co
1190 NW 3rd Ave.
PO Box 1190
Canby, OR 97013
Phone: (503) 263-6882
Fax: (503) 263-6946
www.wilsonconst.com



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King,James J (CONTR) - CGI-7

From: Martinez, Kimberly <Kimberly.Martinez@jacobs.com>
Sent: Thursday, October 03, 2013 7:11 AM
To: 'McLain,Dale D (CONTR) - TETQ-TPP-3'; Orth,Erich T (BPA) - TELF-TPP-3; Hinick,Kathleen (BPA) - NSSV-4400-2; Brown,Linda L (BPA) - NSSF-4; George,Kevin B (BPA) - EPI-4; 'Stafflund,Monica A (BPA) - TERR-CHEMAWA'; 'Lowe, Kari'; Woodard, Chuck; Streetman, David; 'Krasnow, Allison'; Duncan,Stephen C (BPA) - TERS-3; Kapphahn, Nick; 'Jeff Montgomery'; 'ellettconst@gorge.net'; Shurtliff,Aaron J (BPA) - EP-AMPN-2; 'joistad@wilsonconst.com'
Cc: AlbanyEugeneNo1@bpa.epm-hosting.com; Martinez, Kimberly
Subject: Albany-Eugene Danger Trees Progress Meeting 006 Minutes 20130926
Attachments: Albany-Eugene Danger Tree Progress Meeting 006 Minutes 20130926.pdf

All,

Please see attached minutes from the Weekly Progress meeting held on 09/26/13.

Thank you,

Kimberly

Kimberly Martinez | Jacobs | Resident Engineer | Office 503.624.3132 | Kimberly.Martinez@jacobs.com | www.jacobs.com

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King,James J (CONTR) - CGI-7

From: Martinez, Kimberly <Kimberly.Martinez@jacobs.com>
Sent: Wednesday, August 14, 2013 2:03 PM
To: McLain,Dale D (CONTR) - TETQ-TPP-3; Orth,Erich T (BPA) - TELF-TPP-3; Hinick,Kathleen (BPA) - NSSV-4400-2; Brown,Linda L (BPA) - NSSF-4; Duncan,Stephen C (BPA) - TERS-3; George,Kevin B (BPA) - EPI-4; Woodard, Chuck; Krasnow, Allison; Jeffrey Montgomery; 'ellettconst@gorge.net'; Corkran,Douglas F (BPA) - ECT-4; jcrites@wilsonconst.com; Kapphahn, Nick; Stafflund,Monica A (BPA) - TERR-CHEMAWA; Lowe, Kari; Pruitt,David R (BPA) - TFEB-ALVEY; Wenzl,Nicholas J (BPA) - TFEF-ALVEY; Mora Flores,Carlos (BPA) - TFBV-ALVEY; May, Jennifer
Cc: Martinez, Kimberly; AlbanyEugeneNo1@bpa.epm-hosting.com
Subject: Albany-Eugene Danger Tree Progress Meeting 005 Minutes 20130808
Attachments: Albany-Eugene Danger Tree Progress Meeting 005 Minutes 20130808.pdf

All,

Please review the attached meeting minutes and provide all comments within 24 hours if possible. Final minutes will be posted to CAIS (SharePoint).

Thank you,

Kimberly

Kimberly Martinez | Jacobs | Resident Engineer | Office 503.624.3132 | Kimberly.Martinez@jacobs.com | www.jacobs.com

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King,James J (CONTR) - CGI-7

From: Martinez, Kimberly <Kimberly.Martinez@jacobs.com>
Sent: Wednesday, August 07, 2013 5:39 PM
To: McLain,Dale D (CONTR) - TETQ-TPP-3; Orth,Erich T (BPA) - TELF-TPP-3; Hinick,Kathleen (BPA) - NSSV-4400-2; Brown,Linda L (BPA) - NSSF-4; Duncan,Stephen C (BPA) - TERS-3; George,Kevin B (BPA) - EPI-4; Woodard, Chuck; Krasnow, Allison; Jeffrey Montgomery; 'ellettconst@gorge.net'; Corkran,Douglas F (BPA) - ECT-4; jcrites@wilsonconst.com; Kapphahn, Nick; Stafflund,Monica A (BPA) - TERR-CHEMAWA; Lowe, Kari; Pruitt,David R (BPA) - TFEB-ALVEY; Wenzl,Nicholas J (BPA) - TFEF-ALVEY; Mora Flores,Carlos (BPA) - TFBV-ALVEY; May, Jennifer
Cc: Martinez, Kimberly; AlbanyEugeneNo1@bpa.epm-hosting.com
Subject: Albany-Eugene Danger Tree Progress Meeting 004 Minutes 20130801
Attachments: Albany-Eugene Danger Tree Progress Meeting 004 Minutes 20130801.pdf

All,

Please review the attached meeting minutes and provide all comments within 24 hours if possible. Final minutes will be posted to CAIS (SharePoint).

Thank you,

Kimberly

Kimberly Martinez | Jacobs | Resident Engineer | Office 503.624.3132 | Kimberly.Martinez@jacobs.com | www.jacobs.com

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| Project: | Report #: | Contractor: | Contract #: | QAR: | Date: |
|--------------------|-----------|-------------|-------------|--------------|-----------|
| Albany-Eugene No 1 | 120 | WCC | R1W30040 | Nick Kappahn | 8/12/2013 |

Photos:



Logs decked from 32 - 22 miles remain to be hauled.



Ellett hydro axe parked on ROW at 24/8.



Ellett skidder sitted on ROW just norht of



Ellett lowboy sitting in agricultural field to east of

Cartney Rd.

ROW at 20/2.

Observations:

Ellett crews prepared to continue remarking trees and flagging access routes along ROW. Tailboard meeting held by three employees on site. As Ellett began planned work for the day, clarification of the No Work Order was given and all work ceased.

Contractor Activities:

Ellett planned/prepared to mark trees and access routes - no work on site.

| Visitors on Site Today | Name | Organization | Purpose |
|------------------------|------|--------------|---------|
|------------------------|------|--------------|---------|

QAR / Contractor Coordination

| QAR Responsibilities | | Contractor Responsibilities | |
|--|-----|---|-----|
| Coordinated with contractor for tomorrow's work and activities? | No | Contractor has provided submittals for the current work in progress? | No |
| Reviewed plans and specifications for tomorrow's work to be completed? | No | Contractor has performed quality control for the current work in progress? | Yes |
| Verified Contractors work to comply with plans and specifications? | Yes | Contractor has updated weekly schedule for upcoming work? | No |
| Inspected Gov. furnished materials delivering onsite and staging procedure of all materials? | Yes | Contractor has staged arriving material in designated location approved by BPA? | Yes |
| Reviewed contractors daily report? | No | Contractor has supplied the QAR Contractor with contractor daily report? | No |

| QAR Safety | | Environmental | |
|---------------------------|-----|----------------------------------|-----|
| Job Hazard Analysis (JHA) | Yes | Contractor has submitted Erosion | Yes |

| | | | |
|--|-----|---|-----|
| Completed? | | Control procedures? | |
| Correct Personal Protective Equipment? (PPE) | Yes | Contractor has performed BMP's onsite? | Yes |
| Safety Watcher on Site? | No | Contractor has Spill Kits Onsite? | Yes |
| Accident Free? | Yes | Spoils are staged in the designated area? | Yes |

| Contractor Safety | | Safety Photo |
|--------------------------------|------|--------------|
| Contractor JHA Completed? | Yes | |
| Proper PPE in use? | Yes | |
| Proper grounding of equipment? | Yes | |
| Tailboard Meeting Completed? | Yes | |
| Safety procedures followed? | Yes | |
| Accident Free? | Yes | |
| Safety Issues Today: | none | |



| Project: | Report #: | Contractor: | Contract #: | QAR: | Date: |
|--------------------|-----------|-------------|-------------|--------------|-----------|
| Albany-Eugene No 1 | 114 | WCC | R1W30040 | Nick Kappahn | 7/26/2013 |

Photos:



View of 16/4 following incident.



Timbco cutter head following incident. Upper left grabber bent.



Top of tree adjacent to tree in question broke off during incident. This adjacent tree may have been



possibly creating difficulty shifting tree to east prior

contributing factor to incident.

to dropping between trees and adjacent ag field.

Observations:

Wilson implemented a safety stand down on Alb-Eug job following incident on Thursday afternoon. Wilson safety department on site performing investigation. All parties on site during the incident were interviewed - statements recorded. A discussion of possible causes of incident between Ellett and Wilson followed by steps to keep a similar incident from happening in the future - report to be submitted by Wilson by end-of-day. Tailboard held on site prior to inspection and JHA completed. Poison oak, PPE, possible falling debris from trees, and railroad identified as hazards.

Contractor Activities:

Incident investigation held by Wilson on-site.

| Visitors on Site Today | Name | Organization | Purpose |
|------------------------|------|--------------|---------|
|------------------------|------|--------------|---------|

QAR / Contractor Coordination

| QAR Responsibilities | | Contractor Responsibilities | |
|--|-----|---|-----|
| Coordinated with contractor for tomorrow's work and activities? | Yes | Contractor has provided submittals for the current work in progress? | Yes |
| Reviewed plans and specifications for tomorrow's work to be completed? | Yes | Contractor has performed quality control for the current work in progress? | Yes |
| Verified Contractors work to comply with plans and specifications? | Yes | Contractor has updated weekly schedule for upcoming work? | Yes |
| Inspected Gov. furnished materials delivering onsite and staging procedure of all materials? | Yes | Contractor has staged arriving material in designated location approved by BPA? | Yes |
| Reviewed contractors daily report? | Yes | Contractor has supplied the QAR Contractor with contractor daily report? | Yes |

| QAR Safety | | Environmental | |
|--|-----|--|-----|
| Job Hazard Analysis (JHA) Completed? | Yes | Contractor has submitted Erosion Control procedures? | Yes |
| Correct Personal Protective Equipment? (PPE) | Yes | Contractor has performed BMP's onsite? | Yes |
| Safety Watcher on Site? | No | Contractor has Spill Kits Onsite? | Yes |
| Accident Free? | Yes | Spoils are staged in the designated area? | Yes |

| Contractor Safety | | Safety Photo |
|--------------------------------|-----|---|
| Contractor JHA Completed? | Yes |  |
| Proper PPE in use? | Yes | |
| Proper grounding of equipment? | Yes | |
| Tailboard Meeting Completed? | Yes | |
| Safety procedures followed? | Yes | |
| Accident Free? | Yes | |
| Safety Issues Today: | | |
| none | | Condition of site following cleanup. Tree/slash pulled a safe distance from RR track. |



| Project: | Report #: | Contractor: | Contract #: | QAR: | Date: |
|--------------------|-----------|-------------|-------------|--------------|-----------|
| Albany-Eugene No 1 | 113 | WCC | R1W30040 | Nick Kappahn | 7/25/2013 |

Photos:



View of cottonwood tree laying across East conductor.



Position of Timbco at time of incident. View from SE of Timbco.



Upper left grabber on cutter head bent down.



Structure 16/4 with tree on east conductor.

Observations:

Wilson/Ellett tailboard held at Shedd show-up yard at 7am. Safety topic - Briefing given by Railroad inspector along with rule of the day - Form B protection for all days worksites. Poison oak on the ROW, proper PPE, fire safety, railroad safety and safe distance from tree fallers and feller-buncher discussed. Travel routes also discussed for moving equipment along ROW. Ellett crews continued skidding trees off ROW in area 47 and decked in area 23dk2. Skid trails along railroad as opposed to laterally across the "Highest Quality Habitat" to minimize disturbance - observed by BPA-Kevin George. Ellett crew low stumping and treating stumps with approved dyed herbicide per 04.01.07 (Supp.) behind the skidding operation. At least 4" of stump must be removed from previously cut tree prior to treating per Steve Duncan. Steve Duncan on site to review tree counting parameters - results to be reported Monday 7/29. The Timbco Feller-Buncher began tree cutting in area 36 and completed area 36 and 35. Prior to cutting trees in a given area, the operator and spotter walk through the area to determine the safest approach to fall trees in the area and determine landowner preferences for working in ag fields. Communication between operator and spotter via radio with call alarm. While beginning cutting in area 34 a large Cottonwood tree was inadvertently dropped to the West across the railroad tracks and contacted and hung on the east conductor of Alb-Eug No 1. Hold order on line held by JR Crites. BPA TLM dispatched to restore line. Crews dropped line off 16/4 to release tension created by tree on line and Ellett crews were able to cut tree off conductor and to clear rail. BPA reattached conductor. No apparent damage to conductor, fiber, or structures. Rail inspector put line out-of-service following incident. He also inspected railroad for damage following tree removal - no apparent damage.

Contractor Activities:

Area 35 and 36 trees cut by Timbco. Skidding in area 47 followed by low stumping and herbicide treatment.

| Visitors on Site Today | Name | Organization | Purpose |
|------------------------|--------------|--------------|----------|
| | Steve Duncan | BPA | Forester |

QAR / Contractor Coordination

| QAR Responsibilities | | Contractor Responsibilities | |
|---|-----|--|-----|
| Coordinated with contractor for tomorrow's work and activities? | Yes | Contractor has provided submittals for the current work in progress? | Yes |
| Reviewed plans and specifications for tomorrow's work to be | Yes | Contractor has performed quality control for the current work in | Yes |

| | | | |
|--|-----|---|-----|
| completed? | | progress? | |
| Verified Contractors work to comply with plans and specifications? | Yes | Contractor has updated weekly schedule for upcoming work? | Yes |
| Inspected Gov. furnished materials delivering onsite and staging procedure of all materials? | Yes | Contractor has staged arriving material in designated location approved by BPA? | Yes |
| Reviewed contractors daily report? | Yes | Contractor has supplied the QAR Contractor with contractor daily report? | Yes |

| QAR Safety | | Environmental | |
|--|-----|--|-----|
| Job Hazard Analysis (JHA) Completed? | Yes | Contractor has submitted Erosion Control procedures? | Yes |
| Correct Personal Protective Equipment? (PPE) | Yes | Contractor has performed BMP's onsite? | Yes |
| Safety Watcher on Site? | No | Contractor has Spill Kits Onsite? | Yes |
| Accident Free? | Yes | Spoils are staged in the designated area? | Yes |

| Contractor Safety | | Safety Photo |
|--------------------------------|-----|--------------|
| Contractor JHA Completed? | Yes | |
| Proper PPE in use? | Yes | |
| Proper grounding of equipment? | Yes | |
| Tailboard Meeting Completed? | Yes | |
| Safety procedures followed? | Yes | |
| Accident Free? | No | |

| | | |
|---|---|--|
| | |  |
| <p>Safety Issues Today:</p> | <p>Safety Photo Description:</p> | |
| <p>Tree dropped on Alb-Eug 115kv line. Hold on line held by Wilson at time of accident.</p> | <p>TLM crew pulled clearance on line, grounded all phases and dropped east conductor prior to removing tree from line. Railroad put out-of-service by PW. Railroad inspected and put back in service following cleanup.</p> | |

SAFETY AND HEALTH – VEGETATION MANAGEMENT (15-51)
(MAR 11) (BPI 15.2.1)

(a) General

- (1) The Contractor shall assure that no person employed on this contract works in surroundings or under conditions that are unsanitary, hazardous, or dangerous to their health or safety. In fulfilling these requirements, the Contractor shall comply with:
 - (A) Department of Labor Safety and Health Standards for Construction under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701 et seq.).
 - (B) Occupational Safety and Health Act of 1970, (Public Law 91-598) and applicable rules and regulations as may have been delegated to the States.
 - (C) All Federal and state safety and health rules and regulations applicable to the contract work, as supplemented by BPA safety and health requirements stated below or elsewhere in the contract.
 - (D) All applicable industry consensus safety standards relating to tree and brush cutting, pruning and trimming in proximity to energized high voltage lines.
- (2) If there are conflicts between any of the requirements referenced in this contract, the more stringent requirement will prevail.
- (3) If the Contractor fails or refuses to promptly comply with any safety or health requirement, the Contracting Officer's Technical Representative (COTR) may notify the Contractor of any noncompliance and the Contractor shall take immediate corrective action. Such notice, whether oral or written, when served on the Contractor or any of its employees at the site of the work shall be deemed sufficient. If the Contractor fails or refuses to promptly correct the condition, the COTR may stop all or any portion of the work. When satisfactory corrective action has been taken, the Contractor shall request permission to resume work from the COTR. When all work on a contract has been suspended by the Contracting Officer (CO) for a Safety and Health violation, accident, or incident; the contractor shall meet with representatives of BPA's Contracting Office and the BPA Safety Office to present a written statement outlining specific changes in work procedures that the contractor will make in order for work to safely resume. BPA must be satisfied that the contractor is capable of completing the contract in a safe manner before allowing work to resume. No time extension or additional costs, resulting from the directive to stop work shall be allowed. Failure of the COTR to provide notice of noncompliance or to stop work shall not relieve the Contractor of its responsibility for the safe performance of the work.
- (4) The Contractor shall maintain an accurate record of, and shall immediately report to the COTR in the manner prescribed by the latter, all cases of death, occupational diseases, and injury arising from, or incident to, performance of work under this contract. The record and report shall include a description of the preventative measures to be taken to avoid recurrence, any restitution or settlement made or the status thereof. The Contractor shall complete and file with the COTR, BPA form 6410.15e (Contractor's Report of Personal Injury, Illness, or Property Damage Accident) within five (5) working days of such an occurrence. In the case of a Near Miss Incident that does not involve injury, illness, or property damage, the Contractor shall complete and file with the COTR, BPA Form 6410.18e (Contractors Report of Incident/Near Miss) within five (5) working days of such an occurrence.

- (5) In the case of an injury, the Contractor shall have 30 days to make full restitution or settlement. If the Contractor fails to make full restitution or settlement within 30 days, BPA may:
 - (A) Make, or cause to be made, the required remedial action or cash settlement to the person or persons who have been injured, and
 - (B) Charge to the Contractor's account an equitable amount, not to exceed \$2,500, for any injury claim. More than one such payment, and charge, can be assessed if more than one injury has occurred.
 - (6) The Contractor bears sole responsibility for ensuring that all personnel engaged in work related to the contract possess the necessary knowledge and skills to perform their work safely and to otherwise function in compliance with the foregoing criteria.
 - (7) The Contractor shall hold BPA harmless from any and all suits, actions, and claims for injuries to or death of persons arising from any act or omission of the Contractor, its subcontractors, or any employee of the Contractor or subcontractors, in any way related to the work or operations under this contract.
 - (8) The Contractor shall indemnify and hold harmless the property owners or parties lawfully in possession against all claims or liabilities asserted by third parties, including all governmental agencies, resulting directly or indirectly from the Contractor's wrongful or negligent acts or omissions.
 - (9) Nothing stated herein shall be construed to be a limitation on the Contractor's liability. The rights and remedies of BPA provided in this clause are in addition to any other rights and remedies provided by law or under this contract.
- (b) Personal Protective Equipment (PPE)
- (1) The Contractor shall furnish non-conductive hard hats and all other required safety and personal protective equipment, except that which has been specified to be furnished by BPA. All persons on all projects shall wear non-conductive hard hats meeting the requirements of OSHA/ANSI. Contract employees shall not wear yellow non-conductive hard hats. (A yellow hat signifies a qualified BPA electrical worker.)
 - (2) The Contractor shall furnish employees appropriate leg, foot, hearing, hand and eye, personal protective equipment while employees are operating chain saws.
 - (3) The requirements and recommendations of the product manufacturer and the product MSDS for appropriate PPE shall be strictly adhered to when conducting herbicide application unless state or federal regulations or requirements are more stringent in which case the more stringent requirements shall be followed.
 - (4) Appropriate footwear that provides adequate support and protection to the foot, toes and ankles for the work being performed shall be worn. Lace-up, over the ankle boots with rigid sole and heel meeting ASTM F 2413-05, Class 75 with EH rating shall be worn in all work areas where hard hats are required and other areas as determined by a supervisor. Supervisors have the responsibility for assuring that appropriate footwear is worn. Employees have the responsibility to wear appropriate footwear for the job.
 - (5) While BPA's minimum qualifications for protective footwear are identified above, specialized footwear, in accordance with standard industry practice and appropriate for the work being performed, shall be worn at all times while executing the work tasks

requiring specialized Personal Protective Equipment (PPE). Supervisors and employees have the responsibility of ensuring appropriate footwear is worn.

(c) Job Hazard Analysis

- (1) The Contractor shall prepare, implement and enforce a Job Hazard Analysis for each contract or Master Agreement.
- (2) Prior to the start of any on-site work for each contract or Master Agreement, the Contractor shall submit to BPA for review a Job Hazard Analysis to identify and mitigate any recognized hazards or conditions applicable to the type of work involved. Site and adjacent conditions shall be considered. (See Attachment 1, Job Hazard Analysis Submittal Instructions)
- (3) The Job Hazard Analysis shall be available to all employees at the work site. All employees must be familiar with the content of the Job Hazard Analysis. The Job Hazard Analysis shall be available for review by BPA employees upon request.
- (4) All safety issues shall be resolved prior to the start of work. The Contractor will not be allowed to begin work until the Contracting Officer issues a written notice-to-proceed.
- (5) The Contractor shall ensure that all safety and health provisions and requirements are followed by their subcontractors, suppliers, and support personnel and that all employees working on the project are knowledgeable of the provisions of the Job Hazard Analysis.

(d) Daily Job Briefings

- (1) The Contractor shall conduct a daily job briefing each morning with safety as an integral part of the briefing. The Contractor shall maintain written documentation of daily job briefings using BPA form 6410.32e or an equivalent format approved by BPA. These reports shall be made available to BPA upon request.

Each briefing shall include the following:

- (A) Identify the line(s), the line voltage, and the appropriate minimum approach distance (MAD).
- (B) Identify any trees or brush on each project or release that if felled, could violate the minimum approach distance (MAD). Identify specific methods or tools that will be used to determine the potential for trees to fall within the MAD.
- (C) Identify the specific work methods that will be used to prevent a violation of the MAD by contractor employees on this project or release.
- (D) Identify the qualified personnel needed to safely complete the work. All work conducted where "an electrical hazard exists" shall be performed by qualified line clearance tree trimmers. Trainees shall work under the direct supervision of a qualified line clearance tree trimmer.
- (E) Identify if a Clearance or Hold Order will be required to safely conduct the work on each specific release or project.
- (F) Identify any other hazards recognized by the contractor after an inspection of the work area and how those hazards will be mitigated or controlled. Note-this inspection

and hazard analysis must be done by a qualified line clearance tree trimmer “when an electrical hazard exists.”

(2) All required p.p.e. shall be reviewed.

(e) Minimum Qualifications for Contractor Employees

(1) The Contractor shall ensure and be able to document that all qualified line clearance tree trimmers working on this project or release meet the following minimum qualifications:

(A) Be certified as having completed a program consisting of both coursework and supervised on-the-job training under a recognized line clearance tree trimmer training program. This program shall include **at a minimum**, the safety and training requirements outlined in OSHA 1910.269(r), ANSI Z133.1, and applicable state standards.

(B) Have completed **at least** 35 hours of requisite coursework and two years of supervised on-the-job training. This shall include at least 6 months documented experience cutting trees in proximity to energized high voltage lines operated at 50 kV and above.

(C) Have documented at least 1 year experience felling trees over 40 feet in height and greater than 8” diameter.

(D) Have documented experience felling trees greater than 20” diameter.

(E) Have a current first aid and CPR card.

(F) Have fluency in the English language as well as the language(s) of contractor employees under their supervision.

(2) The Contractor shall make available, upon request by the CO or authorized representative of the CO, documentation verifying employee qualifications.

(3) The Contractor shall make available to the CO the names of the Qualified Line Clearance Tree Trimmers that will work on the project. Names must be updated and resubmitted to the CO if these names change.

(f) Minimum Crew Size

(1) When climbing any tree where any portion of the tree, work tools, or equipment can enter Zone B (see subsection (r) of this contract clause for Zone B definition), a second qualified climber/line clearance tree trimmer equipped with a second set of climbing tools shall be available on the job.

(2) When a qualified climber is climbing a tree and working above 12 feet in height, a second qualified climber equipped with a second set of climbing tools shall be available on the job who is trained and knowledgeable in rescue methods.

(3) All crews performing work where an electrical hazard or a violation of the MAD could occur shall have **a minimum** of one qualified line clearance tree trimmer per crew. Depending on site and job conditions, the contract may require a greater number.

(4) There shall be sufficient qualified personnel on each crew to adequately supervise the work of trainees working on that crew at each work location.

(g) Equipment and Rigging

- (1) All rigging or equipment used to control a tree's fall shall be adequately anchored, sized and positioned to control the weight of the tree and positively control the direction of fall.
- (2) When using rigging to pull "leaners" over center, mechanical methods shall be employed and sized appropriate to the weight and position of the tree.
- (3) The Contractor shall have a program in place to adequately inspect all ropes, slings and all other rigging components and tools.

(h) Tree Falling

- (1) The safety of the Contractor's employees and the public, and the integrity of the BPA system shall be the Contractor's primary considerations when felling trees on energized right-of-ways. If a conflict or question arises over proper procedure, the safest, most stringent or most conservative interpretation shall initially apply and the CO or NRS shall be contacted to resolve the issue.
- (2) At no time shall it be considered acceptable to fall trees on BPA lines, equipment or structures whether they are energized or de-energized. All Zone A or B trees shall be directionally felled away from transmission lines and towers using methods appropriate to **ensure** the direction of fall.
- (3) **Additional** methods of mechanical control shall be used to safely and positively control the direction of fall whenever:
 - (A) Lodged trees are encountered. (Domino falling shall not be considered an adequate method of positive control.)
 - (B) Wind or other conditions make directional falling dangerous or uncertain. (or work shall be temporarily suspended until conditions improve)
 - (C) Decay, rot or other weak spots are present or suspected.
 - (D) A clear falling path cannot be ensured
- (4) A clear falling path shall be assured or:
 - (A) The tree shall be felled under the protection of a Clearance or:
 - (B) Positive control shall be maintained by mechanical equipment or:
 - (C) The tree shall be climbed and pieced out
- (5) A safe work zone and escape path shall first be created before a tree is fell.
- (6) Sufficient hinge wood shall be left to hold the tree to the stump during its fall and to guide the intended direction of fall.

(i) Fire Hazards

- (1) The Contractor shall be responsible for contacting the local jurisdiction having authority and being aware of and complying with any fire restrictions, shutdowns, "hoot owls" or special requirements.

- (2) The Contractor is responsible for carrying fire suppression tools and equipment as required by the authority having jurisdiction and training employees in their use.

(j) Flammable Liquids

- (1) Flammable liquids within 70 feet of energized high voltage conductors shall not be transferred from one metal container to another unless the two have been electrically bonded together to eliminate arcing.
- (2) Only UL or FM approved portable containers shall be used.
- (3) Cutters shall not carry portable containers containing flammable liquids on their person.

(k) HAZCOM

- (1) The Contractor shall supply employees with effective information and training regarding any hazardous chemicals used at the work site.
- (2) The Contractor shall maintain any required Material Safety Data Sheets (MSDS) at the work location and available to employees.

(l) Fall Protection

- (1) Contractors performing work over four feet above ground shall use approved fall protection. Belay lines and other climbing lines and equipment used for climber fall protection shall be inspected before each use, properly stored and maintained exclusively for climbing purposes, and not used for rigging.
- (2) Contractors working in aerial manlifts shall use approved fall protection.
- (3) The Contractor shall ensure that portable ladders are inspected and contain no defects, be adequately secured, and shall not be loaded past their manufacturer's rated load capacity.
- (4) The Contractor shall ensure that only qualified climbers trained and experienced in fall protection, rescue and other safe aerial work practices and procedures shall be permitted to climb or perform aerial work under this contract. The contractor shall make periodic assessments and observations to ensure climber skills are adequate. Documentation of these assessments shall be made available to BPA upon request.

(m) Lockout/Tagout (LOTO)

- (1) The Contractor shall ensure that no employees are exposed to injury from the unexpected or accidental startup or release of stored energy of equipment or machinery that is shut down for repair, maintenance or adjustment.
- (2) Contractors performing work on machinery or equipment where such hazards may exist shall have a documented LOTO training and work program in place before performing such work. This program shall conform to all applicable federal or state standards and regulations.
- (3) All adjustments, cleaning and repairs that could pose a hazard shall not be performed on a running engine. "Hot refueling" is strictly prohibited.

(n) Communications

- (1) The Contractor shall ensure that field supervision maintains a reliable method of emergency communications from all right-of-way work areas in the event of accident or illness.
- (2) The Contractor shall ensure that field supervision maintains reliable communications at all times with the BPA Clearance Holder when working under the protection of a Clearance or Hold Order.

(o) Traffic Control

- (1) The Contractor is responsible for insuring that all traffic control measures required by, state and local laws and regulations are followed and that they conform to the MUTC (latest edition) as well as state and local law.
- (2) All flaggers shall have in their possession an appropriate state certification card attesting to having completed the required training.

(p) Minimum Approach Distance (MAD)

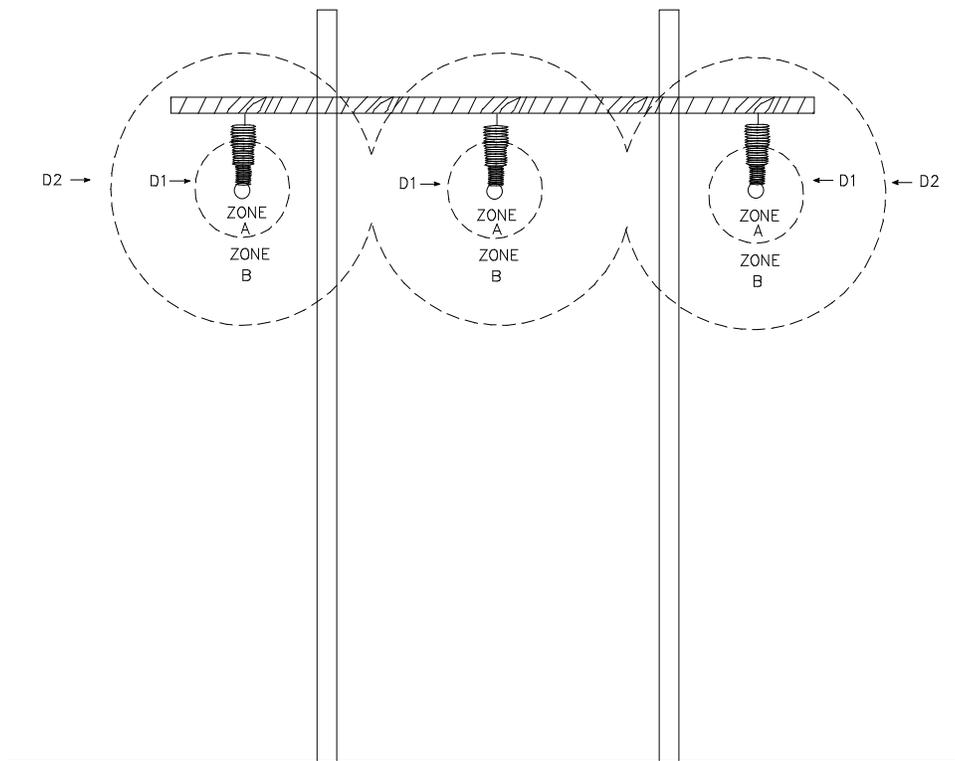
- (1) The Contractor shall not perform any work on energized BPA high voltage conductors or equipment and shall not come within the Minimum Approach Distances of energized lines or equipment except under the provisions of a Work Clearance.
- (2) All conductors and equipment shall be treated as energized **unless** the contractor has been informed by a qualified BPA Clearance Holder at their work site that the line or equipment is de-energized and cleared for the contractor to perform their work.
- (3) When applying herbicide, all overspray shall be considered as conductive. Wind and other conditions shall be taken into account to ensure that the MAD is not violated by overspray or equipment.

(q) Minimum Approach Distance (MAD) Charts

D1 (distance 1)-Minimum Approach Distance for Qualified Line-Clearance Tree Trimmer (see Table1-next page)

D2 (distance 2)-Minimum Approach Distance for all other tree workers (see Table2-following page)

Zone A –Inside the Minimum Approach Distance (MAD). Any trees or work completed in this zone **requires an outage** (Clearance) and the workers shall be qualified line clearance tree trimmers or under the direct supervision of qualified line clearance tree trimmers.



Zone B – If the tree or trees are in this zone, or if there is any potential of the tree, its branches, or tools entering this zone, the workers shall be **qualified line clearance tree trimmers**. A Hold Order may be required for work in this zone¹.

¹ “A Hold Order is required when falling or removing danger trees if an electrical hazard (or a violation of the MAD) could result”. The contractor has the responsibility of determining hazard trees and the need for a Hold Order.

TABLE 1

| Minimum Approach Distance (MAD) from Energized Conductors for Qualified Line Clearance Tree Trimmers | |
|---|---|
| Nominal Line Operating Voltage (Phase-to-Phase) | Minimum Approach Distance in feet-inches² |
| 0.051 – 0.3 | Avoid Contact |
| 0.301 – 0.75 kV | 1-03 |
| 0.751 - 15.0 kV | 2-07 |
| 15.1 - 36.0 kV | 3-05 |
| 36.1 - 46.0 kV | 3-09 |
| 46.1 - 72.5 kV | 4-09 |
| 72.6 - 121.0 kV | 5-01 |
| 138.0 - 145.0 kV | 5-11 |
| 161.0 - 169.0 kV | 6-11 |
| 230.0-242.0 kV | 8-11 |
| 345.0 - 362.0 kV | 15-00 |
| 500.0 - 550.0 kV | 21-08 |

² Based on ANSI Z-133.1-2006 Table 1 including an altitude correction factor appropriate to the BPA system

TABLE 2

| Minimum Approach Distance (MAD) from Energized Conductors for All Other Tree Workers | |
|---|---|
| Nominal Line Operating Voltage (Phase-to-Phase) | Minimum Approach Distance in feet-inches³ |
| Fiber Optic and Overhead Ground Wires | 10-00 |
| 0.0-169.0 kV | 15-00 |
| 230.0-242.0 | 16.05 |
| 345.0-362.0 | 20-05 |
| 500.0-550.0 | 26-08 |

³ Based on ANSI Z-133.1-2006 Table 2 and additions appropriate to the BPA system

Attachment 1

Vegetation Management Job Hazard Analysis Submittal Instructions

Contractors Name: _____

Master Agreement Number: _____

All contractors shall consider the Job Hazards on any projects that they compete for. Once a Contractor has been selected for award, the Contractor's Job Hazard Analysis (JHA) must be submitted for BPA's review, before the Contract or Master Agreement is issued. The list below is not "all inclusive", and contractors are solely responsible for the safety practices of its employees. Please address ALL of the following items in your Job Hazard Analysis that apply to the type of projects and the work you will perform.

1. Compliance with all Federal and State rules and regulations

Assurance that company will comply with all Federal and State laws and regulations governing the type of work performed on the project

2. Project Safety Meetings/Daily Safety Briefings

- a. Job safety briefings at start of project - written documentation required
- b. Daily safety briefings (**written documentation required**) - including proper name and voltage of transmission lines, appropriate Minimum Approach Distances, and the need for Clearances or Hold Orders. When work commences on a different transmission line, another safety briefing will be conducted that covers all safety related issues including the SPECIFIC transmission line involved in the work, the proper voltage of the transmission line, and the Minimum Approach Distance involved
- c. The Contractor shall maintain written documentation of daily job briefings using BPA form 6410.32e or an equivalent format approved by BPA. These reports shall be made available to BPA upon request

3. Accident/Injury/Near-Miss Reporting

- a. For incidents that involve Personal Injury, Illness, or Property Damage - The Contractor shall complete and file with the COTR BPA Form 6410.15e (Contractor's Report of Personal Injury, Illness, or Property Damage Accident) within 5 working days of such an occurrence
- b. For incidents that DO NOT involve Personal Injury, Illness, or Property Damage - The Contractor shall complete and file with the COTR BPA Form 6410.18e (Contractor's Report of Incident/Near-Miss) within 5 working days of such an occurrence

4. Use of Personal Protective Equipment

- a. List types of personal protective equipment appropriate for work being performed
- b. Qualified Line Clearance Tree Trimmers (QLCTT) shall wear red hard hats. All other workers shall wear white hard hats

5. Use of proper Fall Protection

List Fall Protection measures appropriate for work being performed

6. Environmental Issues

Snake bites, bees, poison oak, heat stress, cold weather

7. Chainsaw Safety

List all appropriate safety measures involved with chainsaw work

8. Minimum Approach Distances

- a. How will Contractor ensure Minimum Approach Distances are not violated?
- b. Presence of overhead/nearby transmission lines
- c. Presence of nearby distribution lines
- d. Include Minimum Approach Distance tables - Table 1 for Qualified Line Clearance Tree Trimmers (QLCTT), Table 2 for persons other than QLCTT
- e. Use of Safety Watchers for bucket truck work, if necessary
- f. Are Clearances or Hold Orders required?
- g. Use of laser rangefinders capable of determining heights and distances to determine height of trees
- h. Use of controlled felling methods – safety lines, winches, climbing and piecing out
- i. Describe methods used to ensure the safety of workers in the felling zone
- j. Only Qualified Line Clearance Tree Trimmers (QLCTT) can work on trees that have potential to get into Zones A and B

9. Communication

- a. How will reliable methods of communication be maintained between contract workers, Natural Resource Specialists (COTR's), Inspectors, and BPA Transmission Line Maintenance workers? Communicating with COTR's or on-site Inspectors is important.
- b. Qualified Line Clearance Tree Trimmers must have fluency in the English language as well as the languages of contractor employees under their supervision
- c. Contractor must acknowledge that the Inspector has authority to stop work that presents a safety hazard and the contractor is obligated to comply with that direction

10. Qualification of Employees Used for Falling Danger Trees

- a. Assurance that properly qualified employees will be utilized when felling danger trees (Qualified Line Clearance Tree Trimmers - QLCTT)

- b. List the name of the QLCTT's that will be felling trees for your company. Names must be updated and resubmitted to the Contracting Officer if these names change

11. Hazardous Road Conditions

- a. Steep narrow roads for vehicle and brush machine and navigation
- b. Condition of roads due to weather

12. Equipment Used on Site

- a. List types of equipment to be used on site
- b. Include use of extender saws or long pole saws

13. Machinery safety

The Contractor shall ensure that no employees are exposed to injury from the unexpected or accidental startup or release of stored energy of equipment or machinery that is shut down for repair, maintenance or adjustment

14. Herbicide Application

- a. Maneuvering on access roads, avoiding poles and guy wires
- b. Requirement to have Material Safety Data Sheets (MSDS's) on site
- c. Assurance that Herbicide Applicators have the proper state permits/licenses to perform work with herbicides
- d. Use of respirators if required
- e. Spray shall be directed downward, never up towards transmission line conductors

15. Mowers

- a. Use of spotter/helpers
- b. Protection of guy wires/wood poles/tower legs
- c. Protection of workers from flying rocks/wood
- d. Protection of nearby vehicles or workers

16. Proper Fueling Procedures

- a. No fueling under power lines
- b. No fuel carried on body

17. Fire safety

- a. Knowledge of fire precaution levels and appropriate rules and regulations when fire precaution levels are raised

- b. Precautions used to prevent fires on rights-of-way
- c. The Contractor is responsible for carrying fire suppression tools

18. Public safety

- a. Explain measures that will be taken to protect the public (property owners, hikers, boaters, etc.)
- b. Traffic control measures that will be taken to protect the public on roadways

19. Handling Downed Conductor

Contractors shall never handle ungrounded downed conductors. The handling of downed conductor is to be accomplished ONLY by qualified electrical employees using proper techniques. Until the conductor is properly grounded at the location where the work is to be performed and verified by a Qualified Electrical Employee, the Contractor shall not handle the downed conductors.

20. Electrical Shock Protocol

Any employee experiencing an electrical shock of any type shall be transported to the nearest emergency medical facility as soon as possible.

In case of electrical shock, the employee is advised to contact one of the Electrical Burn Centers that specialize in electrical shock accidents.

There are three Electrical Burn Centers serving BPA's service territory.

Emanuel (Portland) covers all of Oregon and north to the Kelso/Longview, Washington area. **Harborview (Seattle)** covers the rest of Washington and into northern Idaho and western Montana. **Intermountain (Salt Lake City)** covers southern Idaho. The operative standard is to have a maximum of three hours (air travel) time to the nearest burn unit. All three work co-operatively.

Emanuel (Portland, Oregon) 1-888-598-4232

Harborview (Seattle, Washington) 1-888-731-4791

Burn Trauma ICU, University of UT (Salt Lake City, Utah) 1-801-581-2700



SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

General Scope of Work

This project, as outlined in the Supplemental Technical Specification, is for the rebuild of miles 1 through 32 of the Albany–Eugene No. 1 Transmission Line. The work of this project is to replace all structures and components (e.g., wood cross arms, wood cross braces, ceramic insulators, etc.) with upgraded components. This project involves the rebuild of Albany–Eugene No. 1, 115 kV transmission line from the Albany substation to the Alderwood Tap. Upgrade work includes removal of all existing structures, components, guys, anchors and conductor. Installation work includes new poles, guys, anchors, steel cross braces, steel wide-flange cross arms, insulators, line hardware, and the replacement of the conductor. The length of this Albany–Eugene rebuild project is approximately 30.90 miles. Additional project work includes improvement and maintenance of access roads (where necessary), and disposal of removed components. The general scope of work includes the following:

1. Implementation of environmental requirements.
2. Incidental clearing of vegetation, small deciduous brush and trees where necessary.
3. Structure removal and installation of new components.
4. Removal and installation of new conductor and groundwire.
5. Installation of new grounding assemblies and materials.
6. Installation of new gates, repair of existing gates, and fence work.
7. Installation of new signage on replaced poles.
8. Disposal of removed materials.
9. New or improved access road construction where necessary.
10. Restoration of road approaches used during the project to at least the condition that existed at the start of the project.
11. Off-site disposal of unused excavated material, including material augured from holes vacated by removed structures.
12. Off-site disposal of removed transmission line components and other removed material that becomes property of the Contractor.
13. Re-use of existing ADSS fiber optic cable.
14. Performance of all additional work required to complete the project as described in the specifications, drawings, instructions, lists, and other contract documents.

Location

The project starts at the Albany Substation in Linn County, Oregon and terminates at the Alderwood Tap in Lane County, Oregon.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Safety Requirements

All work will be conducted under the auspices of Federal Occupational Safety and Health Act (OSHA), Oregon Occupational Safety and Health Act (OR-OSHA), and any other applicable State regulatory agencies. Wilson Construction Company (Wilson) will comply with Bonneville Power Administration (BPA), the International Brotherhood of Electrical Workers (IBEW) and Wilson safety policies, procedures and programs. If there is a conflict between these regulations or programs, the most stringent shall apply. Wilson shall ensure that our subcontractor/partners comply with all applicable safety requirements.

Safety Training

Wilson will hold safety training for all employees involved in this project.

Pre-job safety training will cover the following:

- Site Specific Safety Plan (SSSP) Review
- Task Hazard Analysis (THA)
- Environmental Training
- Railroad Safety Training
- Helicopter Safety Training
- QA / QC Training

Additional Wilson training provided as needed:

- Grounding
- Rigging
- First Aid / CPR
- Fire Training
- Heat and Illness Prevention Training
- Forklift Training
- Crane Training

Quarterly, Wilson also does industry related safety training for all field employees on three topics. Additional safety training will be addressed as required on the job.





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Safety Responsibilities

Safety doesn't just happen. It requires commitment by everyone, from office staff, to field personnel, to executive management:

Executive Management:

- Lead by example
- Provide necessary direction, support, and resources to ensure success of the safety program

Construction Director / Site Superintendents:

- Lead by example
- Ensure safety compliance
- Investigate incidents and/or near misses
- Report to management team

Safety Director:

- Develop, implement, and administer all safety programs, policies, and procedures
- Review incident investigations
- Provide safety and environmental direction and guidance for Site Superintendents and Safety Staff

Safety Staff:

- Support the Safety Director
- Provide guidance and assistance to Superintendents and Foreman regarding safety policies and procedures
- Communicate safety program expectations to all employees /subcontractors
- Conduct safety audits to ensure compliance
- Ensure employees receive job specific safety training
- Investigate incidents and/or near misses and recommend changes based on lessons learned

Foremen:

- Primary responsibility is to lead by example
- Implement and enforce safety procedures and policies
- Counsel crew in safe work practices
- Ensure all employees have adequate tools, equipment, and PPE to safely perform required tasks
- Ensure all safety related forms are completed promptly and adequately
- Report any unsafe conditions or behaviors





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Employees/Subcontractors:

- Adhere to all safety programs, policies, and procedures
- Report any unsafe acts or conditions immediately
- Properly use and care for all personal protective equipment (PPE)
- Report for work "fit for duty" at all times
- May be required to supervise and instruct apprentices, trainees and/or helpers

Subcontractors

All subcontractors and their employees shall comply with all local, State, and Federal regulations. All subcontractors and their employees will also comply with their own, BPA's and Wilson's safety regulations and where a discrepancy arises, the most stringent rule will be enforced. Subcontractors shall submit copies of daily paperwork to Wilson's Safety Department for review.

Quality Assurance / Quality Control

Wilson will work with BPA to define quality and eliminate deficiencies and non-compliance on our projects. For Wilson, the drive for quality goes much further than the end product. It extends to how we organize ourselves to finish a project, and how we approach the way things are versus how they should be. This begins with an attitude of embracing growth and change and accepting that if we look hard enough, there may be a better way to get the work done.

Safety Orientation

Before the start of project work, Wilson will hold a safety orientation with all employees, supervisors and subcontractor personnel. The briefing will cover training on the safety hazards listed. Additionally, Wilson's safety policies and applicable OSHA, State and BPA regulations will be reviewed.

New Hire & Guest Orientation

In accordance with this Site Specific Safety Plan (SSSP), Wilson Safety Manual and OSHA requirements, new hire's and Wilson personnel new to the project shall be required to read and understand the SSSP and any applicable Job Hazard Analysis (JHA(s)) for the project they are working on as well as the daily THA(s).

Wilson Foremen or Superintendent shall give all guests a brief orientation on specific work zone hazards before they enter the job site. Guests shall be required to wear appropriate Personal Protective Equipment (PPE) upon entering the work zone. When entering a work site, guests shall be briefed on the Task Hazard Analysis (THA) and sign the THA form.





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Drug Prevention Program

Substance abuse on the job has a negative impact on employees, their families, and their work. Wilson, along with National Electrical Contractors Association (NECA) and the IBEW, expects employees to report to work in a physical, mental and emotional condition to safely and adequately perform duties (“fit for duty”).

A drug and alcohol free work environment is critical to the maintenance of a safe atmosphere for all Wilson employees, clients and vendors. All prospective and current employees of Wilson are subject to the Wilson Drug and Alcohol Free Workplace Policy. All Wilson employees must pass a pre-employment drug screening and are subject to random and post-accident drug testing.

Wilson's drug and alcohol program is in compliance with USDOT 49 CFR Part 383 and Part 40 with respect to such covered employees.

Work Zone Protection

Wilson shall remain vigilant for the activities of BPA and subcontractor personnel in the work area. Wilson will maintain proper walkways, traffic routes, and work zone protection (i.e. cones, marking tape, barricades, excavation covers, fencing, etc.). Hazardous work zones left overnight such as open holes shall be barricaded, covered or fenced. Only employees or guests who have received a safety briefing and signed the THA form shall be allowed to enter the work zone.

Further, Wilson recognizes that areas of the project are in culturally and environmentally sensitive areas. Wilson will install construction fencing, flagging, or signage, where needed, to ensure workers, vehicle and equipment stay within approved work areas.

Overhead Work:

- Ground personnel shall not work directly under employees working overhead unless so required by the job task, in which case, ground personnel shall make the linemen aware of their presence in the work zone below.
- While work is being performed overhead, tools and materials shall be properly secured when not in use.
- Tools and materials shall not be thrown to or from employees in elevated positions, but shall be raised and lowered by means of a tool bag and/or hand line.
- Tools and loose materials shall not be left at elevated positions.





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

General Public

Crews will remain vigilant for the activities of the general public in the work area. As BPA substations are located on private government property, the general public is not allowed on this portion of the job sites. Wilson will ensure public safety by meeting all local, County, State, and Federal rules and regulations. Public notice signs will be posted in recognized public areas, parking areas and vehicular traffic areas that adjoin or share the ROW, specifying dates of construction and warnings for the presence of personnel and equipment. The signs may be supplemented by flaggers completely equipped (i.e. hard hat, high visibility vests, signs, current flaggers certification in their possession, etc.) to direct traffic or by roping off particularly dangerous jobs where appropriate. Wilson shall provide and maintain suitable temporary walkways, passageways, fences or other structures so as to minimize the obstruction or interference with vehicular, pedestrian, or livestock traffic in public streets, highways, or private ROWs.

Task Hazard Analysis

Before beginning any new task, all Wilson crews will complete a Task Hazard Analysis (THA) form. THA forms are designed to be a document completed by all crew members collectively. THA forms are meant to help crew members identify and document all hazards associated with a particular task. Means to eliminate or avoid those hazards are identified and the steps that will be taken to ensure safe completion of the task are recorded. A THA will be completed for each task the crew performs. These THA forms will be checked by Wilson safety officers when performing safety audits of crews.

Daily THA(s) cover the following:

Specific work tasks, assignments, procedures, locations, communication methods, special precautions, hazards and mitigation measures, personal protective equipment, review of applicable JHA(s), sources of induced or applied voltage(s), energy source controls, any required safety watch locations, parallel or crossing energized lines/facilities, and other job/task specific hazards or applicable information. In addition, Clearance Holders will discuss the status and details of any applicable Clearance, Hot Line Hold Order, or work permit. Additional THA(s) and/or Clearance briefings will be held any time there is a change in conditions, or change required in safe working procedures.

Changes in work:

Changes in the work plan, work procedures, or working conditions will require a new job briefing for affected employees. The Foreman or Superintendent will assess if changes can cause new hazards. Changes will be reflected on the daily THA forms. Possible need for additional PPE or safe work methods will be assessed as part of the work plan.





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Vehicle and Equipment Safety

- Only licensed, qualified, drivers shall be permitted to operate vehicles. Drivers shall be qualified as required under applicable US Department of Transportation (USDOT) regulations including, but not limited to, 49 CFR § 383 (Commercial Driver License Requirements); valid state license(s) shall be carried at all times.
- All vehicles 10,000 lb. GVWR and above shall be inspected daily before use and DOT inspection form completed.
- All vehicles and equipment shall be operated in a safe manner. Vehicle and equipment operators shall yield the right of way where failure to do so may endanger other people, vehicles, or equipment.
- Drivers shall maintain sufficient distance behind other vehicles to allow for safe stopping distance. Special consideration shall be made to terrain and weather conditions that may adversely affect the safe stopping distance.
- Drivers shall use hand free cell phone devices while driving; drivers must pull over and safely park before making or receiving hand held phone calls or texting.
- When operating vehicles or equipment, seatbelts shall be worn at all times. Employees shall not ride on the exterior of vehicles or equipment, such as truck beds, side boards, bumpers, trailers, and other areas not equipped with seatbelts.
- Operating vehicles or equipment in abnormally tight locations requires a spotter.
- When operating or moving vehicles or equipment in the vicinity of high-voltage circuits, and the possibility of accidental contact or violation of the Minimum Approach Distances (MAD) exists, a qualified electrical worker shall act as a spotter. MAD shall be maintained between vehicles/equipment and energized electric facilities. Special attention shall be paid to high areas on vehicles/equipment such as that of the radio antenna or materials being transported. Special precautions shall be taken in regards to MAD when operating or moving vehicles and equipment inside substation fences.
- When operating or moving motor-driven equipment in the vicinity of high-voltage circuits inside the substation and the possibility of accidental contact or violation of MAD exists a BPA Safety Watcher shall be used.
- While driving company vehicles, headlights shall remain turned on.
- Smoking is prohibited inside company vehicles and when refueling vehicles and equipment.
- Operation of vehicles and/or equipment is not permitted while under the influence of alcohol, illegal or prescription drugs, or over the counter medications.
- All vehicle and equipment ignition systems shall be turned off when refueling.
- Vehicles and equipment shall be maintained in a safe condition at all times. In the event of an unsafe mechanical condition, the vehicle shall be immediately placed out of service, red-tagged, and the appropriate manager notified.
- Vehicles and equipment that must be parked on roadways shall be parked in the same direction of traffic flow whenever possible.





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

- When parking on roadways, vehicles and equipment shall park off the traveled road surface whenever possible.
- Proper warning lights, cones, reflectors, or red flags (in accordance with state or local requirements) shall be used to warn for the presence of vehicles and equipment stopped on or adjacent to public roadways.
- Employees shall not put themselves into unnecessary backing situations. Employees shall back into locations (when possible) so, when leaving, the vehicle can pull forward.
- Employees shall use a spotter whenever possible to assist when backing. If two people are available, one MUST act as the spotter.
- The driver/operator and spotter shall use hand signals instead of verbal signals. Agree on hand signals before backing, and roll down the driver's side window so the spotter can be heard. Have the spotter stand so that they can be seen in the driver's side mirror.
- Driver/operator shall not back up vehicles/equipment without visual contact with spotter. STOP IMMEDIATELY if the spotter cannot be seen.
- If backing is required and no spotter is available on location, the driver/operator shall first do a full walk around the vehicle/equipment to ensure that blind spots are free from hazards or obstructions and backing can be done safely. When drivers/operators spot for themselves, they shall return to the vehicle and start backing within a few seconds after finishing the walk-around. This will allow very little time for people and/or obstacles to change behind the vehicle/equipment.
- Employees shall always back vehicles/equipment at a safe speed (i.e. slowly).
- Chocks shall be used when parking on an incline.
- When exiting vehicles to work adjacent to an active roadway, employees shall wear high visibility orange, high visibility green, or a high visibility vest on the outer most layer of clothing.
- Personal vehicles are not allowed inside substations or switchyards.
- Vehicles and equipment shall be driven on designated roadways when inside the substation or switchyards unless required for work.
- Before an operator leaves the controls of power equipment, the load, forks, bucket, or blades shall be lowered; the brakes shall be set and the equipment turned off.

Material

Wilson will be loading, hauling, and unloading materials during this construction project. Wilson employees will inspect and secure all loads properly prior to transport. Wilson employees will remain vigilant while loading and off-loading materials, staying clear of all loads and out of the "bite".

There is a possibility of hazardous voltages being generated in metallic objects by electromagnetic induction. Materials shall not be stored under energized electric facilities where induction is a hazard.





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Personal Protective Equipment

Wilson employees are required to wear appropriate footwear, long pants and Wilson issued long sleeve shirts at all times. If raingear or dark clothing is covering high visibility clothing, a high visibility vest must be worn on the outer most layer of clothing. Lace-up, over the ankle boots with rigid sole and heel meeting ASTM F 2413-05, Class 75 with EH rating shall be worn in all work areas where hard hats are required and other areas as determined by a supervisor. Any exceptions will require approval from the BPA safety office. Wilson white hard-hats and safety glasses shall be worn during all construction activities to exclude morning tailboard meetings that take place in the show-up yard, inside protected vehicles, inside construction trailers, and other similar restricted/protected situations. Employees shall wear gloves suitable for the work being performed where exposure to potential hand injury exists. Chin straps shall be worn on hard hats when working near operating aircraft. In the event crewmembers are working in close proximity to equipment noise in excess of 85 dB, crewmembers are required to use hearing protection. Employees working adjacent to active roadways shall wear high visibility orange or high visibility green. When working on active roadways, or on/adjacent to active roadways in dark conditions, a high visibility vest on the outer most layer of clothing shall be worn.

Workers exposed to potential arc flash hazards, such as during the installation of Master Grounds, shall wear FR rated clothing on their outermost layer.

Additionally, employees have the responsibility of wearing items that do not increase hazards when exposure to known or expected hazards exists. PPE is just one of many mitigation measures to known or expected hazards. PPE, although it is a great tool, is secondary to incident prevention. Proper planning and communication is always the first line of defense to incidents and near miss events.

Fall Hazards

Personnel shall wear industry-approved fall restraint or fall arrest when working at elevated positions in excess of four feet (e.g. structures, platforms, ladders, aerial man-lift equipment, etc.) in excess of four feet. 100% fall protection shall be used when climbing wood structures. Safety straps shall not be placed around poles above the cross arm except where it is not possible for the strap to slide over the top of the pole by inadvertence of the employee. A full body harness with a shock-absorbing lanyard shall be worn and attached to an approved anchor on all aerial man-lift equipment. Crew members shall pay attention to changing weather conditions and take special precautions when weather exists that may affect climbing or working conditions (e.g. windy, icy or wet weather). A full body harness with a shock-absorbing lanyard shall be worn and attached to an approved anchor when doing work that cannot be reached from the structure (e.g. aerial man-lift equipment, platforms, hook ladders, etc.).





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Outages

Final outage times have not been determined at this time. Anticipated outages will be mid-July through October 2012, but will follow the outage schedule as approved by BPA.

All safety protocols will be followed when working under outages. Communication on critical outage information will be discussed with all Wilson employees prior to the beginning of construction on this project, and outage status will be covered daily in the morning tailboard and recorded on the THA.

Fueling in Proximity to Energized Conductor

Portions of this project run parallel to hot corridor(s) in excess of 345kV. Within 70' of conductors energized at voltages of 345kV and higher, flammable liquids shall not be transferred from one metal container to another unless the two have been electrically bonded together to eliminate arcing.

Grounding Instructions

At no time shall the MAD be encroached upon without the use of Personal Protective Ground(s). Wilson is aware of the possibility of induced voltages in relation to the need for grounding. Qualified Wilson employees are trained in proper grounding techniques to protect personnel and equipment from these induced voltages.

- At no time will Wilson employees be working more than two (2) miles from Master Grounds.
- At no time shall the MAD be encroached upon without the use of Personal Protective Ground(s).
- Personal Protective Ground(s) shall be installed at each site where work is performed.
- At no time shall grounding be achieved through equipment or hardware.
- Ground leads shall be connected at the ground end before connecting to the de-energized part, shall be connected/disconnected with hot line tools, and shall be removed in reverse order.
- When working on a phase with more than one sub-conductor, sub-conductors shall be bonded together using an approved ground.
- Ground leads shall be attached to one of the following: a tower ground, a grounding bar, a driven ground, or directly to the tower steel and shall be capable of conducting anticipated fault current. All grounding parts shall have a minimum conductance of No. 2/0 AWG copper.
- Until properly grounded, conductor and equipment shall be considered energized.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Electrical Safety

Wilson will take appropriate measures to protect its employees from the risk of:

- Accidental energization due to the inadvertent closing of an isolating device.
- Induced electricity.
- Lightning.

- (1) Remote lightning: Portable protective grounds may not provide complete personal protection for close-in strikes. Work shall be suspended and personnel shall stay in the clear (e.g. control house, job trailer, vehicles) during times that lightning is within sight or sound, and shall stay in the clear for 30 minutes following the last sight or sound.
- (2) Wilson work procedures will ensure that proximity of personnel and equipment to the energized line remains outside the applicable Minimum Approach Distance (MAD). This will be reflected in crane setups and other related activities. We will review MAD requirements with our subcontractors and supply a qualified Safety Watcher as necessary.
- (3) Energized conductors and equipment are also a source of induction. Wilson will ensure that all crews are alerted to induction hazards.
- (4) All conductors and equipment shall be treated as energized (e.g. isolate or insulate) until identified, isolated, tested and grounded with personal protective grounds. No personnel or equipment shall come within the MAD (Table 1, 2 or 3 as applicable) unless these provisions are met. This includes any crossing or adjacent lines belonging to other owners or utilities.

**Note: The exception to this rule applies to “qualified persons” who utilize proper PPE (e.g. insulating gloves and sleeves) and/or Insulating Protective Equipment (IPE) (e.g. insulating matting, insulating blankets, covers, line hose, etc.) and conform to OSHA rules and regulations.*

- (5) Portable Protective Grounds:

- (A) Qualified Wilson employees shall install a visible, three-phase short and ground (Master Ground) in each isolated line section before any employee or equipment comes within the MAD of any de-energized line (as shown in Table 1, 2 or 3 as applicable). This shall require an adequate number of No. 2/0 AWG (or larger) copper ground leads to effect a three-phase short and ground on the circuit. All portable protective grounds shall be installed and removed with approved “hot line tools”. Until properly grounded, per these requirements, lines or equipment shall be considered energized.

- (B) Workers shall at no time be working further than two miles from installed Master Grounds.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

- (C) Any specific work zone where personnel may be exposed to a difference in potential (e.g. rigging, equipment, or position), personnel shall be protected from hazardous induced or applied voltage by the installation of a personal ground(s) creating an Equipotential Zone (EPZ). At no time will linemen, or other personnel, “get between” conductive parts that are not bonded together at the work zone.
 - (D) Grounds installed at multiple locations can cause circulating currents from hazardous induced voltages. These conditions can change due to line loading on parallel or crossing lines, weather, ground conditions, and the installation and removal of additional grounds. The Superintendent and Foremen will monitor changing conditions as needed to ensure employee safety.
- (6) Grounds, Portable Protective, Installation and Removal:
- (A) After identifying, isolating, and testing the conductor or equipment, ground leads shall be connected at the ground end before connecting to the de-energized conductor or equipment when possible; grounds shall be removed in the reverse order.
 - (B) All applications and removal of grounds to conductor and equipment ends shall be connected and disconnected with hot line tools.
 - (C) All grounding system parts shall have a minimum conductance of No. 2/0 AWG copper.
 - (D) Grounding for personal protection shall not be accomplished through vehicles or equipment.
 - (E) All grounding shall be bonded to a common ground within a given worksite to create an Equipotential Zone (EPZ).
 - (F) Personnel on the ground shall be cognizant of the fact that standing near the work-site ground, or touching anything bonded to the work-site ground, exposes him/her to shock hazards known as step and touch voltages.
 - (G) Identification of Grounds: Wilson will employ an adequate ground identification and inventory system to insure that the location and status of each applied ground is positively identified. The status and location of each inventoried ground shall be accounted for before releasing any clearance or releasing a completed line section for energization.
- (7) Grounds, Portable Protective, Static Wire:
- (A) Before touching or coming within the MAD of any Overhead “static” Ground Wire (OHGW) it will be grounded at that location.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

(8) Grounding of Equipment:

- (A) Man-lifts, cranes, booms, and any other overhead lift equipment set up in a location with the ability to come in proximity to energized lines or equipment shall be grounded using a No. 2/0 AWG copper ground cable before the boom is raised.
- (B) A dedicated safety spotter shall be used at crane sites where the possibility of accidental or incidental contact exists, or violation of the MAD will occur with an ungrounded or energized line.
- (C) Grounded equipment within a work site shall be electrically bonded together if the possibility exists for personnel to contact said equipment simultaneously.





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

(9) Minimum Approach Distance (MAD):

TABLE 1

| Minimum Approach Distances (MAD) for Qualified Electrical Workers | | |
|--|--|---|
| Nominal Voltage Phase to Phase | <u>MAD WITHOUT</u> Hold Order Inches | <u>MAD WITH</u> Hold Order Inches |
| 600 V – 15 kV | 26 | 26 |
| 34.5 kV | 28 | 28 |
| 69 kV | 37 | 37 |
| 115 kV | 38 | 38 |
| 138 kV | 42 | 42 |
| 161 kV | 49 | 49 |
| 230 kV (1) | 72* | 52 |
| 287 kV | 62* | 59 |
| 345 kV | 67* | 66 |
| 500 kV (2) | 126* | 88 |
| 400 kV DC+ (3) | 93* | 105 |
| 500 kV DC+ (3) | 120* | 138 |
| Insulated Overhead Groundwires | 24 | 24 |

* The inadvertent movement factor (IMF) of 12 inches, included in MAD for worker motions, may be deducted at 230 kV and above, to specifically allow vehicles to safely pass under energized bus at those voltages. (Reference BPA Work Standard V.A., *Minimum Approach Distance*)

(1) The MAD without a Hold Order for 230 kV exceeds the MAD for 287 kV & 345 kV because of the 3.3 p.u. switching surge overvoltages that are possible when 230 kV SF6 puffer circuit breakers reclose.

(2) On 500 kV lines equipped with zinc oxide arresters or station rod gaps set to 55 inches and the reclosing relays cut out and a Hold Order in effect, the minimum approach distance is 88 inches

(3) The MAD with a Hold Order for DC voltages exceeds the MAD without a Hold Order due to the introduction of tools in the gap while performing live-line work. (Lower p.u. switching surges present at reclosing on DC are the same in both cases)





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

TABLE 2

| Minimum Approach Distances (MAD) For Non-Electrical Workers and Equipment | |
|---|--|
| Nominal Voltage Phase to Phase | MAD (in feet) (phase to ground) |
| Up to 345 kV | 15 ft. |
| 500 kV* | 20 ft. |
| 400 kV DC + 500 kV DC +* | 20 ft. |
| Insulated Overhead Ground Wires | 10 ft. |
| <i>*Note - Lines nominally designated as 500 kV lines may be operated up to 550 kV operating voltage, which is therefore used to calculate the MAD for 500KV nominal voltage.</i> | |

TABLE 3

| Minimum Approach Distances (MAD) For Transporting Equipment Under Energized Transmission Lines | |
|--|----------------|
| Nominal Voltage Phase to Phase | MAD (in feet)* |
| 50 kV or less | 4 feet |
| 50 kV to 345 kV | 10 feet |
| 500 kV | 16 feet |
| <i>*Note - The minimum approach distances listed in Table 3 are reduced from those required in Table 2 due to the subtraction of the inadvertent movement factor. They may be used only when complying with the required conditions listed for the use of Table 3.</i> | |





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Energized Facilities Owned by Others

When crossing over or working in proximity to energized facilities owned by others, Wilson will obtain a Clearance or Hot Line Hold, will install guards and/or covers, and monitor clearances (MAD).

Safety Watcher and Escort Requirements

Safety Watcher(s) and Escorts will be required on this project.

A Contractor (BPA) Safety Watcher (i.e. Escort) shall be used in the following conditions:

- (1) Whenever Wilson enters a BPA substation or switchyard.
- (2) Whenever work is performed within a BPA substation or switchyard.
- (3) In special situations where BPA identifies that significant hazard exists.

A Contractor-Designated Safety Watcher (i.e. Safety Watcher) shall be used in the following conditions:

- (1) Whenever inadvertent movement by a worker could result in violating the MAD (as shown in Table 1, 2 or 3).
- (2) When operating or moving motor-driven equipment in the vicinity of high-voltage circuits and the possibility of accidental contact or violation of MAD exists (as shown in Table 1 or 2).
- (3) Whenever Wilson otherwise determines a Safety Watcher in necessary.

Wilson will adhere to appropriate MAD requirements and will utilize proper loading/offloading procedures in proximity of conductors and energized equipment to avoid violations of the MAD. There will be a definite understanding between the Safety Watcher and the person(s) being watched as to when the watching begins and ends. An orange or red reflective vest shall be worn by the Safety Watcher at all times while performing Contractor-Designated Safety Watcher duties as per BPA's Safety and Health Clause.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Step and Touch Voltages

Electromagnetically induced currents from parallel transmission lines may induce voltage onto de-energized lines, which then dissipates through the EPZ and work-site ground. While the likelihood of the transmission line becoming fully energized is extremely remote, exposure due to currents produced from electromagnetic induction is expected throughout this project. Therefore, establishing a low-resistance work-site ground can significantly reduce the electric shock hazards caused by induced currents to linemen and personnel on the ground.

An equipotential zone (EPZ) shall be established at the work site while performing transmission line maintenance and during construction activities where induction is a hazard. Linemen will accomplish this by establishing a single-point work-site ground and then connecting all conductive objects to it with properly sized personal protective ground cables. All vehicles involved in the work procedure shall also be connected to the work-site ground. The work-site ground shall be of adequate capacity to reduce the step and touch voltages levels within the work site to 100 volts or less in order to provide suitable protection to personnel on the ground.

The EPZ provides protection for the linemen both on the structure and on a vehicle. However, the current flowing into the soil through the work-site ground system produces a ground potential rise at the work site. Therefore, personnel on the ground shall be cognizant of the fact that standing near the work-site ground, or touching anything bonded to the work-site ground, exposes him/her to shock hazards known as step and touch voltages.

The severity of the electric shock hazard produced from ground potential rise depends on two factors: the amount of current flowing to ground at the work site and the resistance of the work-site ground system with respect to remote earth. To accurately determine the quality of a temporary ground rod, Wilson will measure its resistance to remote earth and install the appropriate amount and size of grounds (No. 2/0 AWG or larger). Water and compaction may also be used to assist in bringing/keeping the work-site ground resistance to acceptable values (25 ohms or less). Step and touch voltages shall be monitored and maintained at 100 volts or less. If step and touch voltages rise above 100 volts, work shall stop until step and touch voltage in excess of 100 volts are reduced to a reasonable value (less than 100 volts).





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Crossing Railroads, Roadways, Waterways and Energized Line

Wilson will cross numerous railroads, roadways, waterways, and energized lines during the course of this project.

Railroads:

Portions of this project run parallel to or involve crossing railroad tracks at several locations. Wilson will be in contact and work with the railroad(s) and Oregon State Department of Transportation (ODOT) to comply with any requirements. Wilson personnel will attend any safety classes provided by the railroads. Wilson will use Railroad Flagmen wherever required on this project.

Roadways:

Wilson will be in contact and work with the Oregon State Department of Transportation (ODOT) to comply with any requirements regarding work on, adjacent to, or over active roadways. Wilson will erect guard structures or booms and use tight line stringing methods to prevent interference with the roadways. Wilson will survey major roadway crossings to determine if traffic control or signage is required. Signage will comply with the Manual on Uniform Traffic Control Devices (MUTCD) as well as state and local requirements. A Traffic Control Plan (TCP) will be prepared and submitted to ODOT where required for roadway crossings.

Waterways:

Employees working above or immediately adjacent to waterways where the hazard of drowning exists will wear 100% fall protection, Personal Flotation Devices (PFD's), or will work behind barriers compliant with industry fall protection requirements.

Energized lines:

Wilson shall identify all energized crossings and coordinate with local utilities and line owners to safeguard against accidental contact hazards. Wilson shall also obtain a Hot Line Hold or Clearance on energized lines from line owners prior to working over/under energized facilities. Guard structures and/or booms will be used for protection when moving conductor over/under energized lines. Guards (i.e. cover) shall be in place prior to conducting any work over energized high voltage lines. Care shall be taken in the placement of cranes and extension of booms as guard structures so as to maintain MAD.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Terrain and Access Road Improvements

Wilson understands that approximately fifty-eight (58) wetlands are within 50 feet of structures on this project; and anticipates the need for five hundred (500) heavy crane mats for 60% of the project. These mats will be utilized in ditches and wetland areas around structure sites and for wire setups. Matting will be used for crossing wetlands or for work in wetlands at structure sites to protect wetland soils. Work areas adjacent to these wetlands will be marked as necessary to delineate the work area and avoid wetlands. Construction operations will utilize best management practices (BMPs) to mitigate impacts. Wilson will comply with the National and Regional Conditions when conducting work operations in wetlands.

Wilson will ensure that road improvements, which may be needed, are made with adequate compaction and appropriate base material to maintain the integrity of filled in areas. Any work needed to develop or re-develop access will be by written approval of the BPA Designated Representative prior to Wilson beginning this work. Wilson's environmental department will ensure that measures such as culverts, water-bars, ditching, diversions, barriers and other methods are properly used to maintain the integrity and stability of fragile soils in all weather conditions. If dust conditions warrant, a water truck will be made available on site.

Clearing and Grubbing

Wilson has identified roughly 6000-7000 danger trees to be removed on this project. Danger tree clearing will be subcontracted to Ellett Construction (Ellett). Danger tree clearing will occur early in construction and will comply with all applicable environmental timing restrictions. Skid trails and log decks will be located and marked to minimize impacts to wet areas. BMPs will be in place as appropriate throughout danger tree clearing areas, and any impacted wetland soils will be restored as necessary.

Wilson and our Subcontractors will use caution while clearing and grubbing for access roads and the ROW. Prior to cutting and removing forest products, Wilson will obtain necessary permits, licenses, and approvals from Federal, state, and local government agencies (e.g., timber harvest permits, burning permits). Tree felling will be conducted in accordance with Wilson's Safety Manuel and all Federal and State safety regulations. All trees will be cleared away from existing lines to prevent damage to line and equipment.

Wilson shall comply with the safety requirements and recommendations in association with the Albany-Eugene No. 1 115kV Line Rebuild "Supplemental Technical Specification" as follows:

- Part 01, Chapter 01, Section 02 – Contractor Work
- Part 04, Chapter 01 – Clearing
- Part 05, Chapter 02 – Clearing, Earthwork, and Placing Aggregate





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

Further, when energized electrical lines or facilities (BPA or foreign utility owned) are located within the vicinity of work involving felling or trimming trees, Wilson will have at least one Qualified Line Clearance Tree Trimmer in each crew.

Wilson also notes:

- On slopes, cut stumps so that the maximum height on the upslope side of the stump is 12" or 1/3rd the tree diameter (whichever is greater)
- On level ground, cut stumps to within 6" of the ground line
- For work in a clear zone of a public highway, change the maximum stump heights to be flush with the ground
- Wilson shall not push or pull over trees unless they are in an area being cleared for new roads

Removal and Transfer of Conductor

Removal and transfer of conductor can cause strain to significantly change on structures and associated hardware. This can cause structures to become unstable or conductor to sag excessively at the working location or somewhere down the line. Prior to removal or transfer of conductor (including fiber optic cable) structures shall be inspected, looking ahead in the work plan to determine if changing the strain of conductor on structures could cause a hazardous condition(s) to exist. If changing the strain on a structure could cause structure(s) to become unstable or collapse, structure(s) shall be made stable prior to the removal of old conductor by methods such as of bracing, use of a crane and/or line truck, or temporary guy placement, etc. If conductor could sag excessively in a location down the line that could cause a hazard to people, traffic, or property, appropriate safety measures such as temporary snubs shall be in place prior to beginning the removal process. If removing conductor over/under energized facilities, refer to the crossing energized line section of this SSSP.

Rigging Safety

All rigging components shall be inspected prior to use and determined to be of serviceable condition. Per ANSI standards, all slings, chains and bridles, etc., shall have legible Working Load Limit (WLL) tags or be removed from service. All shackles, links, blocks, and similar rigging parts shall have a legible WLL or Safe Working Limit (SWL) or be removed from service. Components not meeting inspection criteria shall be "red-tagged" and removed from service. All rigging questions shall be directed to the Foreman. If the Foreman cannot produce an answer, questions shall be deferred to the Superintendent.





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

The Bite

The bite is a constantly moving and changing hazard, one that relies on proper identification and constant awareness in order to be avoided. Our crews are trained in recognizing this potential hazard and staying out of the resultant path of objects that could fall, swing, shift or move in a manner that would pinch or crush a person or body part. This hazard shall be discussed with the entire crew at the beginning of each new task, particularly where rigging, lifting operations, and movement of the mud mats is involved. The mitigation measures necessary to avoid this hazard shall be employed and documented on the THA form.

Excavation

Due to the vast number of underground utilities near excavation sites on this project, Wilson shall use special precautions prior to any excavation taking place. Wilson shall check for pre-existing locates and utilize excavation methods such as a vacuum truck or hand digging where existing utilities are a hazard. Wilson shall ensure that all State, Federal, BPA, and Wilson excavation safety requirements are met. Wilson will ensure employees and subcontractors use adequate PPE and conduct THA(s) which detail environmental concerns and hazard mitigations.

Wilson will ensure that:

- Before digging or disturbing earth grade, areas will be checked for pre-existing utilities (locates).
- Only qualified operators shall excavate with equipment.
- Employees working in proximity to open excavations shall follow industry requirements for fall protection to ensure they do not inadvertently enter the excavation (e.g. guardrail systems, safety net systems, or personal fall arrest systems).
- Prior to entry into excavations 4' or more in depth, a competent person shall evaluate the excavation and ensure adequate shoring, sloping, or shielding have been completed, and complete a THA.
- Open excavations shall be covered if left overnight or protected by barriers to keep workers, livestock and/or the public a safe distance away.
- Excavations to be barricaded shall be at a minimum of 1' from the edge of the excavation.

Blasting Plan

Blasting is not anticipated on this project; however, in the event blasting is required, only licensed and certified key personnel shall be in charge of blasting procedures. All blasting operations will be done with the safety of the public, personnel, and all property in mind. All storage, transportation, and handling of explosives shall be done only by licensed and certified personnel in strict accordance with the Department of Transportation and the Bureau of Alcohol, Tobacco, Firearms and Explosives rules and regulations.





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Environmental Contamination and Hazards

During excavation, Wilson and its subcontractors may encounter contaminated soil or groundwater. When encountering soils or groundwater emitting odors or showing discoloration, work crews will immediately stop work within the affected area and wait for direction from the Owner's Engineer. In case of a spill or equipment leak, Wilson makes spill kits available on each jobsite.

Foundations

New wood structure foundations shall be the direct embedded type. Wilson will use the same pole hole for the new wood pole structure foundations and shall drill additional pole depth to obtain the standard 10% pole length plus two (2) feet unless otherwise stated for poles greater than 90 feet in length.

Foundation safety topics:

- (1) Complete THA form(s) with all personnel identifying hazards associated with assigned tasks and hazard control measures to complete tasks safely
- (2) Subcontractor safety requirements: Follow all applicable OR-OSHA, BPA and Wilson safety regulations
- (3) Follow excavation hazard mitigations as outlined in this SSSP

Disassembly and Assembly/Erection of Wood Structures

All equipment used in the disassembly process will be operated by qualified personnel. Caution shall be used while disassembly begins on old structures. Prior to climbing any wood structure, a pole test shall be completed to ensure the structure is safe to climb. Fall protection requirements, as outlined in the "Fall Hazards" section of this SSSP, shall be followed. Boom cranes and/or line trucks may be used to lift structures and place them safely on the ground. The lift plan shall include comparison of anticipated load with crane limitations. Once on the ground, structures shall be stabilized prior to disassembly. During disassembly, personnel shall take care to stay out of the bite at all times.

Safety procedures for Disassembly and Erection:

- (1) Complete THA(s) with all crew members involved identifying all hazards associated with the assigned task and hazard control measures to complete task safely
 - a. Turn THA(s) into Wilson's safety office for review
- (2) Review all rigging to be used in the disassembly and assembly/erection processes
 - a. Hoists, slings, steel chokers, rope, etc.





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

- (3) Lifting plan:
 - a. Know weights of lift prior to any lift taking place
 - b. Inspect all rigging prior to use
 - c. Check that rigging is adequate for the loads being lifted
 - d. Assign a designated signalman to the crane operator
 - e. Only a certified crane operator shall operate cranes
 - f. Wilson Mobile Crane Lift Plan form shall be completed
- (4) Disassemble structures in a manner as to not create an unstable or hazardous situation
- (5) Communication:
 - a. Communication is critical and essential to working safely; all personnel must communicate with each other to complete each and every work task safely
 - b. Verify that all crew members involved know their role and that proper communications are in place
- (6) All personnel shall stay focused on task being performed

Wire Installation Procedures

Prior to pulling in new conductor, the conductor size and tensions shall be determined. Prior to commencing work, all Wilson crews shall complete and review the Wilson Wire Stringing/Disassembly Form. Appropriate wire grips for wire size, travelers, and potential tensions involved, will be determined prior to the installation process. A running ground shall be placed at the tensioner and bonded to all worksite grounds. Grounding mats shall be used to mitigate step and touch hazards. Grounded travelers shall be in place at hot crossings and at the first and last structures. When crossing over or working in proximity to energized conductors or equipment, Wilson will obtain a Clearance or Hot Line Hold for worker safety and in compliance with BPA LOTO procedures. Wilson will use tight line stringing methods, will install temporary anchors and down guys as necessary, and will install guards or covers when stringing over/under energized conductor or equipment. Wilson will also monitor clearances (MAD) when stringing over/under energized conductor or equipment, roads or other critical areas. All temporary anchors and down-guys required for stringing purposes shall be in place. All stringing socks shall be banded and taped. Wilson will coordinate stringing times, which include roadway and railroad crossings, in compliance with the Crossings section of this SSSP to ensure public safety. All members of the stringing crew shall know their role and be in radio communications. Personnel shall stay out from under moving conductor at all times. All temporary snubs shall be pre-tested and adequate to hold calculated loads. Wilson will use a variety of methods on this project to string sock-line and conductor. Conditions will determine what methods are used to maximize the safety of personnel and the public. Conductor will be sagged per the project Sag Charts before it is tied in.





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

Safety procedures for wire installation:

- Complete a THA form with all personnel identifying hazards associated with assigned task and hazard control measures to complete task safely
- Use Wire Stringing/Removal Form during any wire task
- Know wire weight and tensions involved before beginning wire pull
- Review and inspect all rigging to be used in the wire pull: grips, hoists, slings, steel chokers, rope grips, rope, etc.
- Employ correct operations of the puller and tensioner
- Apply correct dead ending procedures
- Utilize proper grounding bonding procedures on conductor and equipment
- Verify clearance/hold orders are in place
- Apply proper cover and verify that guard structures are in place
- Verify that all crew members involved know their role and that proper communications are in place

Helicopter Operations

It is anticipated that Wilson will have a company-owned MD500E helicopter onsite for four (4) months during construction. The helicopter will be used to install the “sock line”, and assist crews as needed and allowable by BPA standards. Wilson will utilize the helicopter to expedite the wire installation process and reduce the construction “footprint”.

Pre-flight safety briefings will be attended by all employees working on the project near a Wilson helicopter. Training includes, but is not limited to, the particular hazards of flight operations, work methods, and the signals to be used. Wilson portable radios will be used to maintain constant communication between the helicopter and ground crews. Electrically operated cargo hooks shall be tested daily. Both the electrical and mechanical release must be operational. All ground-based Landing Zone (LZ) workers will wear hard hats secured by a chinstrap, safety glasses and hearing protection. No employee shall work on, under, or in the near vicinity of a helicopter while wearing loose clothing that could be caught in the moving equipment, the hoist lines, or otherwise interfere with the safe performance of the work.

The helicopter pilot shall be responsible for the size, weight and manner in which loads are connected to the helicopter. Weight of the helicopter load shall not exceed the manufacturer’s load limit. No lift shall be made if the helicopter pilot believes it cannot safely be performed.

Upon approval by the pilot, designated employees may come within 50 feet of the helicopter when the rotor blades are turning only to enter the craft, to hook or unhook the load, or perform other essential functions. Other employees shall not come closer than 100 feet of the craft when it is operating. Only qualified crew will perform work under hovering helicopters; then only for the limited period of time





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

necessary to guide, secure, hook or unhook the loads. Wilson crews will use a dielectric load line to minimize the hazard of static buildup. When working under hovering helicopters at any location, the employee shall have a safe pre-planned escape route in the event of an emergency. The helicopter Job Hazard Analysis (JHA) shall be reviewed before the “fly” on each day the helicopter is on the job.

Helicopter Class C Operations (Sock-Line Pulling)

- Tension machine must be in free-wheel with adequate braking
- A breakaway swivel will be used for side pull operations to minimize helicopter exposure to loss of flight control
- Shear pin will be inspected before each pull
- Helicopter travelers will be inspected between each use
- Employees will be instructed to stand in the clear in case of unexpected loss of line
- If a subcontractor is used for helicopter work, Wilson will ensure the subcontractor understands and complies with Wilson helicopter safety requirements

The pilot has sole authority for ensuring that:

- All day-to-day flight operations meet or exceed Federal Aviation Administration (FAA), OSHA, industry safe working standards and practices, Wilson safety policies, and BPA requirements
- Linemen and aircraft support personnel have received and comply with all safety training required for working in and around helicopter operations
- Changing field conditions including weather, pilot fatigue, mechanical issues, etc. are monitored and flight operations are adjusted accordingly

The aircraft mechanic assists the pilot’s safety responsibilities by:

- Performing all required helicopter pre-flight safety, maintenance, and inspection checks
- Performing daily external load safety checks
- Assisting in setting-up safe LZ’s and fueling areas

Pilot Fatigue

Wilson shall ensure, by scheduling pilot rotations, that individual pilots do not become fatigued while conducting high demand operations in the wire environment. Individual pilots shall inform the Foreman if fatigue becomes a safety hazard and their limits are reached. In such cases, the pilot will be rotated or flight operations shut down if required.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Emergency Communications

Prior to the start of construction, Wilson will survey the ROW areas to determine if communications are consistent and reliable throughout the work area. Radio communications and cell phones will be the primary method of communication. If necessary, Wilson will reinforce its communications system with satellite phones, repeaters, or other methods to ensure a reliable form of communications is in place. In addition, Wilson will work with the Federal Communications Commission (FCC) to acquire other frequencies as needed. Wilson Foremen and Management will be supplied with a cellular phone.

In the event an emergency requires communication with an air ambulance, Wilson's assigned VHF frequencies are:

- (1) 151.625-TX-RX No Tones (2) 151.505-TX-RX No Tones

Incident and Near Miss Reporting

Incidents will be reported to the immediate supervisor, regardless of severity. Supervisors will document all reported incidents. In addition to employees completing Wilson's Incident/Near Miss Form, Wilson employees will complete BPA's forms as well. All near misses shall be reported, documented, and shared to aid in preventing similar near miss events in the future.

Emergency Action Plan

There will, at all times, be a person at the work zone who is appropriately trained to render First Aid/CPR. Telephone numbers and addresses of local emergency medical facilities, along with telephone number of site superintendent and address of site location will be posted. First-aid kits shall be available at each work site. In the event of a medical emergency, supervisors will be notified immediately and transportation will be made available to take the injured party to the nearest medical facility.





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

NEAREST EMERGENCY MEDICAL FACILITY TO ALBANY:

SAMARITAN ALBANY GENERAL HOSPITAL

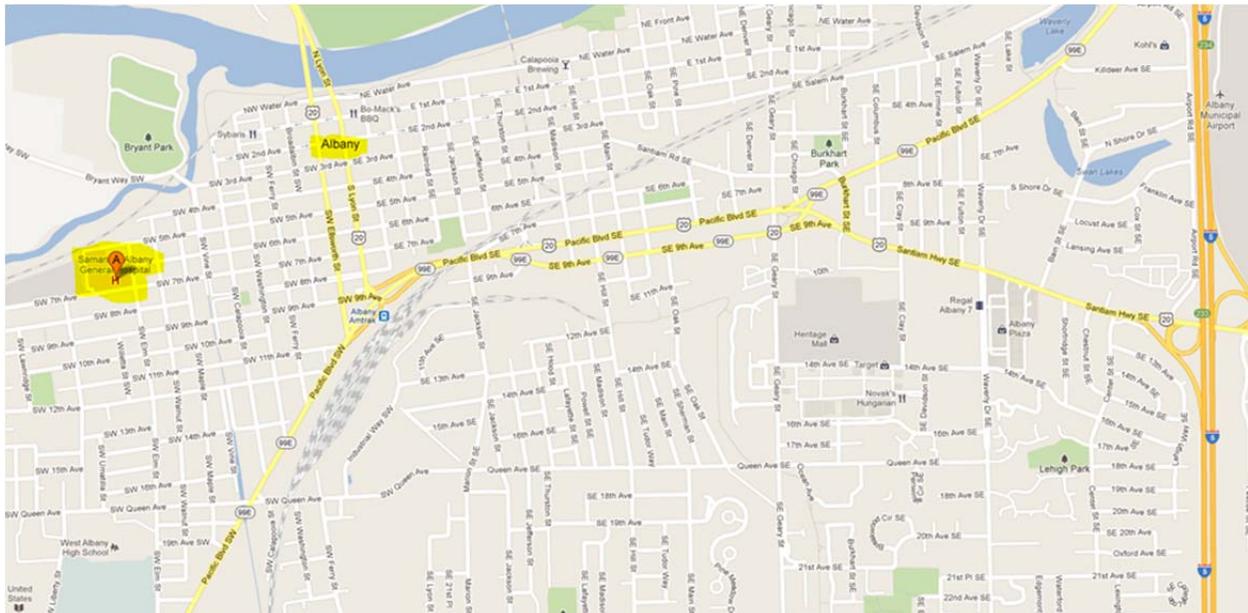
1046 Sixth Ave. SW, Albany, OR 97321

<http://www.samhealth.org/locations/samaritanalbanygeneralhospital/Pages/contactus.aspx>

Emergency: 9-1-1

General Information: (541) 812-4000

** Note: This is a 24 hour emergency medical facility. It is not the regional burn center for the area. Electrical contact treatment shall be made in consultation with the regional burn center (LEGACY OREGON BURN CENTER) per the High Voltage Electrical Contact Procedure in this SSSP.*





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

NEAREST EMERGENCY MEDICAL FACILITY TO EUGENE:

SACRED HEART MEDICAL CENTER AT RIVERBEND

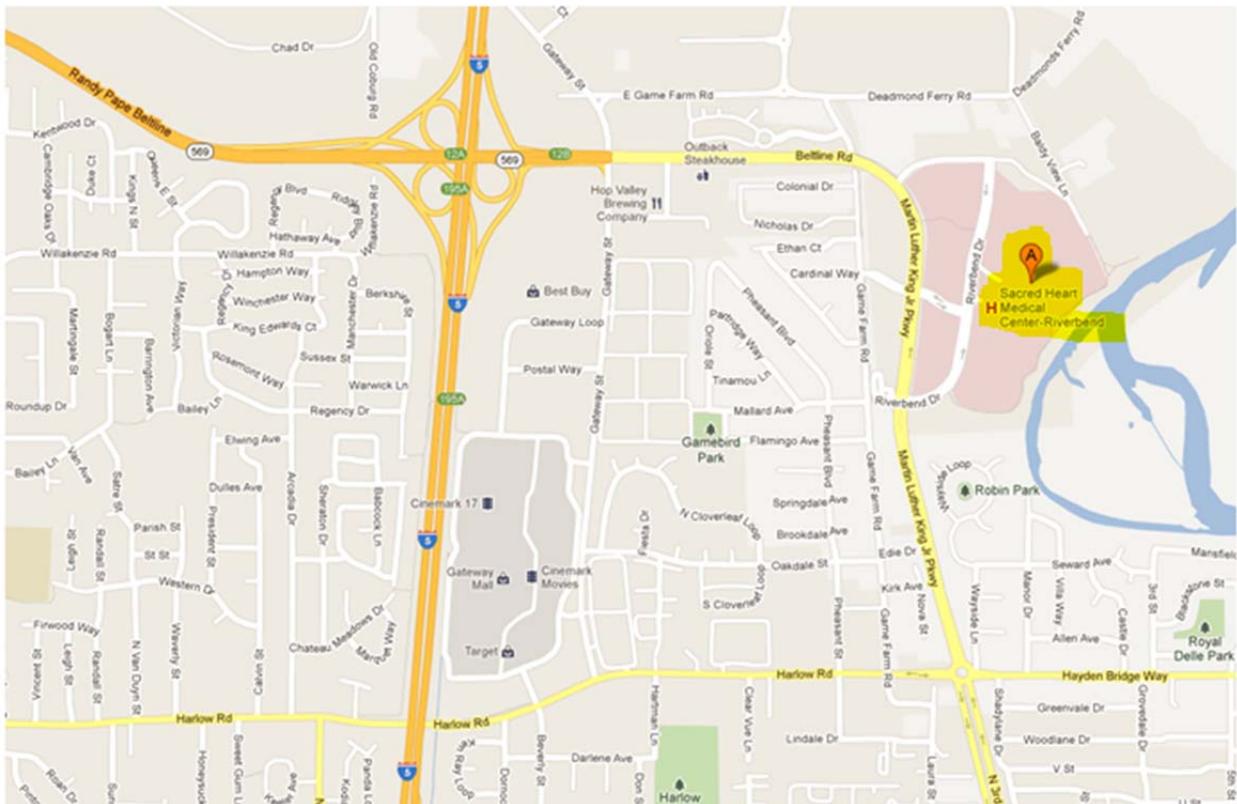
3333 RiverBend Drive, Springfield, OR 97477

<http://www.legacyhealth.org/body.cfm?id=663&fr=true>

Emergency: 9-1-1

General Information: (541) 222-6931

Note: This is a 24 hour emergency medical facility equipped with a helistop, emergency and trauma unit, and burn unit. Please note, this burn unit is not the regional burn center for this area. Electrical contact treatment shall be made in consultation with the regional burn center (LEGACY OREGON BURN CENTER) per the High Voltage Electrical Contact Procedure in this SSSP.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

HIGH VOLTAGE ELECTRICAL CONTACT:

Any Wilson employee who has made high voltage electrical contact shall be transported to the nearest emergency medical facility for treatment and observation as soon as possible. Assessments and baseline testing shall then be made in consultation with the nearest Regional Burn Center. Follow-up care, where indicated, shall be under the direction of or in consultation with a Regional Burn Center physician.

Electrical contact shall be defined as any electrical contact incident where any of the following takes place:

- Exit and entrance wounds are visible.
- Breathing is interrupted or impaired.
- Employee could “not let go” or was “hung up” by the contact.
- There is any other indication that a flow of electrical current took place across the body or between any two extremities.
- High voltage electrical contact was suspected or occurred.





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

NEAREST REGIONAL BURN CENTER TO ALBANY-EUGENE:

LEGACY OREGON BURN CENTER (OBC)

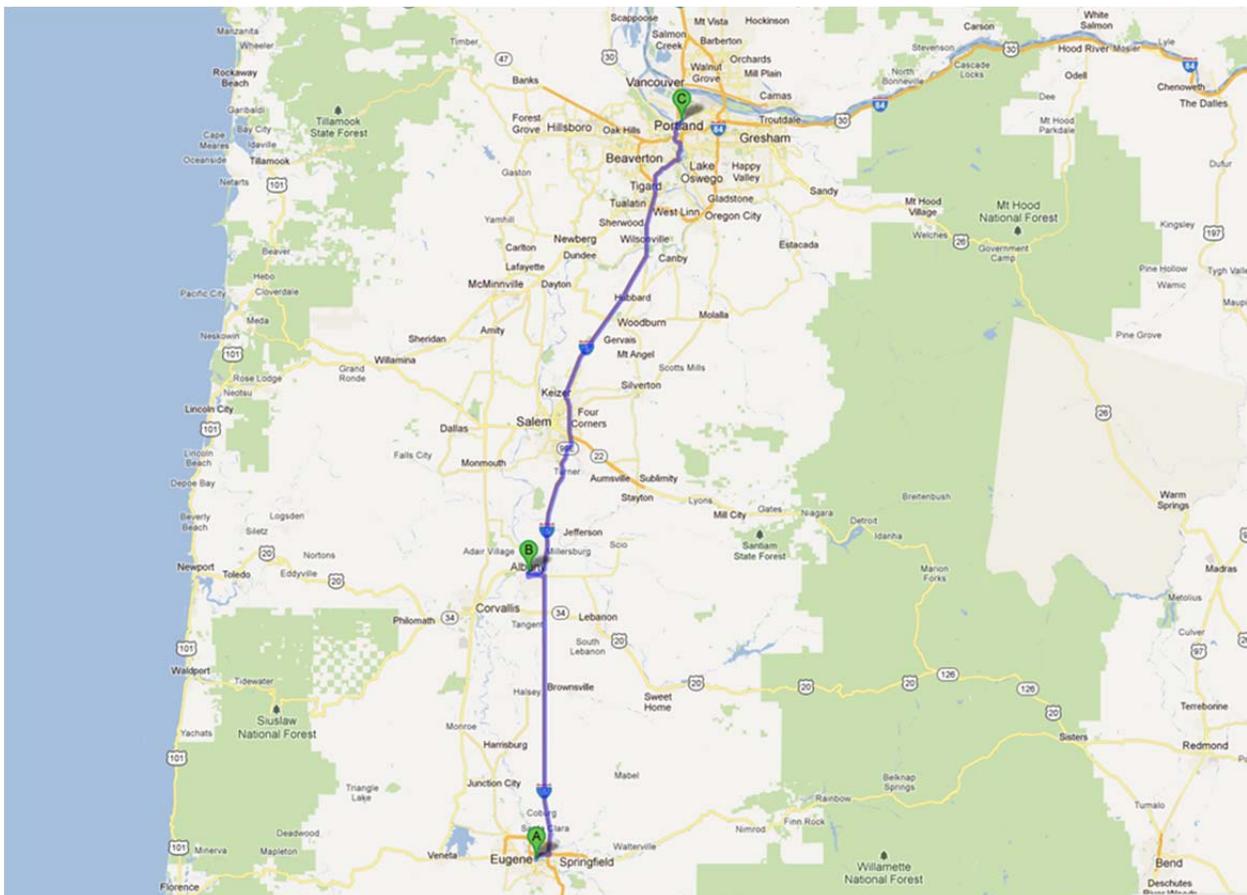
3001 N. Gantenbein, Portland, Oregon 97227

GPS: 45.544594, -122.669426

<http://www.legacyhealth.org/body.cfm?id=663&fr=true>

Emergency: 9-1-1

General Information: (503) 413-4232





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

Fatigue

At times, Wilson may work extended hours to meet schedule requirements. These extended work hours may include working 6 days a week for 10 hours a day or more. Work hours may be adjusted due to weather conditions and other unforeseen conditions. Fatigue levels due to working extended hours are not easily measured or quantified; therefore, it is difficult to isolate the effects of fatigue on accident and injury rates.

Prior to the start of extended work hours, employees will be trained to recognize the signs and symptoms of fatigue. Signs and symptoms of fatigue may include:

- Tiredness
- Drowsiness, including falling asleep against your will (“micro sleep”)
- Irritability
- Depression
- Dizziness / Giddiness
- Loss of appetite
- Loss of concentration
- Digestive problems

During shifts of 10 hours a day, physical activity will be limited to approximately 8 hours or less; the other two hours will include morning tailboard meetings, mobilization, morning and afternoon breaks, and a meal/lunch break. It will be the responsibility of everyone on the crew to monitor themselves, as well as other employees on the job site, for the signs and symptoms of fatigue. If an employee is exhibiting signs and symptoms of fatigue, the affected employee will be sent home to rest for the remainder of the shift.

Warm Weather Conditions

The Foreman or designated Wilson representative shall monitor weather daily for temperature forecast. If the temperature reaches 86°F, shade shall be readily available for personnel on site. If the temperature reaches 96°F, the Foreman or Wilson representative shall ensure frequent shade and hydration breaks. The hazard of heat related illness and preventative measures shall be discussed and documented on the THA(s). All Wilson crews shall contain a sufficient number of employees who are trained in First-Aid/CPR. All employees will dress sensibly for the environment, take adequate breaks and drink plenty of fluids. Each crew shall carry an adequate supply of bottled water. Should a worker display signs of dehydration, the affected worker shall notify the crew who will move the worker to a cool shaded area. The crew will refer to the guidelines of the Heat Illness Prevention Plan, follow pre-trained first aid procedures, and activate the EMS System if necessary.





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Heat Illness Prevention Plan

This section applies to the mitigation of heat illness. These procedures provide minimal steps applicable to most outdoor work settings and are essential to reducing the incidence of heat related illnesses. When working environments create a higher risk for heat illness (e.g., during a heat wave, or other severe working or environmental conditions), it is the supervisor's duty to exercise greater caution, and implement additional protective measures beyond what is outlined in this document, as needed to protect their employees.

DEFINITIONS:

"ACCLIMATIZATION" means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.

"HEAT ILLNESS" means a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope (induced fainting) and heat stroke.

"ENVIRONMENTAL RISK FACTORS" means working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

"PERSONAL RISK FACTORS" means factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.

"PREVENTIVE RECOVERY PERIOD" means a period of time to recover from the heat in order to prevent heat illness.

"SHADE" means blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person sitting inside it, unless the car is running with air conditioning.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Heat Illness Prevention Procedures:

(1) Water

Employees shall have access to portable drinking water meeting the following requirements:

Where it is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity at the beginning of the work shift to provide one quart per employee per hour for the entire shift. Supervisors may begin the shift with smaller quantities of water if they have effective procedures for replenishment during the shift as needed. If an employee or a crew depletes their water supply during working hours, they are to immediately proceed to the nearest facility to replenish their supply. The frequent drinking of water is highly encouraged.

(2) Water Supply/ Potable Water

An adequate supply of potable water shall be provided at all places of employment for drinking and washing. A backup supply of bottled water will be available for aerial workers or other workers who are working in areas remote from the drinking water supply.

(3) Portable Containers

Operations shall meet the following requirements:

- Potable drinking water shall be provided during working hours and placed in locations readily accessible to all employees.
- Access to such drinking water shall be permitted at all times.
- The water shall be fresh and pure, suitably cool, and in sufficient amounts-taking into account the air temperature, humidity, and the nature of the work performed-to meet the needs of all employees.
- The use of common drinking cups or dippers is prohibited.

(4) Access to Shade

Employees suffering from heat illness, or believing a preventative recovery period is needed, shall be provided access to an area with shade that is either open to the air or provided with ventilation or cooling for a period of no less than five minutes. Such access to shade shall be permitted at all times. Employees shall have access to an office, construction trailer, or other building or vehicle with air conditioning when needed.





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

Whenever possible, provide areas for employees to take their breaks which are:

- Readily accessible.
- In the shade, open to the air and ventilated or cooled.
- Near sufficient supplies of drinking water.

During hot weather, at the beginning of every shift, the supervisor/foremen will present a short tailgate meeting to remind employees about the importance of rest breaks, keeping hydrated and the location of shade.

(5) Training

Employee training in the following topics shall be provided:

- All employees shall be trained prior to working outdoors.
- The environmental and personal risk factors for heat illness.
- The importance of frequent consumption of water, up to 1 quart per hour, when the work environment is hot and employees are likely to be sweating more than usual in performance of their duties.
- The different types of heat illness and the common signs and symptoms of heat illness.
- The importance of employees immediately reporting directly to their supervisor any symptoms or signs of heat illness in themselves, or in co-workers. First aid assessment shall commence immediately.
- Field employees are required to have current First Aid/CPR training.
- All employees shall know their physical location (e.g. address, GPS coordinates, etc.) and be able to communicate it in case of emergency.
- The job specific Emergency Action Plan shall include the location of the nearest emergency medical facility and the procedures for activating the local EMS system. This shall be discussed with employees at the initial job safety tailgate.

Supervisors and co-workers are encouraged never to discount any signs or symptoms they are experiencing, and to immediately report them. Supervisor Training shall be given, prior to supervision of employees working in the field in the heat, on the following topics:

- Review of the information contained in this Heat Illness Prevention Plan.
- Supervisor/designated person shall monitor water containers periodically, and encourage employees to report to the designated person any low levels or dirty water.
- Supervisors will provide frequent reminders to employees to drink water, make certain water breaks are provided, and maintain an adequate water supply at all times.
- During hot weather, at the beginning of every shift, the supervisor/foremen will remind employees about the importance of frequent consumption of water throughout the shift.





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

- The procedure the supervisor is to follow to implement the provisions of this section of the Heat Illness Prevention Plan.
- The procedure the supervisor is to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.

(6) Communication

Supervisors shall be the link with employees in the field. Two-way radios and/or cell phones shall be used to communicate with the field. Especially for those working in remote areas, periodic checks shall be made during the work shift to maintain real-time communication. Supervisors shall alert work crews to any extreme weather conditions so proper adjustments can be made in work practices.

To accomplish this, the supervisors at the worksite shall implement measures necessary to address heat illness. Using our two-way communication and/or cell phones allows employees in the field to report their specific work location conditions and their status.

Fire Hazards

Fire prevention training, as required, shall be conducted in addition to adherence to common sense good housekeeping. Wilson crews will comply with the following fire prevention guidelines:

- Observe all 'NO SMOKING' signs, especially near flammables.
- Personnel shall not smoke or have an open flame in the vicinity of an active helicopter Landing Zone (LZ).
- Ensure work areas are free from any combustibles when welding and will first wet down area where appropriate.
- All construction debris will be stored in the proper area for disposal.
- Flammable liquids will be stored in Underwriters Laboratories (UL) approved containers.
- All vehicles and equipment shall have a current fire extinguisher mounted. Vehicles will have a decal on the door identifying its location.
- Wilson safety personnel will monitor and comply with any fire related restrictions.
- Wilson will monitor Industrial Fire Precaution Levels (IFPL).
- If fire or dust conditions warrant, a water truck will be made available on site.

In the event a work area is designated to be in the "Extreme" fire hazard category, work will be scheduled in coordination with BPA to mitigate risk while trying to maintain the overall work schedule. Crews will carry firefighting tools to include shovel, Pulaski, and 5-gallon water pack. Crews will fight incipient fires only and shall maintain a planned escape route at all times.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Housekeeping

Wilson employees will work together to keep trash off the ROW and work areas tidy, but it will be mainly the responsibility of the crew members working at the sites to practice "Good Housekeeping". Wilson employees shall follow a detailed recycling plan and dispose only of what is left. Crews will survey the ROW prior to exiting construction sites to assure no trash is left on site. Work sites will be further examined by Superintendents, the Environmental Team, the QA / QC Team, and Land Liaisons to assure sites are left in an acceptable manner.

Hazardous Materials

Hazardous materials shall be clearly and adequately marked, and stored in appropriate containers. Material Safety Data Sheets (MSDS) shall be available to all employees. Employees shall know the location of the MSDS for all hazardous materials known to be in their work areas.

Flora and Fauna

There is a potential for vermin related illnesses as well as snakebites during warmer weather when working with stored materials or opening packaging or enclosed spaces. Appropriate footwear (boots) shall be worn at all times on the jobsite. In case of snakebite, employees will activate EMS System and follow pre-trained first aid procedures.

Poison oak may be found in the work area. Personnel will be trained on recognition and avoidance of poison oak. If poison oak is identified on the ROW, the Wilson Superintendent will make treatment and cleanser available as needed.

There is also a possibility of encountering bees or wasp nests on this project. Care shall be taken before entering work zone to ensure area is safe and clear.

Summary

In summary, the Wilson safety team will conduct daily THA(s), weekly safety meetings including the weekly safety topic discussion (i.e. The Handline), regular project inspections (i.e. safety audits), and quarterly safety-related industry training. In special cases where a particular safety concern needs to be addressed, our safety representative will tailor a class specific to that subject. Implementation of the overall safety program will belong to the Project Manager and Superintendent, supported by the Safety Director and Safety Representative assigned to this project. Questions or Comments about the Safety Plan may be directed to the Safety Department, Wilson Construction Company, (503) 263-6882.



King,James J (CONTR) - CGI-7

From: Martinez, Kimberly <Kimberly.Martinez@jacobs.com>
Sent: Friday, July 26, 2013 5:04 PM
To: AlbanyEugeneNo1@bpa.epm-hosting.com
Subject: Albany Eugene Danger Tree Safety Report 7.26.13
Attachments: 7 25 Tree Fall 5573 1 BPA F 6410 15e.pdf

Kimberly Martinez | Jacobs | Resident Engineer | Office 503.624.3132 | Kimberly.Martinez@jacobs.com | www.jacobs.com

From: Woodard, Chuck [<mailto:cwoodard@wilsonconst.com>]
Sent: Friday, July 26, 2013 5:00 PM
To: May, Jennifer; Hinick, Kathleen; Orth, Erich; ddmclain@bpa.gov; Martinez, Kimberly
Cc: Crites, JR; Turner, Gerald; contractadmin; Mcginnis, Mike; Peveler, Mace
Subject: Albany Eugene Danger Tree Safety Report 7.26.13

All,

Attached is the Albany Eugene Danger Tree Safety Report from the incident on July 25, 2013. Thank you.

Respectfully,

Chuck Woodard
Project Manager
Wilson Construction Co
1190 NW 3rd Ave.
PO Box 1190
Canby, OR 97013
Phone: (503) 263-6882
Fax: (503) 263-6946
www.wilsonconst.com



"Building from our past, powering the present, with our vision on the future"

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King,James J (CONTR) - CGI-7

From: Coulombe,Dale A (BPA) - TFE-ALVEY
Sent: Thursday, July 25, 2013 9:49 PM
To: Meier,Gerald D (BPA) - TFEB-ALVEY
Subject: Re: ALBA-EUGE Tree in line

Thanks Gerry

From: Meier,Gerald D (BPA) - TFEB-ALVEY
Sent: Thursday, July 25, 2013 08:06 PM Pacific Standard Time
To: Coulombe,Dale A (BPA) - TFE-ALVEY; Howell,Kim J (BPA) - TF-DOB-1
Cc: Pruitt,David R (BPA) - TFEB-ALVEY
Subject: ALBA-EUGE Tree in line

At about 1530 Dave notified us that Wilson had dropped a tree in the line and Halsey mill was out.
At about 1632 MCC griffith opened B-546 at Eugene allowing us to close the B-975 disconnect at Harrisburg Tap. This dropped Junction City and Harrisburg for about 15 seconds but was necessary because we could not pick up the 3 transformers at Halsey Mill with our disconnect. Halsey mill, Junction City and Harrisburg were all re-energized at about 1633.

At 1819 Bashor released his clearance.

At 1857 I closed b-1229 at Halsey Mill tap energizing up to the open PCB B-1272 at Albany and restoring the line to full service.

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From: Coulombe,Dale A (BPA) - TFE-ALVEY
Sent: Thursday, July 25, 2013 5:21 PM
To: Ochoa,J. Diego (BPA) - TSE-TPP-2; Johnson,Douglass E (BPA) - TFOB-PORT ANGELES; Schaad,John G (BPA) - TPCV-ALVEY; Vassallo,Gregory L (BPA) - TPCV-ALVEY
Cc: Pruitt,David R (BPA) - TFEB-ALVEY
Subject: Fw: Contract tree crew fell tree into energized ALBA-EUGE line
Attachments: outage_888325[1].pdf; outage_890810[1].pdf

Fyi on outage today. I'm OOO so please contact Dave directly if you have any questions. Thx

From: Pruitt,David R (BPA) - TFEB-ALVEY
Sent: Thursday, July 25, 2013 04:43 PM Pacific Standard Time
To: McLain,Dale D (CONTR) - TETQ-TPP-3; Martinez, Kimberly <Kimberly.Martinez@jacobs.com>; Coulombe,Dale A (BPA) - TFE-ALVEY; Howell,Kim J (BPA) - TF-DOB-1; Bea,Brad A (BPA) - NF-WHSE; Cramer,James C (BPA) - NF-PASCO; Orth,Erich T (BPA) - TEP-TPP-3
Subject: Contract tree crew fell tree into energized ALBA-EUGE line

At 3:01 pm today July 25, 2013, a contract tree crew fell a danger tree into the energized Albany-Eugene #1 115kV line. There was a Hold Order in effect on the Albany-Harrisburg section of that line, so it did not reclose. There were no injuries due to the incident. The fault caused an outage to customers at Halsey Mill which is served by Emerald PUD (EPUD).

<<outage_888325[1].pdf>>

3:13 pm - I was notified of the fault from the Albany Operator
3:30 pm - I sent Operators from Alvey to Halsey Mill Tap B-1229 and Harrisburg Tap B-975.
4:15 pm - Operator cleared the Albany terminal.
4:19 pm - Operator cleared the Halsey Mill B-1229 terminal.
4:30 pm - MCC opened the PCB at Eugene causing a momentary outage to customers at Harrisburg, Greenberry and Junction City

4:30 pm - Operator closed the Harrisburg B-975 terminal on a dead line.
4:31 pm - MCC closed the PCB at Eugene restoring power to Harrisburg, Greenberry, Junction City and Halsey Mill.

A clearance is being issued to BPA TLM to remove the tree from the line.

<<outage_890810[1].pdf>>

Thank you,

Dave Pruitt

Alvey Chief Substation Operator III

TFEB-ALVEY

Office: (541) 988-7011

DATS: 922-613

Cell: (541) 206-4076

King,James J (CONTR) - CGI-7

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Thank you,

Dave Pruitt

Alvey Chief Substation Operator III

TFEB-ALVEY

Office: (541) 988-7011

DATS: 922-613

Cell: (541) 206-4076

07-25-2013 Albany-Eugene No.1 115kv Line

Tree Caused Outage Report

At 3:01 pm today July 25, 2013, a contract tree crew (Wilson Construction) fell a danger tree into the energized Albany-Eugene #1 115kV line. There was a Hold Order in effect on the Albany-Harrisburg section of that line, so it did not reclose. There were no injuries due to the incident. The fault caused an outage to customers at Halsey Mill which is served by Emerald PUD (EPUD).

3:13 pm – Dave Pruitt was notified of the fault from the Albany Operator

3:30 pm - Dave sent Operators from Alvey to Halsey Mill Tap B-1229 and Harrisburg Tap B-975.

4:15 pm - Operator cleared the Albany terminal.

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4:30 pm - Operator closed the Harrisburg B-975 terminal on a dead line.

4:31 pm - MCC closed the PCB at Eugene restoring power to Harrisburg, Greenberry, Junction City and Halsey Mill.

A was issued to BPA TLM to remove the tree from the line.

Clearance Received at 1646 M3814W

Clearance Returned at 1819



SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

General Scope of Work

This project, as outlined in the Supplemental Technical Specification, is for the rebuild of miles 1 through 32 of the Albany–Eugene No. 1 Transmission Line. The work of this project is to replace all structures and components (e.g., wood cross arms, wood cross braces, ceramic insulators, etc.) with upgraded components. This project involves the rebuild of Albany–Eugene No. 1, 115 kV transmission line from the Albany substation to the Alderwood Tap. Upgrade work includes removal of all existing structures, components, guys, anchors and conductor. Installation work includes new poles, guys, anchors, steel cross braces, steel wide-flange cross arms, insulators, line hardware, and the replacement of the conductor. The length of this Albany–Eugene rebuild project is approximately 30.90 miles. Additional project work includes improvement and maintenance of access roads (where necessary), and disposal of removed components. The general scope of work includes the following:

1. Implementation of environmental requirements.
2. Incidental clearing of vegetation, small deciduous brush and trees where necessary.
3. Structure removal and installation of new components.
4. Removal and installation of new conductor and groundwire.
5. Installation of new grounding assemblies and materials.
6. Installation of new gates, repair of existing gates, and fence work.
7. Installation of new signage on replaced poles.
8. Disposal of removed materials.
9. New or improved access road construction where necessary.
10. Restoration of road approaches used during the project to at least the condition that existed at the start of the project.
11. Off-site disposal of unused excavated material, including material augured from holes vacated by removed structures.
12. Off-site disposal of removed transmission line components and other removed material that becomes property of the Contractor.
13. Re-use of existing ADSS fiber optic cable.
14. Performance of all additional work required to complete the project as described in the specifications, drawings, instructions, lists, and other contract documents.

Location

The project starts at the Albany Substation in Linn County, Oregon and terminates at the Alderwood Tap in Lane County, Oregon.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Safety Requirements

All work will be conducted under the auspices of Federal Occupational Safety and Health Act (OSHA), Oregon Occupational Safety and Health Act (OR-OSHA), and any other applicable State regulatory agencies. Wilson Construction Company (Wilson) will comply with Bonneville Power Administration (BPA), the International Brotherhood of Electrical Workers (IBEW) and Wilson safety policies, procedures and programs. If there is a conflict between these regulations or programs, the most stringent shall apply. Wilson shall ensure that our subcontractor/partners comply with all applicable safety requirements.

Safety Training

Wilson will hold safety training for all employees involved in this project.

Pre-job safety training will cover the following:

- Site Specific Safety Plan (SSSP) Review
- Task Hazard Analysis (THA)
- Environmental Training
- Railroad Safety Training
- Helicopter Safety Training
- QA / QC Training

Additional Wilson training provided as needed:

- Grounding
- Rigging
- First Aid / CPR
- Fire Training
- Heat and Illness Prevention Training
- Forklift Training
- Crane Training

Quarterly, Wilson also does industry related safety training for all field employees on three topics. Additional safety training will be addressed as required on the job.





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Safety Responsibilities

Safety doesn't just happen. It requires commitment by everyone, from office staff, to field personnel, to executive management:

Executive Management:

- Lead by example
- Provide necessary direction, support, and resources to ensure success of the safety program

Construction Director / Site Superintendents:

- Lead by example
- Ensure safety compliance
- Investigate incidents and/or near misses
- Report to management team

Safety Director:

- Develop, implement, and administer all safety programs, policies, and procedures
- Review incident investigations
- Provide safety and environmental direction and guidance for Site Superintendents and Safety Staff

Safety Staff:

- Support the Safety Director
- Provide guidance and assistance to Superintendents and Foreman regarding safety policies and procedures
- Communicate safety program expectations to all employees /subcontractors
- Conduct safety audits to ensure compliance
- Ensure employees receive job specific safety training
- Investigate incidents and/or near misses and recommend changes based on lessons learned

Foremen:

- Primary responsibility is to lead by example
- Implement and enforce safety procedures and policies
- Counsel crew in safe work practices
- Ensure all employees have adequate tools, equipment, and PPE to safely perform required tasks
- Ensure all safety related forms are completed promptly and adequately
- Report any unsafe conditions or behaviors





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Employees/Subcontractors:

- Adhere to all safety programs, policies, and procedures
- Report any unsafe acts or conditions immediately
- Properly use and care for all personal protective equipment (PPE)
- Report for work "fit for duty" at all times
- May be required to supervise and instruct apprentices, trainees and/or helpers

Subcontractors

All subcontractors and their employees shall comply with all local, State, and Federal regulations. All subcontractors and their employees will also comply with their own, BPA's and Wilson's safety regulations and where a discrepancy arises, the most stringent rule will be enforced. Subcontractors shall submit copies of daily paperwork to Wilson's Safety Department for review.

Quality Assurance / Quality Control

Wilson will work with BPA to define quality and eliminate deficiencies and non-compliance on our projects. For Wilson, the drive for quality goes much further than the end product. It extends to how we organize ourselves to finish a project, and how we approach the way things are versus how they should be. This begins with an attitude of embracing growth and change and accepting that if we look hard enough, there may be a better way to get the work done.

Safety Orientation

Before the start of project work, Wilson will hold a safety orientation with all employees, supervisors and subcontractor personnel. The briefing will cover training on the safety hazards listed. Additionally, Wilson's safety policies and applicable OSHA, State and BPA regulations will be reviewed.

New Hire & Guest Orientation

In accordance with this Site Specific Safety Plan (SSSP), Wilson Safety Manual and OSHA requirements, new hire's and Wilson personnel new to the project shall be required to read and understand the SSSP and any applicable Job Hazard Analysis (JHA(s)) for the project they are working on as well as the daily THA(s).

Wilson Foremen or Superintendent shall give all guests a brief orientation on specific work zone hazards before they enter the job site. Guests shall be required to wear appropriate Personal Protective Equipment (PPE) upon entering the work zone. When entering a work site, guests shall be briefed on the Task Hazard Analysis (THA) and sign the THA form.





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Drug Prevention Program

Substance abuse on the job has a negative impact on employees, their families, and their work. Wilson, along with National Electrical Contractors Association (NECA) and the IBEW, expects employees to report to work in a physical, mental and emotional condition to safely and adequately perform duties (“fit for duty”).

A drug and alcohol free work environment is critical to the maintenance of a safe atmosphere for all Wilson employees, clients and vendors. All prospective and current employees of Wilson are subject to the Wilson Drug and Alcohol Free Workplace Policy. All Wilson employees must pass a pre-employment drug screening and are subject to random and post-accident drug testing.

Wilson's drug and alcohol program is in compliance with USDOT 49 CFR Part 383 and Part 40 with respect to such covered employees.

Work Zone Protection

Wilson shall remain vigilant for the activities of BPA and subcontractor personnel in the work area. Wilson will maintain proper walkways, traffic routes, and work zone protection (i.e. cones, marking tape, barricades, excavation covers, fencing, etc.). Hazardous work zones left overnight such as open holes shall be barricaded, covered or fenced. Only employees or guests who have received a safety briefing and signed the THA form shall be allowed to enter the work zone.

Further, Wilson recognizes that areas of the project are in culturally and environmentally sensitive areas. Wilson will install construction fencing, flagging, or signage, where needed, to ensure workers, vehicle and equipment stay within approved work areas.

Overhead Work:

- Ground personnel shall not work directly under employees working overhead unless so required by the job task, in which case, ground personnel shall make the linemen aware of their presence in the work zone below.
- While work is being performed overhead, tools and materials shall be properly secured when not in use.
- Tools and materials shall not be thrown to or from employees in elevated positions, but shall be raised and lowered by means of a tool bag and/or hand line.
- Tools and loose materials shall not be left at elevated positions.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

General Public

Crews will remain vigilant for the activities of the general public in the work area. As BPA substations are located on private government property, the general public is not allowed on this portion of the job sites. Wilson will ensure public safety by meeting all local, County, State, and Federal rules and regulations. Public notice signs will be posted in recognized public areas, parking areas and vehicular traffic areas that adjoin or share the ROW, specifying dates of construction and warnings for the presence of personnel and equipment. The signs may be supplemented by flaggers completely equipped (i.e. hard hat, high visibility vests, signs, current flaggers certification in their possession, etc.) to direct traffic or by roping off particularly dangerous jobs where appropriate. Wilson shall provide and maintain suitable temporary walkways, passageways, fences or other structures so as to minimize the obstruction or interference with vehicular, pedestrian, or livestock traffic in public streets, highways, or private ROWs.

Task Hazard Analysis

Before beginning any new task, all Wilson crews will complete a Task Hazard Analysis (THA) form. THA forms are designed to be a document completed by all crew members collectively. THA forms are meant to help crew members identify and document all hazards associated with a particular task. Means to eliminate or avoid those hazards are identified and the steps that will be taken to ensure safe completion of the task are recorded. A THA will be completed for each task the crew performs. These THA forms will be checked by Wilson safety officers when performing safety audits of crews.

Daily THA(s) cover the following:

Specific work tasks, assignments, procedures, locations, communication methods, special precautions, hazards and mitigation measures, personal protective equipment, review of applicable JHA(s), sources of induced or applied voltage(s), energy source controls, any required safety watch locations, parallel or crossing energized lines/facilities, and other job/task specific hazards or applicable information. In addition, Clearance Holders will discuss the status and details of any applicable Clearance, Hot Line Hold Order, or work permit. Additional THA(s) and/or Clearance briefings will be held any time there is a change in conditions, or change required in safe working procedures.

Changes in work:

Changes in the work plan, work procedures, or working conditions will require a new job briefing for affected employees. The Foreman or Superintendent will assess if changes can cause new hazards. Changes will be reflected on the daily THA forms. Possible need for additional PPE or safe work methods will be assessed as part of the work plan.





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Vehicle and Equipment Safety

- Only licensed, qualified, drivers shall be permitted to operate vehicles. Drivers shall be qualified as required under applicable US Department of Transportation (USDOT) regulations including, but not limited to, 49 CFR § 383 (Commercial Driver License Requirements); valid state license(s) shall be carried at all times.
- All vehicles 10,000 lb. GVWR and above shall be inspected daily before use and DOT inspection form completed.
- All vehicles and equipment shall be operated in a safe manner. Vehicle and equipment operators shall yield the right of way where failure to do so may endanger other people, vehicles, or equipment.
- Drivers shall maintain sufficient distance behind other vehicles to allow for safe stopping distance. Special consideration shall be made to terrain and weather conditions that may adversely affect the safe stopping distance.
- Drivers shall use hand free cell phone devices while driving; drivers must pull over and safely park before making or receiving hand held phone calls or texting.
- When operating vehicles or equipment, seatbelts shall be worn at all times. Employees shall not ride on the exterior of vehicles or equipment, such as truck beds, side boards, bumpers, trailers, and other areas not equipped with seatbelts.
- Operating vehicles or equipment in abnormally tight locations requires a spotter.
- When operating or moving vehicles or equipment in the vicinity of high-voltage circuits, and the possibility of accidental contact or violation of the Minimum Approach Distances (MAD) exists, a qualified electrical worker shall act as a spotter. MAD shall be maintained between vehicles/equipment and energized electric facilities. Special attention shall be paid to high areas on vehicles/equipment such as that of the radio antenna or materials being transported. Special precautions shall be taken in regards to MAD when operating or moving vehicles and equipment inside substation fences.
- When operating or moving motor-driven equipment in the vicinity of high-voltage circuits inside the substation and the possibility of accidental contact or violation of MAD exists a BPA Safety Watcher shall be used.
- While driving company vehicles, headlights shall remain turned on.
- Smoking is prohibited inside company vehicles and when refueling vehicles and equipment.
- Operation of vehicles and/or equipment is not permitted while under the influence of alcohol, illegal or prescription drugs, or over the counter medications.
- All vehicle and equipment ignition systems shall be turned off when refueling.
- Vehicles and equipment shall be maintained in a safe condition at all times. In the event of an unsafe mechanical condition, the vehicle shall be immediately placed out of service, red-tagged, and the appropriate manager notified.
- Vehicles and equipment that must be parked on roadways shall be parked in the same direction of traffic flow whenever possible.





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

- When parking on roadways, vehicles and equipment shall park off the traveled road surface whenever possible.
- Proper warning lights, cones, reflectors, or red flags (in accordance with state or local requirements) shall be used to warn for the presence of vehicles and equipment stopped on or adjacent to public roadways.
- Employees shall not put themselves into unnecessary backing situations. Employees shall back into locations (when possible) so, when leaving, the vehicle can pull forward.
- Employees shall use a spotter whenever possible to assist when backing. If two people are available, one MUST act as the spotter.
- The driver/operator and spotter shall use hand signals instead of verbal signals. Agree on hand signals before backing, and roll down the driver's side window so the spotter can be heard. Have the spotter stand so that they can be seen in the driver's side mirror.
- Driver/operator shall not back up vehicles/equipment without visual contact with spotter. STOP IMMEDIATELY if the spotter cannot be seen.
- If backing is required and no spotter is available on location, the driver/operator shall first do a full walk around the vehicle/equipment to ensure that blind spots are free from hazards or obstructions and backing can be done safely. When drivers/operators spot for themselves, they shall return to the vehicle and start backing within a few seconds after finishing the walk-around. This will allow very little time for people and/or obstacles to change behind the vehicle/equipment.
- Employees shall always back vehicles/equipment at a safe speed (i.e. slowly).
- Chocks shall be used when parking on an incline.
- When exiting vehicles to work adjacent to an active roadway, employees shall wear high visibility orange, high visibility green, or a high visibility vest on the outer most layer of clothing.
- Personal vehicles are not allowed inside substations or switchyards.
- Vehicles and equipment shall be driven on designated roadways when inside the substation or switchyards unless required for work.
- Before an operator leaves the controls of power equipment, the load, forks, bucket, or blades shall be lowered; the brakes shall be set and the equipment turned off.

Material

Wilson will be loading, hauling, and unloading materials during this construction project. Wilson employees will inspect and secure all loads properly prior to transport. Wilson employees will remain vigilant while loading and off-loading materials, staying clear of all loads and out of the "bite".

There is a possibility of hazardous voltages being generated in metallic objects by electromagnetic induction. Materials shall not be stored under energized electric facilities where induction is a hazard.





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Personal Protective Equipment

Wilson employees are required to wear appropriate footwear, long pants and Wilson issued long sleeve shirts at all times. If raingear or dark clothing is covering high visibility clothing, a high visibility vest must be worn on the outer most layer of clothing. Lace-up, over the ankle boots with rigid sole and heel meeting ASTM F 2413-05, Class 75 with EH rating shall be worn in all work areas where hard hats are required and other areas as determined by a supervisor. Any exceptions will require approval from the BPA safety office. Wilson white hard-hats and safety glasses shall be worn during all construction activities to exclude morning tailboard meetings that take place in the show-up yard, inside protected vehicles, inside construction trailers, and other similar restricted/protected situations. Employees shall wear gloves suitable for the work being performed where exposure to potential hand injury exists. Chin straps shall be worn on hard hats when working near operating aircraft. In the event crewmembers are working in close proximity to equipment noise in excess of 85 dB, crewmembers are required to use hearing protection. Employees working adjacent to active roadways shall wear high visibility orange or high visibility green. When working on active roadways, or on/adjacent to active roadways in dark conditions, a high visibility vest on the outer most layer of clothing shall be worn.

Workers exposed to potential arc flash hazards, such as during the installation of Master Grounds, shall wear FR rated clothing on their outermost layer.

Additionally, employees have the responsibility of wearing items that do not increase hazards when exposure to known or expected hazards exists. PPE is just one of many mitigation measures to known or expected hazards. PPE, although it is a great tool, is secondary to incident prevention. Proper planning and communication is always the first line of defense to incidents and near miss events.

Fall Hazards

Personnel shall wear industry-approved fall restraint or fall arrest when working at elevated positions in excess of four feet (e.g. structures, platforms, ladders, aerial man-lift equipment, etc.) in excess of four feet. 100% fall protection shall be used when climbing wood structures. Safety straps shall not be placed around poles above the cross arm except where it is not possible for the strap to slide over the top of the pole by inadvertence of the employee. A full body harness with a shock-absorbing lanyard shall be worn and attached to an approved anchor on all aerial man-lift equipment. Crew members shall pay attention to changing weather conditions and take special precautions when weather exists that may affect climbing or working conditions (e.g. windy, icy or wet weather). A full body harness with a shock-absorbing lanyard shall be worn and attached to an approved anchor when doing work that cannot be reached from the structure (e.g. aerial man-lift equipment, platforms, hook ladders, etc.).





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Outages

Final outage times have not been determined at this time. Anticipated outages will be mid-July through October 2012, but will follow the outage schedule as approved by BPA.

All safety protocols will be followed when working under outages. Communication on critical outage information will be discussed with all Wilson employees prior to the beginning of construction on this project, and outage status will be covered daily in the morning tailboard and recorded on the THA.

Fueling in Proximity to Energized Conductor

Portions of this project run parallel to hot corridor(s) in excess of 345kV. Within 70' of conductors energized at voltages of 345kV and higher, flammable liquids shall not be transferred from one metal container to another unless the two have been electrically bonded together to eliminate arcing.

Grounding Instructions

At no time shall the MAD be encroached upon without the use of Personal Protective Ground(s). Wilson is aware of the possibility of induced voltages in relation to the need for grounding. Qualified Wilson employees are trained in proper grounding techniques to protect personnel and equipment from these induced voltages.

- At no time will Wilson employees be working more than two (2) miles from Master Grounds.
- At no time shall the MAD be encroached upon without the use of Personal Protective Ground(s).
- Personal Protective Ground(s) shall be installed at each site where work is performed.
- At no time shall grounding be achieved through equipment or hardware.
- Ground leads shall be connected at the ground end before connecting to the de-energized part, shall be connected/disconnected with hot line tools, and shall be removed in reverse order.
- When working on a phase with more than one sub-conductor, sub-conductors shall be bonded together using an approved ground.
- Ground leads shall be attached to one of the following: a tower ground, a grounding bar, a driven ground, or directly to the tower steel and shall be capable of conducting anticipated fault current. All grounding parts shall have a minimum conductance of No. 2/0 AWG copper.
- Until properly grounded, conductor and equipment shall be considered energized.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Electrical Safety

Wilson will take appropriate measures to protect its employees from the risk of:

- Accidental energization due to the inadvertent closing of an isolating device.
- Induced electricity.
- Lightning.

- (1) Remote lightning: Portable protective grounds may not provide complete personal protection for close-in strikes. Work shall be suspended and personnel shall stay in the clear (e.g. control house, job trailer, vehicles) during times that lightning is within sight or sound, and shall stay in the clear for 30 minutes following the last sight or sound.
- (2) Wilson work procedures will ensure that proximity of personnel and equipment to the energized line remains outside the applicable Minimum Approach Distance (MAD). This will be reflected in crane setups and other related activities. We will review MAD requirements with our subcontractors and supply a qualified Safety Watcher as necessary.
- (3) Energized conductors and equipment are also a source of induction. Wilson will ensure that all crews are alerted to induction hazards.
- (4) All conductors and equipment shall be treated as energized (e.g. isolate or insulate) until identified, isolated, tested and grounded with personal protective grounds. No personnel or equipment shall come within the MAD (Table 1, 2 or 3 as applicable) unless these provisions are met. This includes any crossing or adjacent lines belonging to other owners or utilities.

**Note: The exception to this rule applies to “qualified persons” who utilize proper PPE (e.g. insulating gloves and sleeves) and/or Insulating Protective Equipment (IPE) (e.g. insulating matting, insulating blankets, covers, line hose, etc.) and conform to OSHA rules and regulations.*

- (5) Portable Protective Grounds:

- (A) Qualified Wilson employees shall install a visible, three-phase short and ground (Master Ground) in each isolated line section before any employee or equipment comes within the MAD of any de-energized line (as shown in Table 1, 2 or 3 as applicable). This shall require an adequate number of No. 2/0 AWG (or larger) copper ground leads to effect a three-phase short and ground on the circuit. All portable protective grounds shall be installed and removed with approved “hot line tools”. Until properly grounded, per these requirements, lines or equipment shall be considered energized.

- (B) Workers shall at no time be working further than two miles from installed Master Grounds.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

- (C) Any specific work zone where personnel may be exposed to a difference in potential (e.g. rigging, equipment, or position), personnel shall be protected from hazardous induced or applied voltage by the installation of a personal ground(s) creating an Equipotential Zone (EPZ). At no time will linemen, or other personnel, “get between” conductive parts that are not bonded together at the work zone.
 - (D) Grounds installed at multiple locations can cause circulating currents from hazardous induced voltages. These conditions can change due to line loading on parallel or crossing lines, weather, ground conditions, and the installation and removal of additional grounds. The Superintendent and Foremen will monitor changing conditions as needed to ensure employee safety.
- (6) Grounds, Portable Protective, Installation and Removal:
- (A) After identifying, isolating, and testing the conductor or equipment, ground leads shall be connected at the ground end before connecting to the de-energized conductor or equipment when possible; grounds shall be removed in the reverse order.
 - (B) All applications and removal of grounds to conductor and equipment ends shall be connected and disconnected with hot line tools.
 - (C) All grounding system parts shall have a minimum conductance of No. 2/0 AWG copper.
 - (D) Grounding for personal protection shall not be accomplished through vehicles or equipment.
 - (E) All grounding shall be bonded to a common ground within a given worksite to create an Equipotential Zone (EPZ).
 - (F) Personnel on the ground shall be cognizant of the fact that standing near the work-site ground, or touching anything bonded to the work-site ground, exposes him/her to shock hazards known as step and touch voltages.
 - (G) Identification of Grounds: Wilson will employ an adequate ground identification and inventory system to insure that the location and status of each applied ground is positively identified. The status and location of each inventoried ground shall be accounted for before releasing any clearance or releasing a completed line section for energization.
- (7) Grounds, Portable Protective, Static Wire:
- (A) Before touching or coming within the MAD of any Overhead “static” Ground Wire (OHGW) it will be grounded at that location.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

(8) Grounding of Equipment:

- (A) Man-lifts, cranes, booms, and any other overhead lift equipment set up in a location with the ability to come in proximity to energized lines or equipment shall be grounded using a No. 2/0 AWG copper ground cable before the boom is raised.
- (B) A dedicated safety spotter shall be used at crane sites where the possibility of accidental or incidental contact exists, or violation of the MAD will occur with an ungrounded or energized line.
- (C) Grounded equipment within a work site shall be electrically bonded together if the possibility exists for personnel to contact said equipment simultaneously.





SITE SPECIFIC SAFETY PLAN

**Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild**

(9) Minimum Approach Distance (MAD):

TABLE 1

| Minimum Approach Distances (MAD) for Qualified Electrical Workers | | |
|--|--|---|
| Nominal Voltage Phase to Phase | <u>MAD WITHOUT</u> Hold Order Inches | <u>MAD WITH</u> Hold Order Inches |
| 600 V – 15 kV | 26 | 26 |
| 34.5 kV | 28 | 28 |
| 69 kV | 37 | 37 |
| 115 kV | 38 | 38 |
| 138 kV | 42 | 42 |
| 161 kV | 49 | 49 |
| 230 kV (1) | 72* | 52 |
| 287 kV | 62* | 59 |
| 345 kV | 67* | 66 |
| 500 kV (2) | 126* | 88 |
| 400 kV DC+ (3) | 93* | 105 |
| 500 kV DC+ (3) | 120* | 138 |
| Insulated Overhead Groundwires | 24 | 24 |

* The inadvertent movement factor (IMF) of 12 inches, included in MAD for worker motions, may be deducted at 230 kV and above, to specifically allow vehicles to safely pass under energized bus at those voltages. (Reference BPA Work Standard V.A., *Minimum Approach Distance*)

(1) The MAD without a Hold Order for 230 kV exceeds the MAD for 287 kV & 345 kV because of the 3.3 p.u. switching surge overvoltages that are possible when 230 kV SF6 puffer circuit breakers reclose.

(2) On 500 kV lines equipped with zinc oxide arresters or station rod gaps set to 55 inches and the reclosing relays cut out and a Hold Order in effect, the minimum approach distance is 88 inches

(3) The MAD with a Hold Order for DC voltages exceeds the MAD without a Hold Order due to the introduction of tools in the gap while performing live-line work. (Lower p.u. switching surges present at reclosing on DC are the same in both cases)





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

TABLE 2

| Minimum Approach Distances (MAD) For Non-Electrical Workers and Equipment | |
|---|--|
| Nominal Voltage Phase to Phase | MAD (in feet) (phase to ground) |
| Up to 345 kV | 15 ft. |
| 500 kV* | 20 ft. |
| 400 kV DC + 500 kV DC +* | 20 ft. |
| Insulated Overhead Ground Wires | 10 ft. |
| <small>*Note - Lines nominally designated as 500 kV lines may be operated up to 550 kV operating voltage, which is therefore used to calculate the MAD for 500KV nominal voltage.</small> | |

TABLE 3

| Minimum Approach Distances (MAD) For Transporting Equipment Under Energized Transmission Lines | |
|--|----------------|
| Nominal Voltage Phase to Phase | MAD (in feet)* |
| 50 kV or less | 4 feet |
| 50 kV to 345 kV | 10 feet |
| 500 kV | 16 feet |
| <small>*Note - The minimum approach distances listed in Table 3 are reduced from those required in Table 2 due to the subtraction of the inadvertent movement factor. They may be used only when complying with the required conditions listed for the use of Table 3.</small> | |





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Energized Facilities Owned by Others

When crossing over or working in proximity to energized facilities owned by others, Wilson will obtain a Clearance or Hot Line Hold, will install guards and/or covers, and monitor clearances (MAD).

Safety Watcher and Escort Requirements

Safety Watcher(s) and Escorts will be required on this project.

A Contractor (BPA) Safety Watcher (i.e. Escort) shall be used in the following conditions:

- (1) Whenever Wilson enters a BPA substation or switchyard.
- (2) Whenever work is performed within a BPA substation or switchyard.
- (3) In special situations where BPA identifies that significant hazard exists.

A Contractor-Designated Safety Watcher (i.e. Safety Watcher) shall be used in the following conditions:

- (1) Whenever inadvertent movement by a worker could result in violating the MAD (as shown in Table 1, 2 or 3).
- (2) When operating or moving motor-driven equipment in the vicinity of high-voltage circuits and the possibility of accidental contact or violation of MAD exists (as shown in Table 1 or 2).
- (3) Whenever Wilson otherwise determines a Safety Watcher in necessary.

Wilson will adhere to appropriate MAD requirements and will utilize proper loading/offloading procedures in proximity of conductors and energized equipment to avoid violations of the MAD. There will be a definite understanding between the Safety Watcher and the person(s) being watched as to when the watching begins and ends. An orange or red reflective vest shall be worn by the Safety Watcher at all times while performing Contractor-Designated Safety Watcher duties as per BPA's Safety and Health Clause.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Step and Touch Voltages

Electromagnetically induced currents from parallel transmission lines may induce voltage onto de-energized lines, which then dissipates through the EPZ and work-site ground. While the likelihood of the transmission line becoming fully energized is extremely remote, exposure due to currents produced from electromagnetic induction is expected throughout this project. Therefore, establishing a low-resistance work-site ground can significantly reduce the electric shock hazards caused by induced currents to linemen and personnel on the ground.

An equipotential zone (EPZ) shall be established at the work site while performing transmission line maintenance and during construction activities where induction is a hazard. Linemen will accomplish this by establishing a single-point work-site ground and then connecting all conductive objects to it with properly sized personal protective ground cables. All vehicles involved in the work procedure shall also be connected to the work-site ground. The work-site ground shall be of adequate capacity to reduce the step and touch voltages levels within the work site to 100 volts or less in order to provide suitable protection to personnel on the ground.

The EPZ provides protection for the linemen both on the structure and on a vehicle. However, the current flowing into the soil through the work-site ground system produces a ground potential rise at the work site. Therefore, personnel on the ground shall be cognizant of the fact that standing near the work-site ground, or touching anything bonded to the work-site ground, exposes him/her to shock hazards known as step and touch voltages.

The severity of the electric shock hazard produced from ground potential rise depends on two factors: the amount of current flowing to ground at the work site and the resistance of the work-site ground system with respect to remote earth. To accurately determine the quality of a temporary ground rod, Wilson will measure its resistance to remote earth and install the appropriate amount and size of grounds (No. 2/0 AWG or larger). Water and compaction may also be used to assist in bringing/keeping the work-site ground resistance to acceptable values (25 ohms or less). Step and touch voltages shall be monitored and maintained at 100 volts or less. If step and touch voltages rise above 100 volts, work shall stop until step and touch voltage in excess of 100 volts are reduced to a reasonable value (less than 100 volts).





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Crossing Railroads, Roadways, Waterways and Energized Line

Wilson will cross numerous railroads, roadways, waterways, and energized lines during the course of this project.

Railroads:

Portions of this project run parallel to or involve crossing railroad tracks at several locations. Wilson will be in contact and work with the railroad(s) and Oregon State Department of Transportation (ODOT) to comply with any requirements. Wilson personnel will attend any safety classes provided by the railroads. Wilson will use Railroad Flagmen wherever required on this project.

Roadways:

Wilson will be in contact and work with the Oregon State Department of Transportation (ODOT) to comply with any requirements regarding work on, adjacent to, or over active roadways. Wilson will erect guard structures or booms and use tight line stringing methods to prevent interference with the roadways. Wilson will survey major roadway crossings to determine if traffic control or signage is required. Signage will comply with the Manual on Uniform Traffic Control Devices (MUTCD) as well as state and local requirements. A Traffic Control Plan (TCP) will be prepared and submitted to ODOT where required for roadway crossings.

Waterways:

Employees working above or immediately adjacent to waterways where the hazard of drowning exists will wear 100% fall protection, Personal Flotation Devices (PFD's), or will work behind barriers compliant with industry fall protection requirements.

Energized lines:

Wilson shall identify all energized crossings and coordinate with local utilities and line owners to safeguard against accidental contact hazards. Wilson shall also obtain a Hot Line Hold or Clearance on energized lines from line owners prior to working over/under energized facilities. Guard structures and/or booms will be used for protection when moving conductor over/under energized lines. Guards (i.e. cover) shall be in place prior to conducting any work over energized high voltage lines. Care shall be taken in the placement of cranes and extension of booms as guard structures so as to maintain MAD.





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Terrain and Access Road Improvements

Wilson understands that approximately fifty-eight (58) wetlands are within 50 feet of structures on this project; and anticipates the need for five hundred (500) heavy crane mats for 60% of the project. These mats will be utilized in ditches and wetland areas around structure sites and for wire setups. Matting will be used for crossing wetlands or for work in wetlands at structure sites to protect wetland soils. Work areas adjacent to these wetlands will be marked as necessary to delineate the work area and avoid wetlands. Construction operations will utilize best management practices (BMPs) to mitigate impacts. Wilson will comply with the National and Regional Conditions when conducting work operations in wetlands.

Wilson will ensure that road improvements, which may be needed, are made with adequate compaction and appropriate base material to maintain the integrity of filled in areas. Any work needed to develop or re-develop access will be by written approval of the BPA Designated Representative prior to Wilson beginning this work. Wilson's environmental department will ensure that measures such as culverts, water-bars, ditching, diversions, barriers and other methods are properly used to maintain the integrity and stability of fragile soils in all weather conditions. If dust conditions warrant, a water truck will be made available on site.

Clearing and Grubbing

Wilson has identified roughly 6000-7000 danger trees to be removed on this project. Danger tree clearing will be subcontracted to Ellett Construction (Ellett). Danger tree clearing will occur early in construction and will comply with all applicable environmental timing restrictions. Skid trails and log decks will be located and marked to minimize impacts to wet areas. BMPs will be in place as appropriate throughout danger tree clearing areas, and any impacted wetland soils will be restored as necessary.

Wilson and our Subcontractors will use caution while clearing and grubbing for access roads and the ROW. Prior to cutting and removing forest products, Wilson will obtain necessary permits, licenses, and approvals from Federal, state, and local government agencies (e.g., timber harvest permits, burning permits). Tree felling will be conducted in accordance with Wilson's Safety Manuel and all Federal and State safety regulations. All trees will be cleared away from existing lines to prevent damage to line and equipment.

All employees will wear PPE appropriate to the work task, including but not limited to non-conductive white hardhats, gloves, sawyer chaps if running chain saws, hearing and eye protection, and appropriate footwear. Certified Line Clearance Tree Trimmers shall wear Red Hard Hats when applicable.





SITE SPECIFIC SAFETY PLAN

**Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild**

Wilson shall comply with the safety requirements and recommendations in association with the Albany-Eugene No. 1 115kV Line Rebuild “Supplemental Technical Specification” as follows:

- Part 01, Chapter 01, Section 02 – Contractor Work
- Part 04, Chapter 01 – Clearing
- Part 05, Chapter 02 – Clearing, Earthwork, and Placing Aggregate

Further, when energized electrical lines or facilities (BPA or foreign utility owned) are located within the vicinity of work involving felling or trimming trees, Wilson will have at least one Qualified Line Clearance Tree Trimmer in each crew.

Crews will observe the following Minimum Approach Distances (MAD) during all clearing activities.

TABLE 1

| Minimum Approach Distance (MAD) from Energized Conductors for Qualified Line Clearance Tree Trimmers | |
|---|---|
| Nominal Line Operating Voltage (Phase-to-Phase) | Minimum Approach Distance in feet-inches¹ |
| 0.051 – 0.3 | Avoid Contact |
| 0.301 – 0.75 kV | 1-03 |
| 0.751 - 15.0 kV | 2-07 |
| 15.1 - 36.0 kV | 3-05 |
| 36.1 - 46.0 kV | 3-09 |
| 46.1 - 72.5 kV | 4-09 |
| 72.6 - 121.0 kV | 5-01 |
| 138.0 - 145.0 kV | 5-11 |
| 161.0 - 169.0 kV | 6-11 |

Table 1 Based on ANSI Z-133.1-2006 Table 1 including an altitude correction factor appropriate to the BPA system





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

| | |
|------------------|-------|
| 230.0-242.0 kV | 8-11 |
| 345.0 - 362.0 kV | 15-00 |
| 500.0 - 550.0 kV | 21-08 |

TABLE 2

| Minimum Approach Distance (MAD) from Energized Conductors for All Other Tree Workers | |
|---|---|
| Nominal Line Operating Voltage (Phase-to-Phase) | Minimum Approach Distance in feet-inches² |
| Fiber Optic and Overhead Ground Wires | 10-00 |
| 0.0-169.0 kV | 15-00 |
| 230.0-242.0 | 16.05 |
| 345.0-362.0 | 20-05 |
| 500.0-550.0 | 26-08 |

Wilson also notes:

- On slopes, cut stumps so that the maximum height on the upslope side of the stump is 12" or 1/3rd the tree diameter (whichever is greater)
- On level ground, cut stumps to within 6" of the ground line
- For work in a clear zone of a public highway, change the maximum stump heights to be flush with the ground

Table 2 Based on ANSI Z-133.1-2006 Table 2 and additions appropriate to the BPA system





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Removal and Transfer of Conductor

Removal and transfer of conductor can cause strain to significantly change on structures and associated hardware. This can cause structures to become unstable or conductor to sag excessively at the working location or somewhere down the line. Prior to removal or transfer of conductor (including fiber optic cable) structures shall be inspected, looking ahead in the work plan to determine if changing the strain of conductor on structures could cause a hazardous condition(s) to exist. If changing the strain on a structure could cause structure(s) to become unstable or collapse, structure(s) shall be made stable prior to the removal of old conductor by methods such as of bracing, use of a crane and/or line truck, or temporary guy placement, etc. If conductor could sag excessively in a location down the line that could cause a hazard to people, traffic, or property, appropriate safety measures such as temporary snubs shall be in place prior to beginning the removal process. If removing conductor over/under energized facilities, refer to the crossing energized line section of this SSSP.

Rigging Safety

All rigging components shall be inspected prior to use and determined to be of serviceable condition. Per ANSI standards, all slings, chains and bridles, etc., shall have legible Working Load Limit (WLL) tags or be removed from service. All shackles, links, blocks, and similar rigging parts shall have a legible WLL or Safe Working Limit (SWL) or be removed from service. Components not meeting inspection criteria shall be "red-tagged" and removed from service. All rigging questions shall be directed to the Foreman. If the Foreman cannot produce an answer, questions shall be deferred to the Superintendent.





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

The Bite

The bite is a constantly moving and changing hazard, one that relies on proper identification and constant awareness in order to be avoided. Our crews are trained in recognizing this potential hazard and staying out of the resultant path of objects that could fall, swing, shift or move in a manner that would pinch or crush a person or body part. This hazard shall be discussed with the entire crew at the beginning of each new task, particularly where rigging, lifting operations, and movement of the mud mats is involved. The mitigation measures necessary to avoid this hazard shall be employed and documented on the THA form.

Excavation

Due to the vast number of underground utilities near excavation sites on this project, Wilson shall use special precautions prior to any excavation taking place. Wilson shall check for pre-existing locates and utilize excavation methods such as a vacuum truck or hand digging where existing utilities are a hazard. Wilson shall ensure that all State, Federal, BPA, and Wilson excavation safety requirements are met. Wilson will ensure employees and subcontractors use adequate PPE and conduct THA(s) which detail environmental concerns and hazard mitigations.

Wilson will ensure that:

- Before digging or disturbing earth grade, areas will be checked for pre-existing utilities (locates).
- Only qualified operators shall excavate with equipment.
- Employees working in proximity to open excavations shall follow industry requirements for fall protection to ensure they do not inadvertently enter the excavation (e.g. guardrail systems, safety net systems, or personal fall arrest systems).
- Prior to entry into excavations 4' or more in depth, a competent person shall evaluate the excavation and ensure adequate shoring, sloping, or shielding have been completed, and complete a THA.
- Open excavations shall be covered if left overnight or protected by barriers to keep workers, livestock and/or the public a safe distance away.
- Excavations to be barricaded shall be at a minimum of 1' from the edge of the excavation.

Blasting Plan

Blasting is not anticipated on this project; however, in the event blasting is required, only licensed and certified key personnel shall be in charge of blasting procedures. All blasting operations will be done with the safety of the public, personnel, and all property in mind. All storage, transportation, and handling of explosives shall be done only by licensed and certified personnel in strict accordance with the Department of Transportation and the Bureau of Alcohol, Tobacco, Firearms and Explosives rules and regulations.





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Environmental Contamination and Hazards

During excavation, Wilson and its subcontractors may encounter contaminated soil or groundwater. When encountering soils or groundwater emitting odors or showing discoloration, work crews will immediately stop work within the affected area and wait for direction from the Owner's Engineer. In case of a spill or equipment leak, Wilson makes spill kits available on each jobsite.

Foundations

New wood structure foundations shall be the direct embedded type. Wilson will use the same pole hole for the new wood pole structure foundations and shall drill additional pole depth to obtain the standard 10% pole length plus two (2) feet unless otherwise stated for poles greater than 90 feet in length.

Foundation safety topics:

- (1) Complete THA form(s) with all personnel identifying hazards associated with assigned tasks and hazard control measures to complete tasks safely
- (2) Subcontractor safety requirements: Follow all applicable OR-OSHA, BPA and Wilson safety regulations
- (3) Follow excavation hazard mitigations as outlined in this SSSP

Disassembly and Assembly/Erection of Wood Structures

All equipment used in the disassembly process will be operated by qualified personnel. Caution shall be used while disassembly begins on old structures. Prior to climbing any wood structure, a pole test shall be completed to ensure the structure is safe to climb. Fall protection requirements, as outlined in the "Fall Hazards" section of this SSSP, shall be followed. Boom cranes and/or line trucks may be used to lift structures and place them safely on the ground. The lift plan shall include comparison of anticipated load with crane limitations. Once on the ground, structures shall be stabilized prior to disassembly. During disassembly, personnel shall take care to stay out of the bite at all times.

Safety procedures for Disassembly and Erection:

- (1) Complete THA(s) with all crew members involved identifying all hazards associated with the assigned task and hazard control measures to complete task safely
 - a. Turn THA(s) into Wilson's safety office for review
- (2) Review all rigging to be used in the disassembly and assembly/erection processes
 - a. Hoists, slings, steel chokers, rope, etc.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

- (3) Lifting plan:
 - a. Know weights of lift prior to any lift taking place
 - b. Inspect all rigging prior to use
 - c. Check that rigging is adequate for the loads being lifted
 - d. Assign a designated signalman to the crane operator
 - e. Only a certified crane operator shall operate cranes
 - f. Wilson Mobile Crane Lift Plan form shall be completed
- (4) Disassemble structures in a manner as to not create an unstable or hazardous situation
- (5) Communication:
 - a. Communication is critical and essential to working safely; all personnel must communicate with each other to complete each and every work task safely
 - b. Verify that all crew members involved know their role and that proper communications are in place
- (6) All personnel shall stay focused on task being performed

Wire Installation Procedures

Prior to pulling in new conductor, the conductor size and tensions shall be determined. Prior to commencing work, all Wilson crews shall complete and review the Wilson Wire Stringing/Disassembly Form. Appropriate wire grips for wire size, travelers, and potential tensions involved, will be determined prior to the installation process. A running ground shall be placed at the tensioner and bonded to all worksite grounds. Grounding mats shall be used to mitigate step and touch hazards. Grounded travelers shall be in place at hot crossings and at the first and last structures. When crossing over or working in proximity to energized conductors or equipment, Wilson will obtain a Clearance or Hot Line Hold for worker safety and in compliance with BPA LOTO procedures. Wilson will use tight line stringing methods, will install temporary anchors and down guys as necessary, and will install guards or covers when stringing over/under energized conductor or equipment. Wilson will also monitor clearances (MAD) when stringing over/under energized conductor or equipment, roads or other critical areas. All temporary anchors and down-guys required for stringing purposes shall be in place. All stringing socks shall be banded and taped. Wilson will coordinate stringing times, which include roadway and railroad crossings, in compliance with the Crossings section of this SSSP to ensure public safety. All members of the stringing crew shall know their role and be in radio communications. Personnel shall stay out from under moving conductor at all times. All temporary snubs shall be pre-tested and adequate to hold calculated loads. Wilson will use a variety of methods on this project to string sock-line and conductor. Conditions will determine what methods are used to maximize the safety of personnel and the public. Conductor will be sagged per the project Sag Charts before it is tied in.





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

Safety procedures for wire installation:

- Complete a THA form with all personnel identifying hazards associated with assigned task and hazard control measures to complete task safely
- Use Wire Stringing/Removal Form during any wire task
- Know wire weight and tensions involved before beginning wire pull
- Review and inspect all rigging to be used in the wire pull: grips, hoists, slings, steel chokers, rope grips, rope, etc.
- Employ correct operations of the puller and tensioner
- Apply correct dead ending procedures
- Utilize proper grounding bonding procedures on conductor and equipment
- Verify clearance/hold orders are in place
- Apply proper cover and verify that guard structures are in place
- Verify that all crew members involved know their role and that proper communications are in place

Helicopter Operations

It is anticipated that Wilson will have a company-owned MD500E helicopter onsite for four (4) months during construction. The helicopter will be used to install the “sock line”, and assist crews as needed and allowable by BPA standards. Wilson will utilize the helicopter to expedite the wire installation process and reduce the construction “footprint”.

Pre-flight safety briefings will be attended by all employees working on the project near a Wilson helicopter. Training includes, but is not limited to, the particular hazards of flight operations, work methods, and the signals to be used. Wilson portable radios will be used to maintain constant communication between the helicopter and ground crews. Electrically operated cargo hooks shall be tested daily. Both the electrical and mechanical release must be operational. All ground-based Landing Zone (LZ) workers will wear hard hats secured by a chinstrap, safety glasses and hearing protection. No employee shall work on, under, or in the near vicinity of a helicopter while wearing loose clothing that could be caught in the moving equipment, the hoist lines, or otherwise interfere with the safe performance of the work.

The helicopter pilot shall be responsible for the size, weight and manner in which loads are connected to the helicopter. Weight of the helicopter load shall not exceed the manufacturer’s load limit. No lift shall be made if the helicopter pilot believes it cannot safely be performed.

Upon approval by the pilot, designated employees may come within 50 feet of the helicopter when the rotor blades are turning only to enter the craft, to hook or unhook the load, or perform other essential functions. Other employees shall not come closer than 100 feet of the craft when it is operating. Only qualified crew will perform work under hovering helicopters; then only for the limited period of time





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

necessary to guide, secure, hook or unhook the loads. Wilson crews will use a dielectric load line to minimize the hazard of static buildup. When working under hovering helicopters at any location, the employee shall have a safe pre-planned escape route in the event of an emergency. The helicopter Job Hazard Analysis (JHA) shall be reviewed before the “fly” on each day the helicopter is on the job.

Helicopter Class C Operations (Sock-Line Pulling)

- Tension machine must be in free-wheel with adequate braking
- A breakaway swivel will be used for side pull operations to minimize helicopter exposure to loss of flight control
- Shear pin will be inspected before each pull
- Helicopter travelers will be inspected between each use
- Employees will be instructed to stand in the clear in case of unexpected loss of line
- If a subcontractor is used for helicopter work, Wilson will ensure the subcontractor understands and complies with Wilson helicopter safety requirements

The pilot has sole authority for ensuring that:

- All day-to-day flight operations meet or exceed Federal Aviation Administration (FAA), OSHA, industry safe working standards and practices, Wilson safety policies, and BPA requirements
- Linemen and aircraft support personnel have received and comply with all safety training required for working in and around helicopter operations
- Changing field conditions including weather, pilot fatigue, mechanical issues, etc. are monitored and flight operations are adjusted accordingly

The aircraft mechanic assists the pilot’s safety responsibilities by:

- Performing all required helicopter pre-flight safety, maintenance, and inspection checks
- Performing daily external load safety checks
- Assisting in setting-up safe LZ’s and fueling areas

Pilot Fatigue

Wilson shall ensure, by scheduling pilot rotations, that individual pilots do not become fatigued while conducting high demand operations in the wire environment. Individual pilots shall inform the Foreman if fatigue becomes a safety hazard and their limits are reached. In such cases, the pilot will be rotated or flight operations shut down if required.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Emergency Communications

Prior to the start of construction, Wilson will survey the ROW areas to determine if communications are consistent and reliable throughout the work area. Radio communications and cell phones will be the primary method of communication. If necessary, Wilson will reinforce its communications system with satellite phones, repeaters, or other methods to ensure a reliable form of communications is in place. In addition, Wilson will work with the Federal Communications Commission (FCC) to acquire other frequencies as needed. Wilson Foremen and Management will be supplied with a cellular phone.

In the event an emergency requires communication with an air ambulance, Wilson's assigned VHF frequencies are:

- (1) 151.625-TX-RX No Tones (2) 151.505-TX-RX No Tones

Incident and Near Miss Reporting

Incidents will be reported to the immediate supervisor, regardless of severity. Supervisors will document all reported incidents. In addition to employees completing Wilson's Incident/Near Miss Form, Wilson employees will complete BPA's forms as well. All near misses shall be reported, documented, and shared to aid in preventing similar near miss events in the future.

Emergency Action Plan

There will, at all times, be a person at the work zone who is appropriately trained to render First Aid/CPR. Telephone numbers and addresses of local emergency medical facilities, along with telephone number of site superintendent and address of site location will be posted. First-aid kits shall be available at each work site. In the event of a medical emergency, supervisors will be notified immediately and transportation will be made available to take the injured party to the nearest medical facility.





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

NEAREST EMERGENCY MEDICAL FACILITY TO ALBANY:

SAMARITAN ALBANY GENERAL HOSPITAL

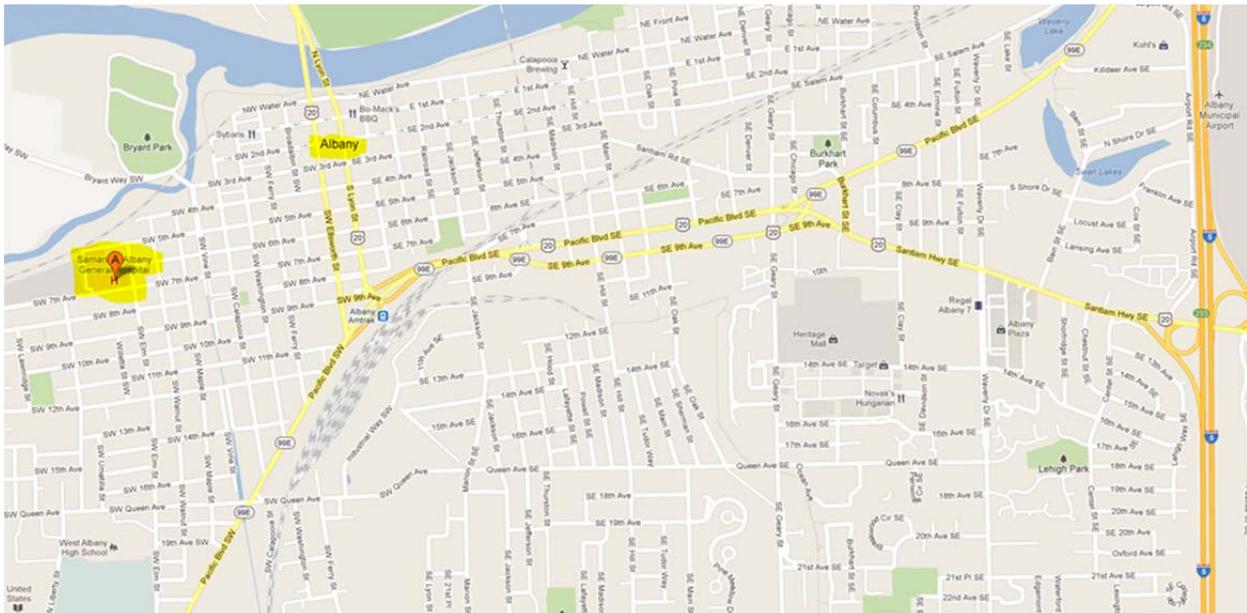
1046 Sixth Ave. SW, Albany, OR 97321

<http://www.samhealth.org/locations/samaritanalbanygeneralhospital/Pages/contactus.aspx>

Emergency: 9-1-1

General Information: (541) 812-4000

** Note: This is a 24 hour emergency medical facility. It is not the regional burn center for the area. Electrical contact treatment shall be made in consultation with the regional burn center (LEGACY OREGON BURN CENTER) per the High Voltage Electrical Contact Procedure in this SSSP.*





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

NEAREST EMERGENCY MEDICAL FACILITY TO EUGENE:

SACRED HEART MEDICAL CENTER AT RIVERBEND

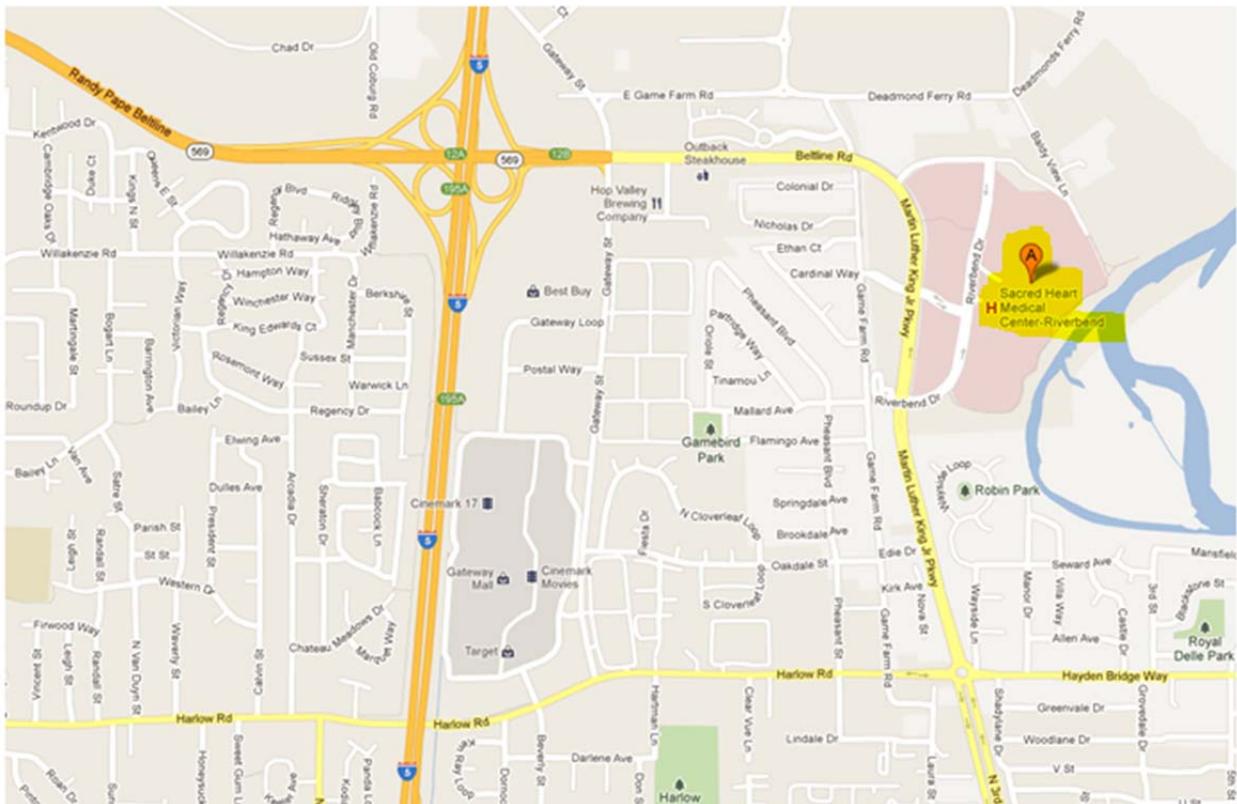
3333 RiverBend Drive, Springfield, OR 97477

<http://www.legacyhealth.org/body.cfm?id=663&fr=true>

Emergency: 9-1-1

General Information: (541) 222-6931

Note: This is a 24 hour emergency medical facility equipped with a helistop, emergency and trauma unit, and burn unit. Please note, this burn unit is not the regional burn center for this area. Electrical contact treatment shall be made in consultation with the regional burn center (LEGACY OREGON BURN CENTER) per the High Voltage Electrical Contact Procedure in this SSSP.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

HIGH VOLTAGE ELECTRICAL CONTACT:

Any Wilson employee who has made high voltage electrical contact shall be transported to the nearest emergency medical facility for treatment and observation as soon as possible. Assessments and baseline testing shall then be made in consultation with the nearest Regional Burn Center. Follow-up care, where indicated, shall be under the direction of or in consultation with a Regional Burn Center physician.

Electrical contact shall be defined as any electrical contact incident where any of the following takes place:

- Exit and entrance wounds are visible.
- Breathing is interrupted or impaired.
- Employee could “not let go” or was “hung up” by the contact.
- There is any other indication that a flow of electrical current took place across the body or between any two extremities.
- High voltage electrical contact was suspected or occurred.





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

NEAREST REGIONAL BURN CENTER TO ALBANY-EUGENE:

LEGACY OREGON BURN CENTER (OBC)

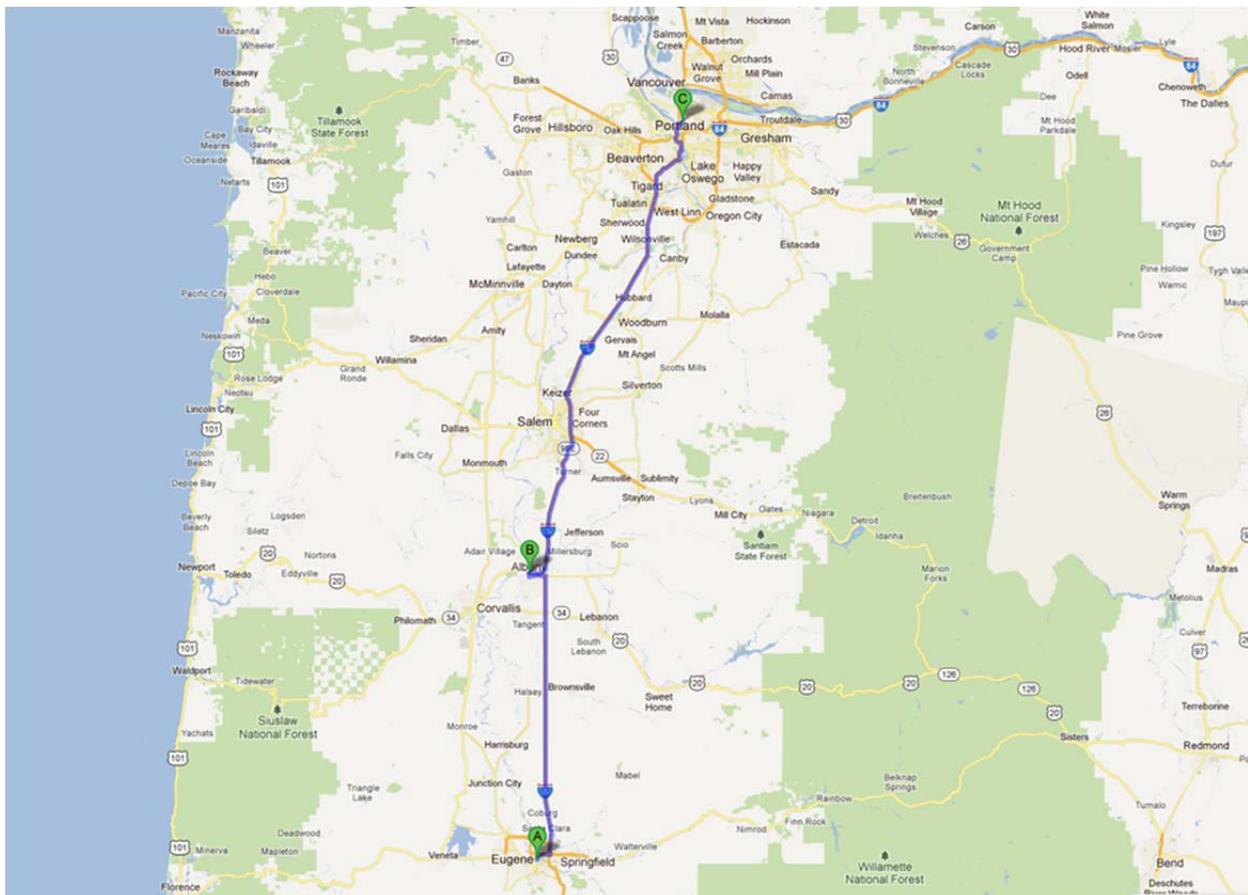
3001 N. Gantenbein, Portland, Oregon 97227

GPS: 45.544594, -122.669426

<http://www.legacyhealth.org/body.cfm?id=663&fr=true>

Emergency: 9-1-1

General Information: (503) 413-4232





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

Fatigue

At times, Wilson may work extended hours to meet schedule requirements. These extended work hours may include working 6 days a week for 10 hours a day or more. Work hours may be adjusted due to weather conditions and other unforeseen conditions. Fatigue levels due to working extended hours are not easily measured or quantified; therefore, it is difficult to isolate the effects of fatigue on accident and injury rates.

Prior to the start of extended work hours, employees will be trained to recognize the signs and symptoms of fatigue. Signs and symptoms of fatigue may include:

- Tiredness
- Drowsiness, including falling asleep against your will (“micro sleep”)
- Irritability
- Depression
- Dizziness / Giddiness
- Loss of appetite
- Loss of concentration
- Digestive problems

During shifts of 10 hours a day, physical activity will be limited to approximately 8 hours or less; the other two hours will include morning tailboard meetings, mobilization, morning and afternoon breaks, and a meal/lunch break. It will be the responsibility of everyone on the crew to monitor themselves, as well as other employees on the job site, for the signs and symptoms of fatigue. If an employee is exhibiting signs and symptoms of fatigue, the affected employee will be sent home to rest for the remainder of the shift.

Warm Weather Conditions

The Foreman or designated Wilson representative shall monitor weather daily for temperature forecast. If the temperature reaches 86°F, shade shall be readily available for personnel on site. If the temperature reaches 96°F, the Foreman or Wilson representative shall ensure frequent shade and hydration breaks. The hazard of heat related illness and preventative measures shall be discussed and documented on the THA(s). All Wilson crews shall contain a sufficient number of employees who are trained in First-Aid/CPR. All employees will dress sensibly for the environment, take adequate breaks and drink plenty of fluids. Each crew shall carry an adequate supply of bottled water. Should a worker display signs of dehydration, the affected worker shall notify the crew who will move the worker to a cool shaded area. The crew will refer to the guidelines of the Heat Illness Prevention Plan, follow pre-trained first aid procedures, and activate the EMS System if necessary.





SITE SPECIFIC SAFETY PLAN

*Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild*

Heat Illness Prevention Plan

This section applies to the mitigation of heat illness. These procedures provide minimal steps applicable to most outdoor work settings and are essential to reducing the incidence of heat related illnesses. When working environments create a higher risk for heat illness (e.g., during a heat wave, or other severe working or environmental conditions), it is the supervisor's duty to exercise greater caution, and implement additional protective measures beyond what is outlined in this document, as needed to protect their employees.

DEFINITIONS:

"ACCLIMATIZATION" means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.

"HEAT ILLNESS" means a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope (induced fainting) and heat stroke.

"ENVIRONMENTAL RISK FACTORS" means working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

"PERSONAL RISK FACTORS" means factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.

"PREVENTIVE RECOVERY PERIOD" means a period of time to recover from the heat in order to prevent heat illness.

"SHADE" means blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person sitting inside it, unless the car is running with air conditioning.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Heat Illness Prevention Procedures:

(1) Water

Employees shall have access to portable drinking water meeting the following requirements:

Where it is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity at the beginning of the work shift to provide one quart per employee per hour for the entire shift. Supervisors may begin the shift with smaller quantities of water if they have effective procedures for replenishment during the shift as needed. If an employee or a crew depletes their water supply during working hours, they are to immediately proceed to the nearest facility to replenish their supply. The frequent drinking of water is highly encouraged.

(2) Water Supply/ Potable Water

An adequate supply of potable water shall be provided at all places of employment for drinking and washing. A backup supply of bottled water will be available for aerial workers or other workers who are working in areas remote from the drinking water supply.

(3) Portable Containers

Operations shall meet the following requirements:

- Potable drinking water shall be provided during working hours and placed in locations readily accessible to all employees.
- Access to such drinking water shall be permitted at all times.
- The water shall be fresh and pure, suitably cool, and in sufficient amounts-taking into account the air temperature, humidity, and the nature of the work performed-to meet the needs of all employees.
- The use of common drinking cups or dippers is prohibited.

(4) Access to Shade

Employees suffering from heat illness, or believing a preventative recovery period is needed, shall be provided access to an area with shade that is either open to the air or provided with ventilation or cooling for a period of no less than five minutes. Such access to shade shall be permitted at all times. Employees shall have access to an office, construction trailer, or other building or vehicle with air conditioning when needed.





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

Whenever possible, provide areas for employees to take their breaks which are:

- Readily accessible.
- In the shade, open to the air and ventilated or cooled.
- Near sufficient supplies of drinking water.

During hot weather, at the beginning of every shift, the supervisor/foremen will present a short tailgate meeting to remind employees about the importance of rest breaks, keeping hydrated and the location of shade.

(5) Training

Employee training in the following topics shall be provided:

- All employees shall be trained prior to working outdoors.
- The environmental and personal risk factors for heat illness.
- The importance of frequent consumption of water, up to 1 quart per hour, when the work environment is hot and employees are likely to be sweating more than usual in performance of their duties.
- The different types of heat illness and the common signs and symptoms of heat illness.
- The importance of employees immediately reporting directly to their supervisor any symptoms or signs of heat illness in themselves, or in co-workers. First aid assessment shall commence immediately.
- Field employees are required to have current First Aid/CPR training.
- All employees shall know their physical location (e.g. address, GPS coordinates, etc.) and be able to communicate it in case of emergency.
- The job specific Emergency Action Plan shall include the location of the nearest emergency medical facility and the procedures for activating the local EMS system. This shall be discussed with employees at the initial job safety tailgate.

Supervisors and co-workers are encouraged never to discount any signs or symptoms they are experiencing, and to immediately report them. Supervisor Training shall be given, prior to supervision of employees working in the field in the heat, on the following topics:

- Review of the information contained in this Heat Illness Prevention Plan.
- Supervisor/designated person shall monitor water containers periodically, and encourage employees to report to the designated person any low levels or dirty water.
- Supervisors will provide frequent reminders to employees to drink water, make certain water breaks are provided, and maintain an adequate water supply at all times.
- During hot weather, at the beginning of every shift, the supervisor/foremen will remind employees about the importance of frequent consumption of water throughout the shift.





SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild

- The procedure the supervisor is to follow to implement the provisions of this section of the Heat Illness Prevention Plan.
- The procedure the supervisor is to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.

(6) Communication

Supervisors shall be the link with employees in the field. Two-way radios and/or cell phones shall be used to communicate with the field. Especially for those working in remote areas, periodic checks shall be made during the work shift to maintain real-time communication. Supervisors shall alert work crews to any extreme weather conditions so proper adjustments can be made in work practices.

To accomplish this, the supervisors at the worksite shall implement measures necessary to address heat illness. Using our two-way communication and/or cell phones allows employees in the field to report their specific work location conditions and their status.

Fire Hazards

Fire prevention training, as required, shall be conducted in addition to adherence to common sense good housekeeping. Wilson crews will comply with the following fire prevention guidelines:

- Observe all 'NO SMOKING' signs, especially near flammables.
- Personnel shall not smoke or have an open flame in the vicinity of an active helicopter Landing Zone (LZ).
- Ensure work areas are free from any combustibles when welding and will first wet down area where appropriate.
- All construction debris will be stored in the proper area for disposal.
- Flammable liquids will be stored in Underwriters Laboratories (UL) approved containers.
- All vehicles and equipment shall have a current fire extinguisher mounted. Vehicles will have a decal on the door identifying its location.
- Wilson safety personnel will monitor and comply with any fire related restrictions.
- Wilson will monitor Industrial Fire Precaution Levels (IFPL).
- If fire or dust conditions warrant, a water truck will be made available on site.

In the event a work area is designated to be in the "Extreme" fire hazard category, work will be scheduled in coordination with BPA to mitigate risk while trying to maintain the overall work schedule. Crews will carry firefighting tools to include shovel, Pulaski, and 5-gallon water pack. Crews will fight incipient fires only and shall maintain a planned escape route at all times.





SITE SPECIFIC SAFETY PLAN

***Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild***

Housekeeping

Wilson employees will work together to keep trash off the ROW and work areas tidy, but it will be mainly the responsibility of the crew members working at the sites to practice "Good Housekeeping". Wilson employees shall follow a detailed recycling plan and dispose only of what is left. Crews will survey the ROW prior to exiting construction sites to assure no trash is left on site. Work sites will be further examined by Superintendents, the Environmental Team, the QA / QC Team, and Land Liaisons to assure sites are left in an acceptable manner.

Hazardous Materials

Hazardous materials shall be clearly and adequately marked, and stored in appropriate containers. Material Safety Data Sheets (MSDS) shall be available to all employees. Employees shall know the location of the MSDS for all hazardous materials known to be in their work areas.

Flora and Fauna

There is a potential for vermin related illnesses as well as snakebites during warmer weather when working with stored materials or opening packaging or enclosed spaces. Appropriate footwear (boots) shall be worn at all times on the jobsite. In case of snakebite, employees will activate EMS System and follow pre-trained first aid procedures.

Poison oak may be found in the work area. Personnel will be trained on recognition and avoidance of poison oak. If poison oak is identified on the ROW, the Wilson Superintendent will make treatment and cleanser available as needed.

There is also a possibility of encountering bees or wasp nests on this project. Care shall be taken before entering work zone to ensure area is safe and clear.

Summary

In summary, the Wilson safety team will conduct daily THA(s), weekly safety meetings including the weekly safety topic discussion (i.e. The Handline), regular project inspections (i.e. safety audits), and quarterly safety-related industry training. In special cases where a particular safety concern needs to be addressed, our safety representative will tailor a class specific to that subject. Implementation of the overall safety program will belong to the Project Manager and Superintendent, supported by the Safety Director and Safety Representative assigned to this project. Questions or Comments about the Safety Plan may be directed to the Safety Department, Wilson Construction Company, (503) 263-6882.



**Albany-Eugene Danger Tree Removal**

Contract 47470-014

Weekly Progress Meeting 004 Minutes 08-01-13

Call-In: 866-365-4406 Access Code: 2866486#

Attendees:

| <u>Name</u> | <u>Title</u> | <u>Company</u> | <u>E-mail</u> |
|--------------------|-----------------------------|-----------------------|--|
| Erich Orth | PM | BPA | etorth@bpa.gov |
| Dale McLain | CM | BPA | ddmclain@bpa.gov |
| Kathleen Hinick | CO | BPA | kchinick@bpa.gov |
| Linda Brown | COA | BPA | llbrown@bpa.gov |
| Kevin George | Environmental Specialist | BPA | kbgeorge@bpa.gov |
| Steve Duncan | Lead Forester | BPA | scduncan@bpa.gov |
| Dave Pruitt | Chief Sub. Operator (Alvey) | BPA | drpruitt@bpa.gov |
| Kari Lowe | ROW Agent | HDR | kari.lowe@hdrinc.com |
| Kimberly Martinez | RE | Jacobs | kimberly.martinez@jacobs.com |
| Chuck Woodard | Project Manager | Wilson | cwoodard@wilsonconst.com |
| J.R. Crites | Superintendent/Supervision | Wilson | jcrites@wilsonconst.com |
| Ali Krasnow | Environmental Specialist | Wilson | akrasnow@wilsonconst.com |
| Vance Ellett | Owner (Clearing) | JEC | ellettconst@gorge.net |
| Jeff Montgomery | Land Liaison/Env. | K2 Env. | jeff@k2-env.com |

1) Safety

- a) Safety Topic: Keep focus; avoid distractions; be diligent with tailboards.
- b) Stand-Down Status: Kathleen H. confirmed that there is still a Vegetation Management stand-down system wide. BPA is working on defining the Zero Tolerance Policy. BPA is putting something together in writing. Wilson is working on pulling together the information requested by BPA. Chuck noted that they are putting together a work schematic and developing a plan forward.
- c) SSSP: Wilson will submit a supplemental SSSP; Chuck will upload to CAIS. The plan is currently under Wilson internal review. Kathleen H. noted that release from the stand-down will most likely not be considered until the plan is reviewed and approved.

2) Construction Progress & Look Ahead Schedule

- a) Current Activities: (Jeff Montgomery)
 - i) Stand-down in effect; no cutting/clearing activities at this time. Jeff is working on getting ahead on staking and working with land owners; team can get rolling quickly when released to do so by BPA. Staking complete up to Mile 13.
 - ii) Skidding complete up to Structure 22/6, working north.
 - iii) Timbco (feller buncher) at 16/2, moving north.
 - iv) Hauling planned to begin in the next 2 weeks.
 - v) Wildlife trees at 17/2.
- b) Next week and upcoming work:
 - i) Clearance scheduled for Tuesday, 8/6 from Albany Sub. to Halsey Mill for Danger Tree removal. Work will be performed under a continuous clearance. Release to work unknown at this time.
 - ii) Access pending for Bowers Farm (Miles 17/18).
 - iii) Access pending for Georgia-Pacific; HDR working on access.
- c) Remove wood poles from ROW – Wilson to follow up with property owner.
- d) Construction Schedule: No updates.



3) BPA Coordination (Outages, Hold Orders, Concurrent Work)

- a) Clearance: Clearance scheduled for Tuesday, 8/6 from Albany Sub. to Halsey Mill for Danger Tree removal. Work will be performed under a continuous clearance. Release to work unknown at this time. Dave Pruitt noted that the clearance will remain scheduled and they can move day to day dependent on the stand down. When asked about holds, Dave P. responded that it would be up to Safety if a Hold Order could be issued, in the event that a clearance could not be taken. Kathleen will keep the team informed and understands the concern.
- b) Harrisburg Sub.: Turnbuckle correction – TBD; coordinate with Dave Pruitt.
- c) Hauling/Log Deliveries: No updates.

4) Environmental and Cultural Items

- a) Cultural Monitors: Cultural Monitors currently not on site. Kathleen H. confirmed that the cultural monitors are covered under a separate contract and can continue surveying. Ali is in contact; most likely need one monitor to go ahead with Jeff Montgomery.
- b) Environmental: Kevin noted that the Biologist confirmed that the option of yarding the sidings along the railroad ballast is acceptable.
 - i) Lop and Scatter: Wednesday, 8/7, Kevin can come down and review a test site; showing a depth of 18" lop and scatter.

5) Land

- a) Georgia-Pacific (Mile 17) Access Issue: Wilson/Ellett provided a photomap showing access options. Kari confirmed that they are in the process of vetting with Georgia-Pacific; lease signing TBD.
- b) Bowers (N. of Balkovich farms) wants same prescription as Balkovich; keep off fields, stay in ROW. Jeff M. is still working on a solution with them; issue with processing trees in perennial fields.
- c) Time Restrictions: List of land owner timing restrictions provided; total of 5 pulled from the agreements. Kari clarified that the timing restrictions are actually part of the lease agreements. Steve D. noted that we may be able to mitigate based on volume; need to prioritize. There may be cost/schedule impacts per Vance Ellett. Contractor feels 3 can be accommodated. Erich noted that since the restrictions are part of the leases, we will have to honor. Wilson/Ellett to accommodate. Wilson/Ellett to forward list to Steve D. indicating which land owners could be accommodated.
- d) Balkovich Farms: Need to be out by 8/31/13; work with Dave P. for clearance once released to work. Jeff was able to cut a deal for one processing site. Working on adding a second site.
- e) Land owner contact information needed by Jeff for corn field by Knife River; HDR is working on it.
- f) Jeff noted that this past week he received approval, from the land owners he met with, to drop trees into fields with annual crops.

6) Quality

- a) Steve D. Inspections: Steve noted that only 1 inspection was sent out; working on second; check distribution. Overall everything is looking fine. Trying to do one inspection per week.
 - i) Brush vs. Tree: Anything under 4" should be considered brush; not tallied as a tree. Suckers around trees as well. This is written in his report.
 - ii) Herbicide: Steve noted that with regards to the herbicide application, the blue substance needs to be applied heavier.

7) (RFIs) Requests For Information; Design Issues; Cut List

- a) RFI Status: No open RFI's.
- b) Cut List – Subsequent changes will be submitted as a separate documents.
- c) Tree Counts – Steve will use inspection reports to identify additional trees. There will be some trees added; poplar orchard; more rows to remove. Steve will submit in writing.

8) Submittals

- a) Submittal Status: Supplemental SSSP pending internal Wilson review.



9) Contract Items (Change Management)

- a) Meeting scheduled for 8/2, 8:00am to review Wilson/Ellett concerns with Contracting. Wilson would like to still have this meeting as scheduled.
- b) COR-036 Danger Tree Removal – BPA Contracting – review in progress.
- c) COR-0XX Wild Life Trees – COR pending.
- d) COR-0XX Hauling – COR pending.
- e) Railroad Cutting Operation – Initial proposal received by Wilson; additional information requested.

10) Progress Payments

- a) Pay Item Report (PIR) – pending from Wilson.

11) Misc. Issues

- a) On-Site meeting – TBD.

**Albany-Eugene Danger Tree Removal**

Contract 47470-014

Weekly Progress Meeting 005 Minutes 08-08-13

Call-In: 866-365-4406 Access Code: 2866486#

Attendees:

| <u>Name</u> | <u>Title</u> | <u>Company</u> | <u>E-mail</u> |
|--------------------|-----------------------------|-----------------------|--|
| Erich Orth | PM | BPA | etorth@bpa.gov |
| Dale McLain | CM | BPA | ddmclain@bpa.gov |
| Kathleen Hinick | CO | BPA | kchinick@bpa.gov |
| Linda Brown | COA | BPA | llbrown@bpa.gov |
| Kevin George | Environmental Specialist | BPA | kbgeorge@bpa.gov |
| Steve Duncan | Lead Forester | BPA | scduncan@bpa.gov |
| Dave Pruitt | Chief Sub. Operator (Alvey) | BPA | drpruitt@bpa.gov |
| Carlos Mora Flores | Veg. Management | BPA | jcmoraflores@bpa.gov |
| Kari Lowe | ROW Agent | HDR | kari.lowe@hdrinc.com |
| Kimberly Martinez | RE | Jacobs | kimberly.martinez@jacobs.com |
| Nick Kapphahn | QAR | Jacobs | nick.kapphahn@jacobs.com |
| Chuck Woodard | Project Manager | Wilson | cwoodard@wilsonconst.com |
| J.R. Crites | Superintendent/Supervision | Wilson | jcrites@wilsonconst.com |
| Ali Krasnow | Environmental Specialist | Wilson | akrasnow@wilsonconst.com |
| Vance Ellett | Owner (Clearing) | JEC | ellettconst@gorge.net |
| Jeff Montgomery | Land Liaison/Env. | K2 Env. | jeff@k2-env.com |

1) Safety

- a) **Safety Topic:** Situational awareness; take in surroundings and identify any possible hazards; is there a better way to accomplish a task. Don't be complacent.
- b) **Stand-Down Status:** Kathleen H. confirmed that Wilson's work plan was received; sent to Safety Office; no comments received back at this time. BPA Safety was looking for Certifications for those on site the day of the incident; Timbco operator that day. Details needed from Wilson. Chuck noted that the THA and certification information were provided. The certification information for the particular operator that day, did not make it on the list sent to BPA per Chuck. Kathleen to follow up with Jim Cramer. The Daily Report to Inspector, from CAIS, also needs to be sent to Kathleen. Chuck noted that Wilson will be working under a clearance; pending approval to return to work.
 - i) **Clarification:** Veg. Management stand down applies to vegetation work on the ROW; includes removal and anything involving touching any vegetation.
- c) **SSSP:** Kathleen confirmed that Wilson will need to submit their updated SSSP; Chuck noted that the plan will be revised to include the updated work plan once comments are received back from BPA.

2) Construction Progress & Look Ahead Schedule

- a) **Current Activities:** (Jeff Montgomery)
 - i) Stand-down in effect; no cutting/clearing activities at this time. Jeff continues working with land owners; flagging of access routes and processing areas is complete up to Structure 6/4.
 - ii) Danger/Wildlife trees remarked up to Structure 9/1.
- b) **Next week and upcoming work:**
 - i) TBD – pending status of stand down.
- c) Remove wood poles from ROW – Wilson to follow up with property owner.



- d) Construction Schedule: Chuck will need to update the overall schedule when re-start date is known. At the earliest cutting would not resume until next week.

3) BPA Coordination (Outages, Hold Orders, Concurrent Work)

- a) Clearance: Dave P. noted that they do not want to continue shifting the Clearance schedule from day to day, on a long term basis; time frame currently unknown; cancel clearance then re-schedule. Three working days notice is needed to set up clearance; 1 week notice is preferred in order to notify customers. Dave P. will reschedule the Clearance to begin on Monday, 8/12/13; if Wilson is not released back to work, BPA will re-schedule for the following Monday.
- b) Railroad Logging Operation: Steve D. and Jeff reviewed the first six Miles of the project where there are current land owner challenges. Steve D. noted that reducing quantities is not an option. Chuck can put together a proposal for performing removal from the Railroad at this time.
- c) Harrisburg Sub.: Turnbuckle correction – TBD.
- d) Hauling/Log Deliveries: Sale agreements in place; Rexius has an open-ended agreement; Wood Recovery is month-to-month. Wilson/Ellett to provide notice when they intend to start shipping. Per Steve D., we are ready to go when work resumes.

4) Environmental and Cultural Items

- a) Cultural Monitors: Cultural Monitors currently not on site; concern that some may get re-assigned. At least one monitor could be assigned to scan sites based on Jeff's staking; good backlog up to 6/4. Ali was going to contact monitors; checking if they are available next week.
- b) Environmental:
 - i) Lop and Scatter: Kevin reviewed 18" lop and scatter site on 8/7; review by biologist in process; Ben Tilley, NRS Coordinator for BPA. Kevin sent photos to Biologist to address areas where sensitive and rare plants are indicated. Concern with debris gathering in drainages and clogging culverts noted. Kevin will look at the concern.
 - ii) MIT: Revision pending; to include alt. yarding in sidings, clarification on hand cutting; lop and scatter pending. Kevin should have ready by 8/9; will send to Brian Emery for posting.

5) Land

- a) Jeff M. continues moving north working with land owners; held off north of Hwy. 34. Where there are no BPA leases signed, Jeff has been able to make agreements with some of the land owners. North of Balkovich and Bowers, land owners are allowing trees to be dropped in the fields. Jeff noted that he is receiving calls from land owners and they are observing no work; concerned that tree cutting will conflict with crop activities, mid-September. Jeff M. noted that between 3/2-5/4 difficulties have been with the tenants rather than the land owners themselves; land owners have signed licenses. Jeff will begin discussing with the owners and tenants and will have paperwork in hand.
- b) Georgia-Pacific (Mile 17) Access Issue: Kari confirmed that they are in the process of vetting with Georgia-Pacific; at Corp. office for approval.
- c) Balkovich Farms: Need to be out by 8/31/13.
- d) Mickler, Scheler, Kalina: Reported that tree removal will be allowed; will not sign vouchers; verbal approval only.

6) Quality

- a) Steve D. Inspections: Wilson has received; Chuck will review and let BPA know if there are questions. Steve added 200 trees from the plantation N. of Georgia-Pacific and some trees north of Hwy. 34.

7) (RFIs) Requests For Information; Design Issues; Cut List

- a) RFI Status: No open RFI's.
- b) Wild Life Tree List: Vance confirmed that they do have both halves of the Wildlife tree list. Wilson/Ellett noted that there was a conflict between what was physically marked and the list; email specifics to Kevin George for clarification.

8) Submittals

- a) Supplemental SSSP pending submission by Wilson.



9) Contract Items (Change Management)

- a) Kathleen walked through COR status.
- b) COR-036 Danger Tree Removal – BPA Contracting – review in progress.
- c) COR-0XX Wild Life Trees – COR pending.
- d) COR-0XX Hauling – COR pending.
- e) Railroad Cutting Operation – Proposal pending from Wilson; Chuck to prepare COR. First six miles reviewed by Steve D. and Jeff M.; reducing quantity of trees to be cut not an option. Chuck to provide clarification regarding per tree pricing; initial pricing emphasis was from structures 1/9 – 3/2.

10) Progress Payments

- a) Pay Item Report (PIR) – pending from Wilson.

11) Misc. Issues

- a) On-Site meeting – TBD.

**Albany-Eugene Danger Tree Removal**

Contract 47470-014

Weekly Progress Meeting 006 Minutes 09-26-13

Call-In: 866-365-4406 Access Code: 2866486#

Attendees:

| <u>Name</u> | <u>Title</u> | <u>Company</u> | <u>E-mail</u> |
|--------------------|--------------------------|-----------------------|--|
| Erich Orth | PM | BPA | etorth@bpa.gov |
| Dale McLain | CM | BPA | ddmclain@bpa.gov |
| Monica Stafflund | Realty Specialist | BPA | mastafflund@bpa.gov |
| Kimberly Martinez | RE | Jacobs | kimberly.martinez@jacobs.com |
| Nick Kapphahn | QAR | Jacobs | nick.kapphahn@jacobs.com |
| Chuck Woodard | Project Manager | Wilson | cwoodard@wilsonconst.com |
| Jon Oistad | VP | Wilson | joistad@wilsonconst.com |
| Chris Wagner | Safety | Wilson | cwagner@wilsonconst.com |
| Ali Krasnow | Environmental Specialist | Wilson | akrasnow@wilsonconst.com |
| Vance Ellett | Owner (Clearing) | JEC | ellettconst@gorge.net |
| Jeff Montgomery | Land Liaison/Env. | K2 Env. | jeff@k2-env.com |

1) Safety

- a) **Safety:** SSSP reviewed and discussed on site in preparation for restart of removal activities. Team walked the ROW on Tues. and discussed SSSP again. Tailboard topics have included 1) bee stings, some employees are allergic; EpiPen locations; 2) Poison Oak; 3) Muddy conditions, watch footing; and 4) Be aware of old fencing out on ROW. Crews are communicating well.
 - i) SSSP, dated 9/23/13, is the version reviewed on site.
- b) **Railroad:** Wilson noted that as long as they are working at least 6' off the tracks, then flaggers are not required.
- c) **BPA Instructions Discussed:** Dale confirmed no additional felling of trees allowed; cleared for removal and clean-up activities, including low cutting and treating stumps.

2) Construction Progress & Look Ahead Schedule

- a) **Current Activities:** (Jeff Montgomery)
 - i) Work resumed yesterday, 9/25/13.
 - ii) Skidding on going in Area 37 (Mile 17) and Area 38. Excavator working at processing sites. Area 35, 36, 41 and 42 – Excavator assisting skidder.
 - iii) Not working in 4 areas as originally thought; sites are close together and ground conditions are not favorable for operating 4 crews.
 - iv) Hauling will begin tomorrow, 9/27/13.
 - v) All activities are weather dependent; heavy rains expected this weekend.
- b) **Next week and upcoming work:**
 - i) Continue log skidding and removal.

3) Environmental and Cultural Items

- a) **Cultural Monitors:** Two cultural monitors on site; 1 w/ ea. operator. Ellett is planning on working this Sat., 9/28; trying to get cultural monitors lined up.
- b) Ali K. was on site yesterday. No rutting being observed; looks good. As crews are moving along removing logs and debris, drainages are being cleared.



4) Land

- a) Jeff M. contacted land owners and sent out a list last Friday, 9/20. Priority - Miles 16-23; where logs are in or adjacent to the fields.
- b) Monica S. noted that she is not aware of any land owner complaints.
- c) Bowers/Balkovich: Jeff M. will be talking with Bowers and Balkovich if the weather dries up.
- d) Jeff M. noted that the land owners are pleased that work has started back up again. Jeff pulled stakes from Mile 16-6; land owners were asking when they would be back for cutting. Jeff M. saw no reason why BPA/HDR could not continue with contacting land owners at this time.

5) Quality

- a) QA (Nick K.): SSSP reviews went well. Double girdling of the previously topped Wildlife trees has been completed. Low stumping and herbicide application on previously cut trees in process.
- b) Road Extension – 6/6-6/7: this work will not get completed unless the area dries out; not likely.

6) Contract Items (Change Management)

- a) COR-0XX Wild Life Trees – COR pending; only should address actuals to date.
- b) COR-0XX Hauling – COR pending.
- c) Creston-Bell (Same contract) – COR pending for culvert work; Chuck has pricing.
- d) Herbicide COR (last year) – Need to review for credit revision.

7) Misc. Issues – No items discussed.



"Building from our past, powering the present, with our vision on the future"

SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration Albany-Eugene No.1 115kV Line Rebuild - Danger Tree Project

PROJECT CONTACT INFORMATION

Superintendent

Chad Devine
(503) 347-9470
cdevine@wilsonconst.com

Back-Up Superintendent

JR Crites
(503) 729-0075
jcrites@wilsonconst.com

Designated Safety Professional

Christopher Widner
(503) 313-1883
cwidner@wilsonconst.com

Clearance Holder

To be determined upon successful completion of the BPA Clearance Holder Test

Safety Director

Ward Andrews
(206) 669-6735
wandrews@wilsonconst.com

Safety Manager

Mike McGinnis
(425) 864-5569
mcginnis@wilsonconst.com

Project Manager

Charles Woodard
(503) 899-0482
cwoodard@wilsonconst.com

Clearance Holder

To be determined upon successful completion of the BPA Clearance Holder Test

Revised September 23, 2013



SITE SPECIFIC SAFETY PLAN

Bonneville Power Administration
Albany-Eugene No.1 115kV Line Rebuild
Danger Tree Project
REVISION 4 - 09/23/2013

Safety Mission Statement

Safety is our culture. It is a “round the clock” attitude shared throughout Wilson Construction Company (Wilson). It is present from the very first job walk, to daily tailboards, and on through the day’s production activities. The safety attitude continues further to jobsite clean-up and our journey home to family. Our safety culture is an ingrained part of our daily lives, both on and off the job.

Safety Goals

- To successfully complete projects while living the safety culture.
- To ensure the safety of our workforce.
- To ensure the safety of the general public around or associated with our work.
- To strive to attain and sustain a zero injury workplace.

Safety Requirements

In accordance with the Bonneville Power Administration (BPA) Health and Safety Clause of the Master Agreement, Wilson shall assure that no person employed on this project works in surroundings or under conditions that are unsanitary, hazardous or dangerous to their health or safety. All work will be conducted under the auspices of Federal Occupational Safety and Health Act (OSHA), Oregon Occupational Safety and Health Division (Oregon OSHA or OR-OSHA), the Department of Labor Safety and Health Standards for Construction, and any other applicable regulatory agencies. Wilson will comply with BPA safety policies, procedures and programs, to include the Safety and Health clauses in the master agreement, as well as the programs and policies of the International Brotherhood of Electrical Workers (IBEW) and Wilson, as well as the applicable industry consensus safety standards relating to tree and brush cutting, pruning and trimming in proximity to energized high voltage lines. If there is a conflict between these regulations or programs, the most stringent shall apply.

Project Summary

Wilson has been authorized to perform clean-up activities centering on felled trees and associated clean-up work only.

Location

The project starts at the Albany Substation in Linn County, Oregon and terminates at the Alderwood Tap in Lane County, Oregon.

Wilson Levels of Safety

It is the responsibility of each employee to support Wilson’s safety policies and programs. It is also the responsibility of each employee to perform tasks in a manner that assures his/her own personal safety, including the safety of coworkers, customers, visitors, and other trades. **EVERY WILSON EMPLOYEE HAS “STOP WORK AUTHORITY” without fear of reprisal.** Following is the outline of the safety responsibilities of the Wilson team:

Wilson Safety Department

- Provides technical knowledge and support to management, prepare written safety related documents, such as job safety plans, Job Hazard Analyses (JHA) and training programs to include safety presentations.
- Assists in the development, coordination, implementation, and monitoring of safety regulations, policies and safe work practices.
- Ensures customer safety expectations are understood, met and exceeded.
- Monitors and analyzes industry-wide accident trends and safe work practices specific to the utility construction industry.
- Assists in the investigation and analysis of accidents and near-misses.
- Ensuring that Wilson's discipline policy is consistently and fairly enforced for safety related infractions.

Superintendent/General Foreman

- Having ultimate responsibility for ensuring that all Wilson employees and foremen perform their work in a safe manner.
- Enforcing Wilson's safety policies in a consistent manner.
- Reviewing safety reports for areas where improvement may be needed and adjusting work plans accordingly to ensure a safe working environment.
- Conducting daily tailboard meetings. Identifying, documenting, and informing employees of hazards in the daily tailboard meetings.
- Conducting weekly safety meetings.
- Conducting and documenting a weekly Safety Audit.
- Ensuring "Minimum Crew Size" is adhered to per BPA's Safety & Health standards for Line Construction.
- Ensuring that all employees have adequate tools and equipment to safely perform required tasks.
- Ensuring that all employees have PPE required to safely perform required tasks.
- Directing work tasks in compliance with safe work practices.
- Ensuring all employees have access to fresh drinking water at all times.
- Ensuring all safety related forms are completed promptly including daily tailboard forms, THA forms, wire stringing forms, etc.
- **Stopping work if they see unsafe work practices or safety violations of any kind.**

NOTE: Per BPA requirements, the Superintendent shall be present at all times while work is being performed. The Superintendent shall directly superintend the work at the work site. When the Superintendent is not available, a backup supervisor shall be designated to oversee the work.

Field Safety Staff (On-site)

- On-site and conducting Safety Audits to ensure compliance.
- Ensuring employees receive required job specific safety training.
- Serving as a resource for Wilson field supervisors and employees to continually develop, change or modify working procedures to ensure safety.
- Conducting any accident/incident/near-miss investigations and recommending changes based on the lessons learned.
- Ensuring that each employee possesses the necessary knowledge and skills to perform their work safely and to otherwise function in compliance with Wilson's safety policies and procedures.
- **Exercising independent authority, autonomous of site supervision, to stop work if they see unsafe work practices or safety violations of any kind.**



NOTE: Per BPA requirements, this project shall maintain at least one dedicated and experienced Safety Professional with minimum qualification for a contractor employee as defined by BPA.

ALSO NOTE: The on-site Safety Professional maintained for the duration of the project reports to the Wilson Corporate Safety office. The Safety Professional has authority independent of the Superintendent/General Foreman.

Crew Requirements

Wilson will ensure that all Qualified Line Clearance Tree Trimmer (QLCTT) working on this project meet BPA's minimum qualifications, as outlined in the Vegetation Management Safety and Health clauses.

Wilson will also ensure that the following minimum crew requirements, as outlined in the Vegetation Management Safety and Health Clauses are met:

- (1) When climbing any tree where any portion of the tree, work tools, or equipment can come within BPA's "Zone B" as identified in the Vegetation Safety and Health Clauses, a second qualified climber/line clearance tree trimmer equipped with a second set of climbing tools shall be available on the job.
- (2) When a qualified climber is climbing a tree and working above 12 feet in height, a second qualified climber equipped with a second set of climbing tools shall be available on the job, who is trained and knowledgeable in rescue methods.
- (3) All crews performing work where an electrical hazard or in violation of the MAD could occur shall have a minimum of one QLCTT per crew.
- (4) There shall be sufficient qualified personnel on each crew to adequately supervise the work of trainees working on that crew at each work location.

Subcontractors

All subcontractors and their employees shall comply with all local, state, and federal regulations. All subcontractors and their employees will comply with their own company's safety regulations, as well as those of BPA and Wilson. If a discrepancy arises, the most stringent rule will be enforced. Wilson reserves the right to remove a subcontractor or an employee of a subcontractor from a project if they do not meet Wilson's requirement to maintain a safe work environment or work in a safe manner. Subcontractors will submit copies of daily paperwork to Wilson's Safety Department for review.

Wilson shall ensure the safety and health provisions, of both Wilson and BPA, are followed by subcontractors, suppliers and support personnel and that all employees working on the project are knowledgeable of the provisions of this SSSP. All contractors shall possess the necessary knowledge and skills to perform their work safely and to otherwise function in compliance with the safety and health provisions of both Wilson and BPA.

Safety Orientation

Before the start of project work, Wilson will hold a safety orientation with all employees, supervisors and subcontractor personnel. The briefing will cover training on the safety hazards listed. Additionally, Wilson's safety policies and applicable OSHA, state and BPA regulations will be reviewed. Wilson will also review the BPA document titled, "Contractor Clearance, Hold Order, and Work Permit Procedure," including a specific review of Clearance Holder Responsibilities, worker responsibilities and Communications.

In accordance with this Site Specific Safety Plan (SSSP), the Wilson Safety Manual and OSHA requirements, new hires and Wilson personnel new to the project shall be required to read and understand the SSSP and any applicable Job Hazard Analysis (JHA(s)) for the project they are working on as well as the daily THA(s).



A Wilson representative shall give all guests (authorized visitors to the site to include client representatives) and observers (monitors, government regulation agencies, OSHA, etc.) a brief orientation on specific jobsite hazards before they enter the right-of-way (ROW) or project site. All guests will be required to have appropriate Personal Protective Equipment (PPE) upon entering the job site area.

Safety Training

Before work begins on this project, Wilson will hold safety training for all employees involved. Pre-job training will cover the following:

- Site Specific Safety Plan (SSSP) Review, to include Emergency Action Plan
- Job Hazard Analysis (JHA)
- Task Hazard Analysis (THA)
- Environmental Training
- Fire Prevention Training
- Heat Illness Prevention Training
- Grounding by Harvey Haven

Additional Wilson training provided as needed includes:

- First Aid / CPR
- Crane Operator Certification
- Signaller Certification
- Rigging Certification

Wilson also does quarterly industry related safety training for all field employees. Additional safety training will be addressed as required on the project.

New Hire and Guest Orientation

All new employees will receive a full safety orientation from the Wilson safety team before they will be allowed to begin work onsite. In accordance with the Site Specific Safety Plan, the Wilson Safety Manual and OSHA/OR-OSHA requirements, new hires and Wilson personnel new to the project will be required to read and understand the SSSP and all JHA's for the project they are working on as well as the daily tailboard discussion.

A Wilson representative shall give all guests (authorized visitors to the site to include client representatives), and observers (monitors, government regulation agencies, OSHA, etc.) a brief orientation on specific jobsite hazards before they enter the right-of-way (ROW). All guests will be required to have appropriate PPE upon entering the job site area.

Personal Protective Equipment

Wilson employees are required to wear appropriate footwear, long pants and Wilson-issued long sleeve shirts at all times. If raingear or dark clothing is covering high visibility clothing, a high visibility vest must be worn on the outer most layer of clothing. Lace-up, over the ankle boots with rigid sole and heel meeting ASTM F 2413-05 (or ASTM F 2413-11), Class 75 with EH rating shall be worn in all work areas where hard hats are required and other areas as determined by a supervisor. Wilson non-conductive white hard hats and safety glasses shall be worn during all construction activities to exclude morning tailboard meetings that take place in the show-up yard, inside protected vehicles, inside construction trailers, and other similar protected situations. Employees shall wear gloves suitable for the work being performed where exposure to potential hand injury exists. In the event crewmembers are working in close proximity to equipment noise in excess of 85 dB, crew members are required to use hearing protection. Employees working adjacent to active roadways shall wear high visibility orange or high visibility green. When working on active roadways, or on/adjacent to active roadways in dark conditions,



a high visibility vest on the outer most layer of clothing shall be worn. Workers exposed to potential arc flash hazards, such as during the installation of Master Grounds (except vehicle or equipment grounds outside of substations), shall wear FR rated clothing on their outermost layer.

While operating chain saws, employees shall wear appropriate leg, foot, hearing, hand and eye personal protective equipment. When conducting herbicide application, employees shall wear the appropriate PPE as indicated in the manufactured and product SDS.

Additionally, employees have the responsibility of wearing items that do not increase hazards when exposure to known or expected hazards exists. PPE is just one of many mitigation measures to known or expected hazards. PPE, although a great tool, is secondary to incident prevention. Proper planning and communication is always the first line of defense to incidents and near-miss events.

Drug & Alcohol Free Workplace Policy

Substance abuse on the job has a negative impact on employees, their families, and their work. Wilson, along with National Electrical Contractors Association (NECA) and the IBEW, expects employees to report to work in a physical, mental and emotional condition to safely and adequately perform duties (“fit for duty”).

A drug and alcohol free work environment is critical to the maintenance of a safe atmosphere for all Wilson employees, clients and vendors. All prospective and current employees of Wilson are subject to the Wilson Drug and Alcohol Free Workplace Policy (Wilson Employee Policy & Procedure Manual, Section 502 and Appendix E). All Wilson employees must pass a pre-employment drug screening and are subject to random and post-accident drug testing. Wilson’s drug and alcohol program is in compliance with USDOT 49 CFR Part 383 and Part 40 with respect to such covered employees.

Tailboards & Job Briefings

Daily tailboards cover specific work tasks, assignments, locations, communication procedures, review of applicable JHA’s, sources of induced voltage, any required Safety Watch/Qualified Observer locations (for line clearances), parallel energized lines and other specific job hazards. A general tailboard will be held at the beginning of each day to discuss job safety. In addition to the general tailboard, a crew tailboard will cover the crew’s job task. Clearance Holders will discuss the status and details of any applicable Clearance, Hot Line Hold Order, or work permit. Additional THA(s) and/or Clearance briefings may be held any time there is a change in conditions, or change required in safe working procedures.

Changes in the work plan may require a new job briefing for affected employees. The foreman or superintendent will assess if changes may cause new hazards. Changes will be reflected on the Jobsite Hazard Analysis and daily Task Hazard Analysis forms. Possible need for additional PPE or safe work methods will be assessed as part of the work plan.

Task Hazard Analysis

Before beginning any new task, all Wilson & subcontractor crews will complete a Task Hazard Analysis form. THA forms are designed to be a document completed by all crew members collectively. THA forms are meant to help crew members identify and document all hazards associated with a particular task. Means to eliminate or avoid those hazards are identified and the steps that will be taken to ensure safe completion of the task are recorded. A THA will be completed for each task the crew performs. These THA forms will be checked by Wilson safety representatives when performing safety audits of crews. All THAs are retained and are sent to the Wilson headquarters for filing. Wilson will make copies of THAs available to BPA upon request.

In addition to Wilson’s general guidelines that the daily THA covers specific work tasks, special precautions, hazards and mitigation measures, personal protective equipment, review of applicable JHA(s), sources of induced or applied voltage(s), energy source controls, any required Safety Watch or



Qualified Observer locations, and other job/task specific hazards or applicable information, Wilson will ensure that the following specific items are covered, as applicable to this Danger Tree Removal project:

- A. Identify the line(s), the line voltage and the appropriate minimum approach distance (MAD).
- B. Identify any trees or brush on each project or release that if felled, could violate the minimum approach distance (MAD). Identify specific methods or tools that will be used to determine the potential for trees to fall within the MAD.
- C. Identify the specific work methods that will be used to prevent a violation of the MAD.
- D. Identify the qualified personnel needed to safely complete the work. All work conducted where an electrical hazard exists shall be performed by a QLCTT.
- E. Identify if a Clearance or Hold Order will be required to safely conduct the work.

Additional THA(s) and/or Clearance briefings will be held any time there is a change in conditions, or change required in safe working procedures.

Changes in work:

Changes in the work plan, work procedures or working conditions will require a new job briefing for affected employees. The Foreman or Superintendent will assess if changes can cause new hazards. Changes will be reflected on the daily THA forms. Possible need for additional PPE or safe work methods will be assessed as part of the work plan.

Emergency Action Plan

There will, at all times, be a person at the worksite who is appropriately trained to render First-Aid/CPR. Telephone numbers and addresses of local emergency medical facilities, along with the address and GPS coordinates of the site location will be posted. First-aid kits shall be available at each worksite. Employees are supplied with Hard Hat Emergency Cards that attach to the inside of the employee's hard hat, and allows the employee to document information that would be helpful for coworkers or emergency response personnel in times of emergency, such as the employee's full name, emergency contact information or pertinent medical information (e.g., allergies, special medical conditions, etc.). An AED will be available at the worksite as well. In the event of a medical emergency, supervisors will be notified immediately and transportation will be made available to take the injured party to the nearest medical facility. **See the back of the daily THA form for more detailed Emergency Action Plan information.**

Nearest Emergency Medical Facility

Each crew will locate the nearest medical facility to their worksite each day prior to construction. This information will be included on the THA form each day, in addition to the current GPS location of the crew. The facilities listed below will be updated following project award.

SAMARITAN ALBANY GENERAL HOSPITAL
1046 Sixth Ave. SW, Albany, OR 97321
General Information: (541) 812-4000





High Voltage Electrical Contact Procedure

Any Wilson employee who has made high voltage electrical contact shall be transported to the nearest emergency medical facility for treatment and observation as soon as possible. Electrical contact shall be defined as any electrical contact incident where any of the following takes place:

- Exit and entrance wounds are visible.
- Breathing is interrupted or impaired.
- Employee could “not let go” or was “hung up” by the contact.
- There is any other indication that a flow of electrical current took place across the body or between any two extremities.
- High voltage electrical contact was suspected or occurred.

Nearest Regional Burn Center

Oregon Burn Center
3001 N. Gantenbein Portland, Oregon 97227
General Information: (503) 413-4232
GPS Coordinates: 45.545793,-122.671087



Emergency Communications

Prior to the start of construction, Wilson will survey the ROW areas to determine if communications are consistent and reliable throughout the work area. Radio communications and cell phones will be the primary method of communication. If necessary, Wilson will reinforce its communications system with satellite phones, repeaters, or other methods to ensure a reliable form of communications is in place. In addition, Wilson will work with the Federal Communications Commission (FCC) to acquire other frequencies as needed. Wilson superintendents and foremen will be supplied with a cellular phone.

In the event an emergency requires communication with an air ambulance, Wilson's assigned VHF frequencies are:

- 151.625-TX-RX No Tones
- 151.505-TX-RX No Tones

Securing Jobsite Post Incident

After a serious incident or accident involving Emergency Medical Services and/or hospitalization of a worker, the following procedures will be taken:

- All construction activities will cease and the crew will stand down until supervision and safety department arrive. The area will be roped off and all items left in place.
- All operators will be responsible for shutting down and securing their equipment.
- All crewmembers will be responsible for securing all the tools, materials and making site safe without disturbing incident/accident evidence. They will then check-out with their foreman and proceed to the show-up yard to submit any witness statements and further instructions.
- Foremen will be responsible for making sure all tools and materials have been properly stowed by crew members, and for accounting for all crew members before they leave the site **and** upon arrival at the show-up yard.
- Wilson will be responsible for securing any unsafe conditions relative to the accident/incident and/or the immediate area in which the accident/incident occurred. Wilson is also to take any necessary photographs pertinent to the incident/accident. They will then proceed to the show-up yard and begin obtaining witness statements to include in the initial incident report.
- The Superintendent and/or GF will be responsible for securing the site, any/all site gates and disseminating information at the show-up yard post-accident/incident.

Incident and Near-Miss Reporting

All incidents will be reported to the immediate supervisor, regardless of severity. All near-misses shall be reported, documented, and shared with the Wilson Safety Department, management, supervision and crews to aid in preventing similar near-miss events in the future. Supervisors will document all reported incidents and near-misses and submit documentation, including any applicable photographs and witness statements, to the Wilson Safety Department. All injuries and incidents shall be immediately reported to the COTR. In addition to completing a Wilson Incident/Near-Miss Form, Wilson will complete and file with the COTR, BPA form 6410.15e (Contractor's Report of Personal Injury, Illness, or Property Damage Accident) within five (5) working days.

Near-miss reporting is critical to our effort to prevent accidents and injuries. We will learn just as much from a "close call" where no one was hurt or property was not damaged as we would from a serious injury. Near-miss reporting enables us to arrive at Lessons Learned and to work more safely without injuries.

- All near-misses and incidents shall be immediately reported to the foreman, a safety watch, any supervisory personnel, or anonymously through the use of the 800 number.



- Near-misses and incidents will be promptly investigated and a report prepared which will include recommendations for future preventative measures.
- In the case of a Near Miss Incident that does not involve injury, illness, or property damage, Wilson will complete and file with the COTR, BPA Form 6410.18e (Contractors Report of Incident/Near Miss) within five (5) working days of such an occurrence.
- Because the objective of reporting is to learn from near-miss events and to make the appropriate corrections to avoid future incidents or accidents, Wilson will regularly and timely disseminate to all crews, companywide, and information about a near-miss or incident so each event can be meaningfully discussed with all employees at the daily tailboard.

Safety Watcher Requirements

A Contractor-Designated Safety Watcher shall be used in the following conditions:

- (1) Whenever inadvertent movement by a worker could result in violating the MAD (as shown in Table 1, 2 or 3).
- (2) When operating of moving motor-driven equipment in the vicinity of high-voltage circuits and the possibility of accidental contact or violation of MAD exists (as shown in Table 1 or 2).
- (3) Whenever Wilson otherwise determines a safety watcher is necessary.

Wilson will adhere to appropriate MAD requirements and will utilize proper loading/offloading procedures in proximity of conductors and energized equipment to avoid violations of the MAD. There will be a definite understanding between the safety watcher and the person(s) being watched as to when the watching begins and ends. A red or orange high visibility vest shall be worn by the safety watcher at all times while performing Contractor-Designated Safety Watcher duties.

Whenever Wilson access into BPA substation yards, work is performed within BPA substation yard, or in special situations where BPA identifies that significant hazard exists, a BPA Contractor Safety Watcher shall be used.

General Public

Crews will remain vigilant for the activities of the general public in and near the work area. Wilson will ensure public safety by meeting all local, county, state, and federal rules and regulations. Public notice signs will be posted warning for the presence of personnel and equipment in recognized public areas, parking areas and vehicular traffic areas that adjoin or share the ROW. The signs may be supplemented by flaggers completely equipped (i.e., hard hat, high visibility vests, signs, current flaggers certification in their possession, etc.) to direct traffic or by roping off particularly dangerous jobs where appropriate. Wilson shall provide and maintain suitable temporary walkways, passageways, fences or other structures so as to minimize the obstruction or interference with vehicular or pedestrian traffic in public streets, highways, or private ROWs.

Clearing and Grubbing

Wilson has identified roughly 6000-7000 danger trees to be removed on this project. Danger tree clearing will be subcontracted to Ellett Construction. Skid trails and log decks will be located and marked to minimize impacts to wet areas. BMPs will be in place as appropriate throughout danger tree clearing areas, and any impacted wetland soils will be restored as necessary.

Wilson and our Subcontractors will use caution while clearing and grubbing for access roads and the ROW. Prior to cutting and removing forest products, Wilson will obtain necessary permits, licenses, and approvals from Federal, state, and local government agencies (e.g., timber harvest permits, burning permits).



Wilson shall comply with the safety requirements and recommendations in association with the Albany-Eugene No. 1 115kV Line Rebuild "Supplemental Technical Specification" as follows:

- Part 01, Chapter 01, Section 02 – Contractor Work
- Part 04, Chapter 01 – Clearing
- Part 05, Chapter 02 – Clearing, Earthwork, and Placing Aggregate

Further, when energized electrical lines or facilities (BPA or foreign utility owned) are located within the vicinity of work involving felling or trimming trees, Wilson will have at least one Qualified Line Clearance Tree Trimmer (QLCCT) in each crew. See *JHA and recently revised and submitted Work Plan for more information.*

Tree Falling

When Wilson or subcontractor personnel is performing tree falling work, the safety of all employees and that of the public, as well as the integrity of the BPA system is Wilson's primary considerations. If a question arises over proper procedure, Wilson will contact the COR for resolution. All trees shall be directionally felled away from transmission lines and towers using methods appropriate to ensure the direction of fall when trees fall within BPA's established A or B Zones. A safe work zone and escape path shall be first created before a tree is felled. Sufficient hinge wood shall be left to hold the tree to the stump during its fall and to guide the intended direction of the fall. Additional means of mechanical control shall be used to safely and positively control the direction of fall whenever:

- Lodged trees are encountered;
- Wind or other conditions make directional falling dangerous or uncertain (or work shall be temporarily suspended until conditions improve);
- Decay, rot or other weak spots are present or suspected; and/or,
- A clear falling path cannot be ensured.

If a cleared falling path cannot be ensured, Wilson shall ensure that:

- The tree will be felled under the protection of a Clearance; or,
- Positive control shall be maintained by mechanical equipment or;
- The tree shall be climbed and pieced out.

LESSONS LEARNED:

- **Work shall be conducted under a Clearance when energized electrical lines or facilities (BPA) are located within the vicinity of work involving felling or trimming trees.**
- **Prior to removing trees, operators will survey the entire site and select the most ideal location as where to stage equipment or where to place fallen trees.**
- **Work will cease if wind impacts employee's work.**

Overhead Work

Ground personnel shall not work directly under employees working overhead unless so required by the job task, in which case, ground personnel shall make the qualified climber/QLCCT aware of their presence in the work zone below. While work is being performed overhead, tools shall be properly secured when not in use. Tools shall not be thrown to or from employees in elevated positions, but shall be raised and lowered by means of a tool bag and/or handline. Tools and loose materials shall not be left at elevated positions.

Work Zone Protection

Wilson shall remain aware of the activities of BPA personnel in the work area. Wilson will maintain proper walkways, traffic routes, and work zone protection (i.e., cones, marking tape, barricades, excavation



covers, fencing, etc.). Only employees or guests who have received a safety briefing and signed the THA form shall be allowed to enter the work zone. Hazardous work zones left overnight—such as open holes—shall be barricaded, covered or fenced.

Vehicle and Equipment Safety

- Only licensed, qualified, drivers shall be permitted to operate vehicles. Drivers shall be qualified as required under applicable US Department of Transportation (USDOT) regulations including, but not limited to, 49 CFR § 383 (Commercial Driver License Requirements); a valid state license(s) shall be carried at all times.
- All vehicles 10,000 lb. GVWR and above shall be inspected daily before use and DOT inspection form completed.
- All vehicles and equipment shall be operated in a safe manner. Vehicle and equipment operators shall yield the right of way where failure to do so may endanger other people, vehicles, or equipment.
- Drivers shall maintain sufficient distance behind other vehicles to allow for safe stopping distance. Special consideration shall be made to terrain and weather conditions that may adversely affect the safe stopping distance.
- Drivers and operators shall use hands free cell phone devices while driving or operating equipment; drivers must pull over and safely park before making or receiving hand held phone calls or texting.
- When operating vehicles or equipment, seatbelts shall be worn at all times.
- Employees shall not ride on the exterior of vehicles or equipment, such as truck beds, side boards, bumpers, trailers, and other areas not equipped with seatbelts.
- Operating vehicles or equipment in congested areas requires a spotter.
- When operating or moving vehicles or equipment in the vicinity of high-voltage circuits, and the possibility of accidental contact or violation of the Minimum Approach Distances (MAD) exists, a qualified electrical worker shall act as a safety watcher. MAD shall be maintained between vehicles/equipment and energized electric facilities. Special attention shall be paid to high areas on vehicles/equipment such as that of the radio antenna or materials being transported. Special precautions shall be taken in regards to MAD when operating or moving vehicles and equipment inside substation fences.
- Personal vehicles are not allowed inside substations or switchyards, unless authorized.
- While driving company vehicles, headlights shall remain turned on.
- Smoking is prohibited inside company vehicles and when refueling vehicles and equipment.
- Operation of vehicles and/or equipment is not permitted while under the influence of alcohol, illegal or prescription drugs, or over the counter medications which may impair your ability to operate vehicles or equipment safely.
- All vehicle and equipment ignition systems shall be turned off when refueling. (Exception: Aircraft will be refueled in accordance with Wilson Rapid Refueling procedures.)
- Vehicles and equipment shall be maintained in a safe condition at all times. In the event of an unsafe mechanical condition, the vehicle shall be immediately placed out of service, red-tagged, and the appropriate manager notified.
- Vehicles and equipment that must be parked on roadways shall be parked in the same direction of traffic flow whenever possible.
- When parking on roadways, vehicles and equipment shall park off the traveled road surface whenever possible.
- Proper warning lights, cones, reflectors, or red flags (in accordance with state or local requirements) shall be used to warn for the presence of vehicles and equipment stopped on or adjacent to public roadways.
- When exiting vehicles to work adjacent to an active roadway, employees shall wear high visibility orange, high visibility green, or a high visibility vest on the outer most layer of clothing.
- Employees shall not put themselves into unnecessary backing situations. Employees shall back into locations (when possible) so, when leaving, the vehicle can pull forward.



- Employees shall use a spotter whenever possible to assist when backing. If two people are available, one MUST act as the spotter.
- The driver/operator and spotter shall use hand signals instead of verbal signals. Agree on hand signals before backing, and roll down the driver's side window so the spotter can be heard. Have the spotter stand so that they can be seen in the driver's side mirror. Driver/operator shall not back up vehicles/equipment without visual contact with spotter. STOP IMMEDIATELY if the spotter cannot be seen.
- If backing is required and no spotter is available on location, the driver/operator shall first do a full walk-around the vehicle/equipment to ensure that blind spots are free from hazards or obstructions and backing can be done safely. When drivers/operators spot for themselves, they shall return to the vehicle and start backing within a few seconds after finishing the walk-around. This will allow very little time for people and/or obstacles to change behind the vehicle/equipment.
- Employees shall always back vehicles/equipment at a safe speed (i.e., slowly).
- Chocks shall be used when parking on an incline for all vehicles rated over 10,000lbs GVW, this excludes vehicles rated less than 10,000lbs GVW parked on a paved surface with the front wheels turned into the curb.
- Before an operator leaves the controls of power equipment, the load, forks, bucket, or blades shall be lowered; the brakes shall be set and the equipment turned off.

The Bight

The bight is a constantly moving and changing hazard, one that relies on proper identification and constant awareness in order to be avoided. Our crews are trained in recognizing this potential hazard and staying out of the resultant path of objects that could fall, swing, shift or move in a manner that would pinch or crush a person or body part. This hazard shall be discussed with the entire crew at the beginning of each new task, particularly where rigging and lifting operations is involved. The mitigation measures necessary to avoid this hazard shall be employed and documented on the THA form.

Step and Touch Voltages

Trees and branches have the potential to make contact with energized conductors. Trees or branches can provide a path to ground, thus step and touch hazards could be encountered and precautions must be taken. When a tree or branch falls across an energized wire, the tree, branch and immediate area becomes energized, creating a zone of high voltage in relation to the earth. The following basic safety guidelines will be followed to protect against hazardous voltage differences:

- Everything will be considered energized until tested;
- Low-hanging wires and down trees in contact with conductor can still have voltage potential if they are not touching the ground, so don't touch them.
- If contact is made with an energized power line while operating a vehicle, do not get out of the vehicle unless the vehicle is on fire.
- If you must exit any equipment because of fire or other safety reasons, try to jump completely clear, making sure that you do not touch the equipment and the ground at the same time. Land with both feet together and shuffle away in small steps to minimize the path of electric current and avoid electrical shock; be careful to maintain your balance.

Electrical Safety

Wilson will take appropriate measures to protect its employees from the risk of:

- Accidental energization due to the inadvertent closing of an isolating device.
- Induced electricity.
- Lightning.



- (1) Remote lightning: Portable protective grounds may not provide complete personal protection for close-in strikes. Work shall be suspended and personnel shall stay in the clear (e.g., control house, job trailer, vehicles) during times that lightning is within sight or sound, and shall remain in the clear for 30 minutes following the last sight or sound.
- (2) Wilson work procedures will ensure that proximity of personnel and equipment to the energized line remains outside the applicable Minimum Approach Distance (MAD). This will be reflected in crane set-ups and other related activities. Wilson will review MAD requirements with subcontractors and supply qualified observer(s) as necessary.
- (3) Energized conductors and equipment are also a source of induction. Wilson will ensure that all crews are alerted to induction hazards.
- (4) All conductors and equipment shall be treated as energized until identified, isolated, tested, grounded and bonded with personal protective grounds. No personnel or equipment shall come within the MAD (Table 1, 2 or 3 as applicable) unless these provisions are met. This includes any crossing or adjacent lines belonging to other owners or utilities. **Wilson crews are to review BPA's Grounding policies and procedures found in their Accident Prevention Manual, as well as the Safety and Health Clauses of the Master Agreement.**

Wilson will only perform work on normally energized BPA transmission lines under the protection of a Work Clearance. Wilson may request, as an extra layer of protection, a Hold Order for work in proximity to energized lines and equipment when there is no intent or expectation that the MAD will be violated.

- (5) Minimum Approach Distance (MAD):
 - (A) Wilson shall not perform any work on energized BPA high voltage conductors or equipment and shall not come within the Minimum Approach Distances of energized lines or equipment except under the provisions of a Work Clearance.
 - (B) All conductors and equipment shall be treated as energized **unless** the contractor has been informed by a qualified BPA Clearance Holder at their work site that the line or equipment is de-energized and cleared for the contractor to perform their work.
 - (C) When applying herbicide, all overspray shall be considered as conductive. Wind and other conditions shall be taken into account to ensure that the MAD is not violated by overspray or equipment.

Minimum Approach Distance (MAD) Charts:

D1 (Distance 1) - Minimum Approach Distance for Qualified Line-Clearance Tree Trimmer (see Table1)

D2 (Distance 2) - Minimum Approach Distance for all other tree workers (see Table2)



Zone A –Inside the Minimum Approach Distance (MAD). Any trees or work completed in this zone **requires an outage** (Clearance) and the workers shall be qualified line clearance tree trimmers or under the direct supervision of qualified line clearance tree trimmers. **Zone B** – If the tree or trees are in this zone, or if there is any potential of the tree, its branches, or tools entering this zone, the workers shall be **qualified line clearance tree trimmers**. A Hold Order may be required for work in this zone

D1 (distance 1)-Minimum Approach Distance for Qualified Line-Clearance Tree Trimmer (see Table1)

D2 (distance 2)-Minimum Approach Distance for all other tree workers (see Table2) **Zone A – Inside** the Minimum Approach Distance (MAD). Any trees or work completed in this zone **requires an outage** (Clearance) and the workers shall be qualified line clearance tree trimmers or under the direct supervision of qualified line clearance tree trimmers.

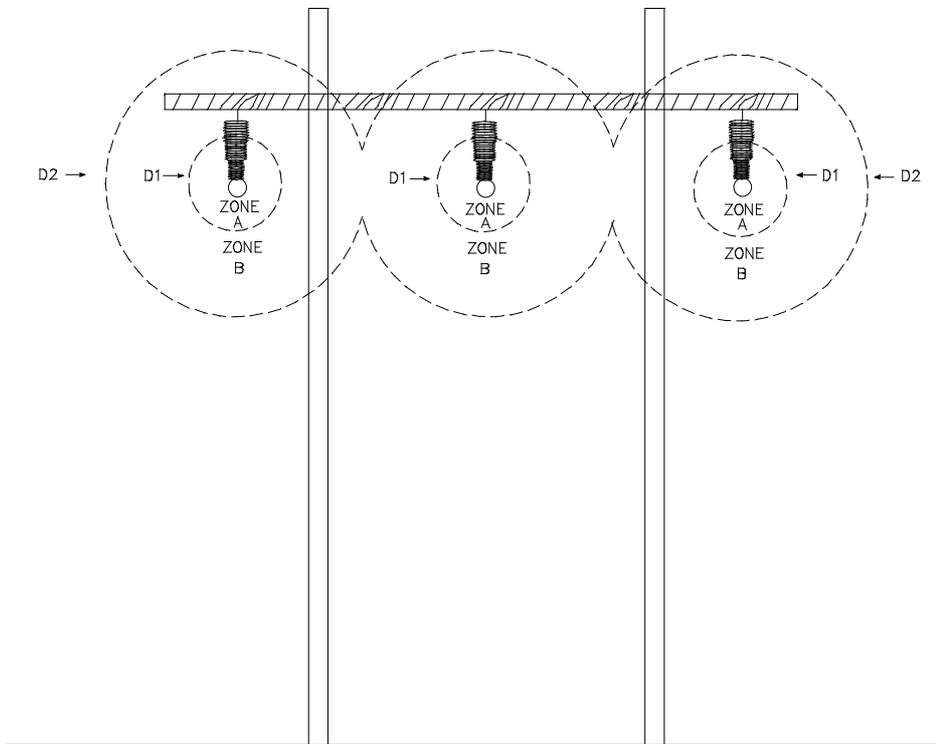


TABLE 1

| Minimum Approach Distance (MAD) from Energized Conductors for Qualified Line Clearance Tree Trimmers | |
|---|---|
| Nominal Line Operating Voltage (Phase-to-Phase) | Minimum Approach Distance in feet-inches |
| 0.051 – 0.3 | Avoid Contact |
| 0.301 – 0.75 kV | 1-03 |
| 0.751 - 15.0 kV | 2-07 |
| 15.1 - 36.0 kV | 3-05 |
| 36.1 - 46.0 kV | 3-09 |
| 46.1 - 72.5 kV | 4-09 |
| 72.6 - 121.0 kV | 5-01 |
| 138.0 - 145.0 kV | 5-11 |
| 161.0 - 169.0 kV | 6-11 |
| 230.0-242.0 kV | 8-11 |
| 345.0 - 362.0 kV | 15-00 |
| 500.0 - 550.0 kV | 21-08 |

TABLE 2

| Minimum Approach Distance (MAD) from Energized Conductors for All Other Tree Workers | |
|---|---|
| Nominal Line Operating Voltage (Phase-to-Phase) | Minimum Approach Distance in feet-inches |
| Fiber Optic and Overhead Ground Wires | 10-00 |
| 0.0-169.0 kV | 15-00 |
| 230.0-242.0 | 16.05 |
| 345.0-362.0 | 20-05 |
| 500.0-550.0 | 26-08 |



TABLE 3

| Minimum Approach Distances (MAD) For Transporting Equipment Under Energized Transmission Lines | |
|---|----------------|
| Nominal Voltage Phase to Phase | MAD (in feet)* |
| 50 kV or less | 4 feet |
| 50 kV to 345 kV | 10 feet |
| 500 kV | 16 feet |

*Note -The minimum approach distances listed in Table 3 are reduced from those required in Table 2 due to the subtraction of the inadvertent movement factor. They may be used only when complying with the required conditions listed for the use of Table 3.

Rigging Safety

All rigging components shall be inspected prior to use and determined to be of serviceable condition. All slings, chains and bridles shall have legible Working Load Limit (WLL) tags or be removed from service. All shackles, links, blocks, and similar rigging parts shall have a legible WLL or Safe Working Load (SWL) or be removed from service. Components not meeting inspection criteria shall be “red-tagged” and removed from service. All rigging questions shall be directed to the Foreman. If the Foreman cannot produce an answer, questions shall be deferred to the Superintendent. Wilson employees will review BPA’s Safety & Health language on “Equipment and Rigging” as applicable to the Work.

All rigging or equipment used to control a tree’s fall shall be adequately anchored, sized and positioned to control the weight of the tree and positively control the direction of fall. When using rigging to pull “leaners” over center, mechanical methods shall be employed and sized appropriate to the weight and position of the tree.

LESSONS LEARNED: All loads shall be rigged above the center of gravity (balance point).

Climbing and Fall Hazards

Before qualified Wilson employees attempt to climb or work on a pole, he/she shall visually inspect the structure or tree for abnormal defects and structural integrity. Linemen shall wear industry approved fall restraint when working from structures or aerial man-lift equipment. While ascending, descending and working at elevated positions, 100% fall protection shall be used. Safety straps shall not be placed around poles or trees above the uppermost obstruction except where it is not possible for the strap to slide over the top of the pole by inadvertence of the employee. A full body harness with a shock-absorbing lanyard shall be worn and attached to an approved anchor on all aerial man-lift equipment. In the event an unsafe structure or tree is encountered, the foreman, superintendent and Customer representative shall immediately be informed. Findings and mitigation measures shall be addressed in a new THA before work continues. Crew members will take special precaution when weather conditions exist that may have an adverse effect on normal climbing conditions (e.g., icy or wet weather).



Fire Hazards

Fire prevention training, as required, shall be conducted in addition to adherence to common sense good housekeeping. Wilson crews will comply with the following fire prevention guidelines:

- Observe all 'NO SMOKING' signs, especially near flammables
- Personnel shall not smoke or have an open flame in the vicinity of an active helicopter Landing Zone (LZ)
- Ensure work areas are free from any combustibles when welding and will first wet down area where appropriate
- All construction debris will be stored in the proper area for disposal
- Flammable liquids will be stored in Underwriters Laboratories (UL) or Factory Mutual (FM) "Safety Cans"
- All vehicles and equipment will have a current fire extinguisher mounted; vehicles will have a decal on the door identifying its location
- Wilson safety personnel will monitor and comply with any fire related restrictions
- Wilson will monitor Industrial Fire Precaution Levels (IFPL)
- If fire or dust conditions warrant, a water truck will be made available on site
- Cutters shall not carry portable containers containing flammable liquids on their person

In the event a work area is designated to be in the "Extreme" fire hazard category, work will be scheduled in coordination with BPA to mitigate risk while trying to maintain the overall work schedule. Crews will carry firefighting tools to include shovel, Pulaski and 5-gallon water pack. Crews shall fight incipient fires only and maintain a planned escape route at all times.

Fueling in Proximity to Energized Conductor

Portions of this project run parallel to hot corridor(s) in excess of 345kV. Within 70' of conductors energized at voltages of 345kV and higher, flammable liquids shall not be transferred from one metal container to another unless the two have been electrically bonded together to eliminate arcing.

Flora and Fauna

There is a potential for vermin related illnesses, as well as snakebites, during warmer weather when working with stored materials or opening packaging or enclosed spaces. Appropriate footwear (boots) shall be worn at all times on the jobsite. In case of snakebite, employees will activate EMS System and follow pre-trained first aid procedures. There is also a possibility of encountering bees or wasp nests on this project. Care shall be taken before entering work zone to ensure area is safe and clear.

Poison Oak

Poison Oak has been identified on the in the work area. Poison oak can cause dermatitis or a skin rash if you:

- Have contact with any part of the plant
- Expose any part of your body to smoke from the burning plant
- Have contact with clothing or other objects that have been exposed to the plant

Poison oak is a small branching shrub that grows to a height of three feet. The foliage occurs in groups of three "hairy" lobed or deeply "toothed" leaflets. The fruit is a whitish, wax-like berry that is poisonous to the touch.



The best preventative measures related to plant dermatitis is to recognize the plant and avoid exposure. Supervisors should point out the poisonous plants to new or inexperienced crew members so that they can learn to identify them. In addition, follow these additional steps:

- Using protective barrier creams which can be applied before starting work for the day. Ivy X is available and can be requested by calling the Canby warehouse. Also available, a post exposure cream for cleansing (Technu) and a topical treatment (Ivy Dry).
- Wearing heavy gloves, with shirt sleeves tucked inside, and tying the bottoms of pants at the ankle below the tops of socks.
- Washing the affected body part with plenty of laundry soap and warm water if one of these plants is touched. Follow with a topical treatment, such as Ivy Dry.

Although some people are not sensitive to these plants, they may develop sensitivity on later exposures. Dermatitis may appear from one to three days after contact with the plant. The affected area first becomes red, swollen and intensely itchy. Later, small blisters appear which may unite to form larger blisters. If the dermatitis reaches this latter stage, medical treatment is imperative.

Heat Illness Prevention Plan

This section applies to the mitigation of heat illness. These procedures provide minimal steps applicable to most outdoor work settings and are essential to reducing the incidence of heat related illnesses. When working environments create a higher risk for heat illness (e.g., during a heat wave, or other severe working or environmental conditions), it is the supervisor's duty to exercise greater caution and additional protective measures beyond what is outlined in this document, as needed to protect their employees.

Heat Illness Prevention Procedures:

(1) Water

Employees shall have access to portable drinking water meeting the following requirements:

Where it is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity at the beginning of the work shift to provide one quart per employee per hour for the entire shift. Supervisors may begin the shift with smaller quantities of water if they have effective procedures for replenishment during the shift as needed. If an employee or a crew depletes their water supply during all working hours, they are to immediately proceed to the nearest facility to replenish their supply. The frequent drinking of water is highly encouraged.

(2) Water Supply/ Potable Water

An adequate supply of potable water shall be provided at all places of employment for drinking and washing. A backup supply of bottled water will be available for aerial workers or other workers who are working in areas remote from the drinking water supply.

(3) Portable Containers

Operations shall meet the following requirements:

- Potable drinking water shall be provided during working hours and placed in locations readily accessible to all employees.
- Access to such drinking water shall be permitted at all times.
- The water shall be fresh and pure, suitably cool, and in sufficient amounts—taking into account the air temperature, humidity, and the nature of the work performed—to meet the needs of all employees.



- The use of common drinking cups or dippers is prohibited.

(4) Access to Shade

Employees suffering from heat illness, or believing a preventative recovery period is needed, shall be provided access to an area with shade that is either open to the air or provided with ventilation or cooling for a period of no less than five minutes. Such access to shade shall be permitted at all times. Employees shall have access to office, construction trailer, or other building or vehicle with air conditioning when needed.

Whenever possible, provide areas for employees to take their breaks which are:

- Readily accessible.
- In the shade, open to the air and ventilated or cooled.
- Near sufficient supplies of drinking water.

During hot weather, at the beginning of every shift, the supervisor/foremen will present a short tailgate meeting to remind employees about the importance of rest breaks, keeping hydrated and the location of shade.

(5) Training

Employee training in the following topics shall be provided:

- All employees shall be trained prior to working outdoors.
- The environmental and personal risk factors for heat illness.
- The importance of frequent consumption of water, up to 1 quart per hour, when the work environment is hot and employees are likely to be sweating more than usual in performance of their duties.
- The different types of heat illness and the common signs and symptoms of heat illness.
- The importance of employees immediately reporting directly to their supervisor any symptoms or signs of heat illness in themselves, or in co-workers. First aid assessment shall commence immediately.
- Field employees are required to have current First Aid/CPR training.
- All employees shall know their physical location (e.g. address, GPS coordinates, etc.) and be able to communicate it in case of emergency.
- The job specific Emergency Action Plan shall include the location of the nearest emergency medical facility and the procedures for activating the local EMS system. This shall be discussed with employees at the initial job safety tailgate.

Supervisors and co-workers are encouraged never to discount any signs or symptoms they are experiencing, and to immediately report them. Supervisor Training shall be given, prior to supervision of employees working in the field in the heat, on the following topics:

- Review of the information contained in this Heat Illness Prevention Plan.
- Supervisor/designated person shall monitor water containers periodically, and encourage employees to report to the designated person any low levels or dirty water.
- Supervisors will provide frequent reminders to employees to drink water, make certain water breaks are provided, and maintain an adequate water supply at all times.
- During hot weather, at the beginning of every shift, the supervisor/foremen will remind employees about the importance of frequent consumption of water throughout the shift.
- The procedure the supervisor is to follow to implement the provisions of this section of the Heat Illness Prevention Plan.
- The procedure the supervisor is to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.



(6) Communication

Supervisors shall be the link with employees in the field. Two-way radios and/or cell phones shall be used to communicate with the field employees. Especially for those working in remote areas, periodic checks shall be made during the work shift to maintain real-time communication. Supervisors shall alert work crews to any extreme weather conditions so proper adjustments can be made in work practices.

To accomplish this, the supervisors at the worksite shall implement measures necessary to address heat illness. Using our two-way communication and/or cell phones allows employees in the field to report their specific work location conditions and their status.

Fatigue

At times, Wilson may work extended hours to meet schedule requirements. These extended work hours may include working 7 days a week for 12 hours a day. Work hours may be adjusted due to weather conditions and other unforeseen conditions. Fatigue levels due to working extended hours are not easily measured or quantified; therefore, it is difficult to isolate the effects of fatigue on accident and injury rates.

Prior to the start of extended work hours, employees will be trained to recognize the signs and symptoms of fatigue. Signs and symptoms of fatigue may include: tiredness, drowsiness, including falling asleep against your will ("micro sleep"), irritability, depression, dizziness /giddiness, loss of appetite, loss of concentration, and/or digestive problems

During shifts of up to 12 hours a day, physical activity will be limited to approximately 10 hours or less, the other two hours will include morning tailboard meetings, mobilization, morning and afternoon breaks, and a meal/lunch break. It will be the responsibility of everyone on the crew to monitor themselves, and the other employees on the job site, for the signs and symptoms of fatigue. If an employee is exhibiting signs and symptoms of fatigue, the affected employee will be sent home to rest for the remainder of the shift.

Safety Data Sheets

Employees shall know the location of Safety Data Sheets (SDS) for all hazardous materials known to be in their work areas.

Housekeeping

Wilson employees will work together to keep trash off the ROW and work areas tidy, but it will be mainly the responsibility of the crew members working at the sites to practice "Good Housekeeping." Crews will survey the ROW prior to exiting construction sites to assure no trash is left on site. Work sites will be further examined by Superintendents, the Environmental Team, the QA / QC Team, and Land Liaisons to assure no trash is left and sites are left in an acceptable manner.

Summary

In summary, the Wilson safety team will conduct daily THA(s), weekly safety meetings including the weekly safety topic discussion (i.e. The Handline), regular project inspections (i.e. safety audits), and quarterly safety-related industry training. In special cases where a particular safety concern needs to be addressed, our safety representative will tailor a class specific to that subject. Implementation of the overall safety program will belong to the Project Manager and Superintendent, supported by the Safety Director and Safety Representative assigned to this project. This SSSP will be available to all employees at the work site, and shall be available to review by BPA employees upon request. Questions or Comments about the Safety Plan may be directed to the Safety Department, Wilson Construction Company, (503) 263-6882.

NOTE: This SSSP is to be utilized in conjunction with the Wilson Safety Manual.



SSSP Index

| | |
|---|----|
| Safety Mission Statement..... | 1 |
| Safety Goals | 1 |
| Safety Requirements..... | 1 |
| Project Summary | 1 |
| Location | 1 |
| Wilson Levels of Safety | 1 |
| Wilson Safety Department | 2 |
| Superintendent/General Foreman..... | 2 |
| Field Safety Staff (On-site)..... | 2 |
| Crew Requirements | 3 |
| Subcontractors..... | 3 |
| Safety Orientation | 3 |
| Safety Training..... | 4 |
| New Hire and Guest Orientation..... | 4 |
| Personal Protective Equipment | 4 |
| Drug & Alcohol Free Workplace Policy | 5 |
| Tailboards & Job Briefings..... | 5 |
| Task Hazard Analysis | 5 |
| Emergency Action Plan | 6 |
| Nearest Emergency Medical Facility..... | 6 |
| High Voltage Electrical Contact Procedure | 7 |
| Nearest Regional Burn Center..... | 7 |
| Emergency Communications..... | 8 |
| Securing Jobsite Post Incident | 8 |
| Incident and Near-Miss Reporting | 8 |
| Safety Watcher Requirements..... | 9 |
| General Public | 9 |
| Clearing and Grubbing | 9 |
| Tree Falling..... | 10 |
| Overhead Work..... | 10 |
| Work Zone Protection | 10 |
| Vehicle and Equipment Safety..... | 11 |
| The Bight | 12 |
| Step and Touch Voltages | 12 |
| Electrical Safety | 12 |



| | |
|---|----|
| Rigging Safety | 16 |
| Climbing and Fall Hazards | 16 |
| Fire Hazards | 17 |
| Fueling in Proximity to Energized Conductor | 17 |
| Flora and Fauna..... | 17 |
| <i>Poison Oak</i> | 17 |
| Heat Illness Prevention Plan | 18 |
| Fatigue | 20 |
| Safety Data Sheets | 20 |
| Housekeeping..... | 20 |
| Summary | 20 |





Chad Devine
Superintendent

Qualifications

Chad Devine has been with Wilson Construction Company since 2008. He has an impressive resume of experience spanning all phases of transmission and distribution line construction.

Project Experience (Partial List)

SNC Lavalin Heartland Transmission Project

This project involved assembly and erection of 74 500kV double circuit lattice steel towers. The line commences from existing substation Ellerslie 89S, follows the Edmonton East Transportation Utility Corridor (TUC) route while within the city, and ends at the new substation Heartland 12S in the Fort Saskatchewan area northeast of Edmonton.

BPA Grand Coulee 500kV Cable Replacement

The overhead portion of this project included removal of (2) 1.1 mile single circuit lattice steel 500kV transmission line; replaced with (3) double circuit lattice steel 500kV transmission lines at Grand Coulee Dam.

BPA Walla Walla – Tucannon River

This project consists of 47 miles of 115kV transmission line rebuild. Upgrade work included removal of all existing structures, components, guys, anchors and conductor. Installation work included new; poles, guys, anchors, steel cross braces, steel wide-flange cross arms, insulators, line hardware, and the replacement of the conductor. Additional work included improvement and maintenance of access roads (where necessary), and disposal of removed components.

WAPA O'Banion-Elverta-Natomas 230kV Transmission Line

Construction of approximately 31.5 miles of new double circuit 230kV transmission line on steel monopoles with bundled 954 conductor with two optical overhead ground wires (OPGW). The work included access road improvements and constructing new access roads; furnishing and installing gates and culverts; furnishing, installing and compacting earth embankments, and furnishing and placing rip rap; removing and disposing of approximately 4.8 miles of existing lattice steel transmission line structures, with conductor and overhead ground wire; removing and disposing of the top portion of existing transmission line reinforced concrete foundations; constructing approximately 31 miles of new double circuit transmission line including furnishing and installing new reinforced concrete foundations with galvanized anchor bolts; furnishing and installing new galvanized steel pole transmission line structures; furnishing and installing new insulators, hardware, bundled conductor, optical overhead ground wire, and marker balls. Work also included fiber optic splicing and testing.

Grant County PUD Dock Crew 2009 - 2010

Work included all phases of distribution, overhead, underground and fiber optics installation construction. Work also included a 115kV pole changeout project under this contract.

Puget Sound Energy, Storm Work

Work included the performance of transmission and distribution work to repair storm damage as required.

Southern California Edison - San Joaquin Valley Big Creek OPGW 2008

This project consisted of maintenance of right-of-way access roads, installation of steel reinforcement on one lattice steel tower, installation of dead-end attachment plates on eight (8) suspension towers, removal and salvage of approximately seventy-five miles of existing overhead ground wire and installation of approximately seventy-five miles of new overhead optic ground wire (OPGW), as well as the design, removal and installation of temporary OPGW traveler support brackets as required for the removal and installation of the ground wires.

PSE Sedro Woolley-Horse Ranch

Puget Sound Energy issued a RFP on January 24, 2008 soliciting proposals from various utility contractors for the purpose of assembling a design/build team to complete the Sedro Woolley to Horse Ranch rebuild project. Wilson was selected as the contractor of choice for this extensive EPC contract. Wilson assembled an experienced and trusted team that included project manager Jim Keegan, SWP Environmental Services, and Power Engineers.

The first segment was new construction extends south from Sedro Woolley in an existing ROW approximately 6 miles to the Beaver Lake Substation. The second section of the new 230kV construction extends south from the Beaver Lake Substation to Horse Ranch. This segment was located in an existing 100' wide ROW that contained two 115kV H-frame lines. One of these lines was removed and replaced with the new 230kV line. This segment also carried 144-count fiber. There were approximately 303 structures on the project with site access being the major challenge to overcome for construction.

Wilson's subcontractor, Power Engineers, did a remarkable job of engineering and Wilson dedicated their environmental subcontractor, SWP to assisting the Owner's environmental firm, GEO, in obtaining the necessary permits needed from the various counties agencies which helped expedite the permit process.

Alliant Energy, Fowler Ridge Wind Farm 345kV Bundled T-Line 2008

The transmission line construction consisted of three sections. Section 1 was approximately 15.5 miles of 954 ACSR bundled conductor. Section 2 was approximately 4.6 miles of 795 ACSR bundled conductor. Section 3 was approximately 2.75 miles of 795 ACSR bundled conductor. The entire project paralleled active railroad lines that required work stoppage when railroad traffic approached the work zone. Work areas were barricaded to keep the general public out of the work zones and flaggers/spotters were utilized to monitor rail traffic.

Apprenticeship Training Project Experience

- 1st Step: Assemble steel towers, Creston, WA, Henkels & McCoy Construction, Coulee Bell 500kV, 2003
- 2nd Step: Erecting 500kv lattice towers, Grand Coulee, WA, Henkels & McCoy Construction, Coulee Bell 500kV, 2004
- 3rd Step: Dead-end crew, triple bundle, Grand Coulee, WA, Henkels & McCoy Construction, Coulee Bell 500kV, 2004
- 4th Step: Backyard pole and reconductor, distribution, Richland and Wenatchee, WA, Hawkeye Construction, 2005
- 5th Step: Distribution reconductors, Wenatchee and Waterville, WA, Hawkeye Construction, 2006
- 6th Step: Distribution reconductors, Mansfield and Waterville, WA, Henkels & McCoy Construction, 2006
- 7th Step: 115 rebuild, substation rebuild and distribution pole changeout, Grand County PUD, WA Wilson Construction 2007

Licenses/Certifications

Journeyman Card #7036609
OSHA T&D 10-Hour Training
CPR/First Aid Certified
CDL
NCCCO Certified Crane Operator
PSE System Operations Switching / Clearance Holder Course
San Diego Gas & Electric On or Near and Clearance Holder Course





Dale "J.R." Crites

General Foreman

Qualifications

Mr. Crites has extensive experience working on all phases of both overhead and underground line construction as evidenced by his highlighted work experience below.

Professional Qualifications

January 2011 – Present; Wilson Construction Company Journeyman Lineman

WAPA Boulder City Bypass

Wilson was a subcontractor to Site Works Solutions on this project. Work included removal of one mile of three-phase 230kV transmission line conductor and one mile of dual overhead ground wire in the deserts south of Las Vegas, NV. Removal of one single-circuit Type D steel lattice tower, three (3) single-circuit Type H steel lattice towers, and one single-circuit Type L steel lattice tower. Work also included the following tasks: cutting off reinforced concrete footings for the lattice towers; removing suspension insulator assemblies, tension insulator assemblies, overhead ground wire suspension assemblies, overhead ground wire tension assemblies, and vibration dampers; construction of six (6) reinforced concrete foundations for Type 282D steel pole structures; installation of six (6) Government-furnished Type 282D single-circuit steel pole structures on reinforced concrete foundations; and, furnishing and installing insulator assemblies, overhead ground wire assemblies, ACSR conductor for one mile of three-phase single-circuit 230kV transmission line, one mile of overhead ground wire, vibrations dampers for conductor and overhead ground wire, and miscellaneous transmission line hardware. Work also included six (6) large concrete caissons self-performed by Wilson.

This project was placed in the middle of critical Desert Tortoise habitat requiring biological monitors and the relocation of thousands of cactus. This project was completed in 2013, and held the highest population of Sonoran Desert Tortoise the biological monitors had ever seen (11 tortoises). Also, crews worked through multiple areas of historical significance without a single issue.

Bonneville Power Administration, Albany-Eugene No. 1 115kV Transmission Line

This project involved the rebuild of Albany – Eugene No. 1 115kV transmission line from the Albany substation to the Alderwood Tap (approximately 30.90 miles). Upgrade work included removal of all existing structures, components, guys, anchors and conductor. Installation work included new poles, guys, anchors, steel cross braces, steel wide-flange cross arms, insulators, line hardware, and the replacement of the conductor. Additional project work includes improvement and maintenance of access roads (where necessary), and disposal of removed components.

Big Eddy-Knight Transmission Line

This project encompassed constructing the 29 mile, Big Eddy - Knight No. 1, 500kV, lattice steel transmission line. Work also included temporarily relocating ("shoefly") the Wautoma-Ostrander No. 1 500kV and the North Bonneville-Midway No. 1 230kV lattice steel transmission lines for the construction of the Knight Substation. Wilson terminated the Wautoma, and Ostrander No. 1 lines into the new Knight Substation, and looped the North Bonneville-Midway No. 1 line through the Knight DE Bays. Removal and relocation of existing lines was also included.

Bonneville Power Administration, McNary – John Day 500kV Transmission Line Construction

This 79-mile transmission line consisted of 369 steel lattice towers and footings, triple bundle 1590 ACSR Deschutes conductor, and 72 count ADSS fiber optic cables. The crossing of the Columbia River included the installation of a 315ft tall, 250,000lb lattice tower to maintain appropriate clearance over the water. The project included access road construction, avoidance and protection of environmental resources and timing restrictions.

September 2001 – January 2011; Pacific Power & Light Co., Madras/Prineville Operations

- Lineman/Line Foreman/Service man, 1 crew yard.

April 1999 - 2001; Pacific Power & Light Company, Yakima, WA

- Lineman/Line Foreman/Service man

1998 – 1999; International Line Builders

- Heavy Line Foreman, 18 man crew – 250 miles of 230kV – 500kV Line, construct and install Goat Peaks on Steel Towers and Fiber Optic Shield Wire. (All work performed with helicopter.)

1997 – 1998; Union Power

- Line Foreman, Replace Deteriorated Facilities for P.G.E., San Francisco / Oakland, CA

1997; Contra Costa Electric

- Lineman, Replace Deteriorated Facilities for P.G.E., Redwood City, Stanford, Vallejo, Walnut Creek, CA

Apprenticeship Training

Northwest Line Construction Apprenticeship. IBEW Local 125.

VanAult Construction – 115kV T-Line out of Rocky Reach Sub for Chelan County PUD

ILB – 69kV, 115kV and 230kV rebuilds and new construction. Pole changeouts reconductors

ILB Various 12kV and 69kV pole changeouts and reconductors for Pacific Power (Crater Lake and Barnett Road pole changeout and reconductor projects)

Licenses/Certifications

Journeyman Card #D771811

CPR/First Aid Certified

Class A CDL

HV Electrical Safety Certificate

Flagger Card





Chris Widner

Field Safety Coordinator

Qualifications

Mr. Widner has been with Wilson Construction Company since 2010. In that time he has been a valuable asset to the ONLine Substation project due to his extensive PacifiCorp training, as well as Southern California Edison's Colorado River Substation. He has also achieved Qualified Electrical Worker / Safety Watcher status for the Bonneville Power Administration. His expertise is an asset to any project that he works on. In addition to his safety knowledge, he has experience with substation I&C, yard power, station service, back-up power (battery banks and generator), testing and checkout.

Project Experience (Partial List)

Field Safety Coordinator

Wilson Construction Company

PacifiCorp, Terminal Transformer Replacement Project – On-Site Safety Representative

This project replaced two existing 345-138kV transformers at Terminal Substation (#9 & #10), construction of a new six bay (future 10 bay) breaker and a half 138kV substation yard and replacement of five 138kV over-dutied circuit breakers. This project also included the installation of two new 345kV circuit breakers.

Substation Wireman Foreman

Wilson Construction Company

PacifiCorp, Three Peaks EPC Substation and Transmission Line Project – Substation Wireman

The Three Peaks project involved design, procurement, construction, and testing & commissioning to support installation of a new 345kV to 138kV substation on a 41.67 acre green-field site located approximately ten miles north of Cedar City, Utah. The work included modifications to associated existing substations and associated transmission facilities. Foremost among these are: addition of a 138kV bay and miscellaneous changes at West Cedar Substation and construction of a new 6.26 mile 138kV transmission line from the new Three Peaks substation to a tap on the WECCO to West Cedar line.

Substation Wireman, 2008-2009

Sturgeon Electric, Salt Lake City, UT

- Three Mile Knoll Substation, Soda Springs, ID
- Grace Hydro switchyard, Grace, ID
- Camp Williams Substation, Salt Lake City, UT
- Granger Substation, Salt Lake City, UT

Oilfield Electrician, 2008

Automation Electronics, Casper, WY

- Anadarko oilfields near Midwest, WY

Licensed Electrician/General Foreman 1998-2007

Moore Electric, Kalamazoo, MI

Full-time both in Michigan and out-of-state as job required

Electrician 1990-1997

Various Electrical Contractors

Full-time both in and out-of-state as the job required

- Substation trained for safety (PacifiCorp)
- OSHA and CPR / AED / First Aid current
- Installation, testing and checkout of substation I&C (cables, transformers, breakers, VT's, CT's, M.O.A.B's, revenue meters, control house wiring, inter-panel wiring, station service, back-up generator, battery bank, air-switches, line tuners).

- Mechanical and electrical knowledge of substation apparatus.
- Installation of grounding grid and equipment grounding connections.
- Heavy equipment operator trained for substation environment.
- Worked with crews with assembly, installation and check-out of substation equipment and apparatus (SF-6 breakers, VT's, line tuners, revenue meters, air switches, buss-work, etc.).

Education

Member of IBEW Local 131, Kalamazoo, MO

Graduated five year apprenticeship - Kalamazoo, MI - Wireman Card #D778811

Supervisor Drug and Alcohol Awareness Training 02/22/13

OSHA T&D 10-Hour and 20-Hour

CPR / AED / First Aid Trained

CPR and First Aid instructor 02/15/13

Substation Safety Trained (PacifiCorp)

Substation Safety Trained (Bonneville Power Administration)

Graduated Plymouth Christian School - Grand Rapids, MI





07.04.2013 02:56



07.04.2013 02:57



KEEP CLEAR
MINIMUM

Timbco

445 EX

445 EX

07.04.2013 02:59



07.04.2013 03:01



07.04.2013 02:51



07.04.2013 02:52



07.04.2013 02:55

WILSON



Electrical Utility
Constructors

CONSTRUCTION COMPANY

*"Building from our past, powering the present,
with our vision on the future"*

JR Crites

Superintendent

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07.04.2013 02:54



07.04.2013 02:58



07.04.2013 02:58



07.04.2013 02:56

Wenzl,Nicholas J (BPA) - TFEF-ALVEY**From:** OplInfo**Sent:** Friday, July 26, 2013 5:44 AM**To:** Pruitt,David R (BPA) - TFEF-ALVEY; Lovell,Bryan A (BPA) - TFEF-BANDON; Wenzl,Nicholas J (BPA) - TFEF-ALVEY; Bashor,Walter B (BPA) - TFEF-ALVEY**Subject:** DIR Eugene District

The information contained herein is transmission system information subject to Bonneville Power Administration's Standards of Conduct.

EUGENE Daily Interruptions Report

Jul 25 2013 05:00 through Jul 26 2013 04:59

Customer Service Interruptions

| Out Datetime | In Datetime | Name | Duration (minutes) | Outage Type | Dispatcher Cause | System In Control | MW Inrpt | OpsSpc HQ | O&M District | Control Center | Outage ID |
|------------------|------------------|--|--------------------|-------------|------------------|-------------------|----------|-----------|--------------|----------------|-----------|
| 07/25/2013 16:30 | 07/25/2013 16:31 | Harrisburg: Consumers Power 115kV Feeder 1 to Greenberry | 1 | Plan | Switching | BPA Request | Unknown | ALV | EUG | Munro | 184729 |
| 07/25/2013 16:30 | 07/25/2013 16:31 | Harrisburg: Consumers Power 12.5kV Feeder 1 | 1 | Plan | Switching | BPA Request | Unknown | ALV | EUG | Munro | 184730 |
| 07/25/2013 16:30 | 07/25/2013 16:31 | Junction City BLC: Blachly-Lane Co 115kV Feeder 1 | 1 | Plan | Switching | BPA Request | Unknown | ALV | EUG | Munro | 184731 |
| 07/25/2013 15:01 | 07/25/2013 16:31 | Halsey Mill: Emerald PUD 115kV Feeder 1 | 90 | Auto | Human Element | BPA Trouble | 21 | ALV | EUG | Munro | 184718 |
| 07/25/2013 15:01 | 07/25/2013 16:31 | Halsey Mill: Emerald PUD 115kV Feeder 2 | 90 | Auto | Human Element | BPA Trouble | 21 | ALV | EUG | Munro | 184719 |
| 07/08/2013 09:30 | | Alvey: Sprngfld Util Brd 115kV Feeder 1 to Springfield | still out | Plan | Foreign Request | Customer Request | None | ALV | EUG | Munro | 184493 |

Transmission Line Interruptions

| Out Datetime | In Datetime | Name | Duration (minutes) | Outage Type | Dispatcher Cause | Miles | OpsSpc HQ | O&M District (s) | Control Center | Outage ID |
|------------------|------------------|---|--------------------|-------------|------------------|-------|------------|------------------|----------------|-----------|
| 07/25/2013 18:51 | | Halsey Mill-Harrisburg section of Albany-Eugene No 1 115kV line | still out | Plan | Normally Out | 5.5 | ALV | EUG | Munro | 184732 |
| 07/25/2013 16:30 | 07/25/2013 16:31 | Harrisburg tap to Albany-Eugene No 1 115kV line | 1 | Plan | Switching | 0.0 | ALV | EUG | Munro | 184728 |
| 07/25/2013 16:30 | 07/25/2013 16:31 | Junction City tap to Albany-Eugene No 1 115kV line | 1 | Plan | Switching | 0.1 | ALV | EUG | Munro | 184728 |
| 07/25/2013 16:30 | 07/25/2013 16:31 | Harrisburg-Junction City section of Albany-Eugene No 1 115kV line | 1 | Plan | Switching | 10.3 | ALV | EUG | Munro | 184728 |
| 07/25/2013 16:30 | 07/25/2013 16:31 | Junction City-Eugene section of Albany-Eugene No 1 115kV line | 1 | Plan | Switching | 6.9 | ALV | EUG | Munro | 184728 |
| 07/25/2013 15:01 | | Albany-Halsey Mill section of Albany-Eugene No 1 115kV line | still out | Auto | Human Element | 17.1 | ALV | EUG | Munro | 184717 |
| 07/25/2013 15:01 | 07/25/2013 16:31 | Halsey Mill tap to Albany-Eugene No 1 115kV line | 90 | Auto | Human Element | 0.0 | ALV | EUG | Munro | 184717 |
| 07/25/2013 13:38 | 07/25/2013 16:37 | Fairview-Rogue No 1 230kV line | 179 | Plan | Maintenance | 65.3 | NOR | EUG | Munro | 184715 |
| 07/25/2013 08:48 | | Thurston-McKenzie No 1 115kV line | still out | Plan | Maintenance | 7.3 | ALV | EUG | Munro | 184712 |
| 07/22/2013 09:35 | 07/25/2013 10:22 | Fairview-Rogue No 1 230kV line | 4367 | Plan | Maintenance | 65.3 | NOR | EUG | Munro | 184677 |
| 07/22/2013 07:16 | | Salem-Albany No 1 115kV line | still out | Plan | Maintenance | 23.9 | ALV CHE | SAL EUG | Munro | 184663 |
| 07/01/2013 14:48 | 07/25/2013 16:31 | Halsey Mill-Harrisburg section of Albany-Eugene No 1 115kV line | 34663 | Plan | Normally Out | 5.5 | ALV | EUG | Munro | 184410 |

Additional Information

| Datetime | Comment | Control Center |
|------------------|---|----------------|
| 07/25/2013 10:50 | FREQUENCY EXCURSION WITH A MAXIMUM DEVIATION TO 59.8690 HZ RETURNING TO NORMAL RANGE AT 1053. BPA CONTRIBUTING WITH A -1338 ACE. | Dittmer |
| 07/25/2013 12:00 | CANAL: 34.5KV PCB L-1026 [130725 12:00] SPC RELEASED TO OPERATIONS FOR CANAL PCB L-1026 1) KLYE RECLOSER TYPE VSO-16 34.5KV 800AMP SER# CP571000393 BPA# O-3918 1) COOPER FORM 6 RECLOSER CONTROLLER SER# CP571343366 TYPE F6-P2A | Munro |
| 07/25/2013 13:52 | FREQUENCY EXCURSION WITH A MAXIMUM DEVIATION TO 59.9010 HZ RETURNING TO NORMAL RANGE AT 1353. BPA CONTRIBUTING WITH A -1072 ACE. | Dittmer |

| 07/26/2013 05:00 | Thermal Generation | | PNW/PSW Intertie | |
|------------------|---|-----|--------------------------|------|
| | Boardman ¹ | 5 | AC Schedule ² | 2307 |
| | Centralia 1 & Big Hanaford ¹ | 322 | Actual ¹ | 2670 |

| | | | | |
|--|--|-----|----------------------------------|------|
| | Centralia 2 ¹ | 300 | DC Schedule ² | 1174 |
| | Columbia Generating Station ¹ | 882 | Actual ¹ | 1427 |
| | | | Pole3 configuration ³ | 311 |
| | | | Pole4 configuration ³ | 311 |

Notes: ¹SCADA, megawatts, instantaneous value; ²Rotary Account, megawatts, integrated hourly value ending; ³Rotary Account

SUMMARY OF OUTAGES

Automatic

| | Equipment Back in Normal Service Still | | | | Total | Out | Reported |
|--------------|--|-------|-------|-------|-------|-----|----------|
| | 0 min | 01-30 | 31-60 | Hour+ | | | |
| Customer | 0 | 0 | 0 | 2 | 2 | 0 | 2 |
| Transmission | 0 | 0 | 0 | 1 | 1 | 1 | 2 |
| Total | 0 | 0 | 0 | 3 | 3 | 1 | 4 |

Planned

| | Equipment Back in Normal Service Still | | | | Total | Out | Reported |
|--------------|--|-------|-------|-----|-------|-----|----------|
| | 0 hrs | 01-08 | 09-24 | 24+ | | | |
| Customer | 3 | 0 | 0 | 0 | 3 | 1 | 4 |
| Transmission | 4 | 1 | 0 | 2 | 7 | 3 | 10 |
| Total | 7 | 1 | 0 | 2 | 10 | 4 | 14 |

[External version of the DIR](#)

[Historical outage information and prior DIRs](#)

Please contact Ralph Erdmann (360.418.2333) or Greg Clark (360.418.2329) if you have questions regarding this report.

(Sorry, you cannot reply to this e-mail.)