

United States Government

Department of Energy
Bonneville Power Administration

memorandum

DATE: November 23, 2004

REPLY TO
ATTN OF: KEP/Celilo-4

SUBJECT: Supplement Analysis for the Transmission System Vegetation Management Program FEIS
(DOE/EIS-0285/SA-234- Captain Jack-Olinda transmission line Project #: **V-R-05/01**)

TO: Elizabeth Johnson
Natural Resource Specialist - TFE/The Dalles

Proposed Action: The project activities will be conducted along the Right-of-Way (ROW) of the 500 kV Captain Jack-Olinda transmission line corridor. The corridor along this section of the proposed project averages 200 feet in width and crosses approximately 7 miles of terrain through rural, residential, agricultural, and BLM lands.

Location: The proposed project is located in Klamath County, Oregon in the BPA Redmond Region.

Proposed by: Bonneville Power Administration (BPA).

Description of the Proposal: During the late fall of 2004 or early spring of 2005, BPA proposes to clear unwanted vegetation along the Captain Jack-Olinda right-of-way (1/2-7-3), along access roads and around tower structures that may impede the operation and maintenance of the subject transmission line. BPA plans to manage vegetation with the goal of removing tall growing vegetation that is currently or will soon become a hazard to the transmission line. (A hazard is defined as one or more branches, tops, and/or whole trees that could fall or grow into the minimum safety zone of the transmission line(s) causing an electrical arc, relay and/or outage.) BPA's overall goal is to have low-growing plant communities along the rights-of-way to control the development of potentially threatening vegetation. Juniper trees over 1 foot tall and conifers over 5 feet tall will be cut. All work will be accomplished by selective vegetation control methods (except for access roads and tower sites) to ensure that there is little potential harm to non-target vegetation and to low-growing plants. The work will provide system reliability.

BPA's goals for managing noxious weeds are to prevent and eradicate new invaders, and to control established infestations. The proposed action is designed to achieve these goals by implementing an integrated noxious weed management program within the transmission line corridor. The proposed action would involve one or a combination of management approaches including manual/mechanical, biological, and chemical methods to control noxious weeds. Determining which method(s) to use, when and how often, will be based on (but not limited to) the following factors: (1) Physical growth characteristics of target weeds (rhizomatous vs. tap-rooted, *etc.*); (2) seed longevity and germination; (3) infestation size; (4) relationship of the site to other infestations;

(5) relationship of the site to listed species and/or proposed for listing under the ESA; (6) distance to surface water; (7) accessibility to site for equipment; (8) type and amount of use of the area by people; (9) effectiveness of treatment on the target weed; and (10) cost. Due to these various factors, one or several treatment methods (manual/mechanical, chemical and biological) will be prescribed to the extent that they are practical, cost effective and effective.

Klamath County has an active weed control board that is annually contracted with BPA to identify, survey, manage and control noxious weeds on right-of-ways within the county. Klamath County will work with private landowners and the BLM to control weeds on the right-of-way.

Initial entry –

Clear tall growing vegetation and establish a self-sustaining low growing plant community. Vegetation to be cut includes trees/brush that is currently or will soon pose a hazard to the lines. Except on BLM lands, hardwood trees stumps and re-sprouts will be treated with herbicides (spot and localized treatments) to ensure that the roots are killed preventing new sprouts. Method of application and herbicide will vary according to location and proximity to water resources (see section 3.1). On BLM lands, contractors will only cut tall growing trees and no stump treatment with herbicides would be applied. Desirable low-growing plants will not be disturbed on the right-of-way by using selective control methods and by keeping trucks and equipment on designated access roads and trails. All work will take place in existing rights-of-ways. Slash and debris will be mulched or lopped and scattered.

Except on BLM land, access roads and tower sites will be treated using selective and non-selective methods including hand cutting, mowing, and herbicide spot, localized and broadcast applications including cut stubble and localized granular treatments.

- The selection of methods and herbicides for noxious weed management will be based on their location and proximity to water resources. Treatment will be limited to spot, localized and ground broadcast treatments (see descriptions page) and performed by the Klamath County Weed Department with BLM approval. Non-selective treatments using ground broadcast methods may be required in areas of high infestation (monocultures) of weeds. Localized Granular treatments will also be considered.

Debris will be disposed of using onsite chip, lop and scatter, or mulching techniques. All onsite debris will be scattered along the ROW. Removal of vegetation on slopes steeper than 20% and spanned canyons will be restricted to tall-growing species that pose a hazard to the transmission line. Trees that visually screen roads from the transmission line will be left where appropriate.

Analysis: A Vegetation Management Checklist was completed for this project in accordance with the requirements identified in the Bonneville Power Administration's Transmission System Vegetation Management Program FEIS (DOE/EIS-0285).

Section 3 of the checklist identifies the natural resources present in the area of the proposed work. The following summarizes natural resources occurring in the project area along with applicable mitigation measures.

Water Resources: Waterbodies (streams, rivers, lakes, wetlands) occurring in the project area are listed in section 3.1 of the Vegetation Management Checklist. Trees in riparian zones will be selectively cut to include only those that will grow into the minimum approach distances of the conductor at maximum sag. No ground disturbing vegetation management methods will be implemented thus eliminating the risk for soil erosion and sedimentation near the streams. Adjacent to water resources only spot (cut-stump) and localized chemical treatments using practically non-toxic Garlon 3A or Rodeo® will be used.

No drinking water, irrigation wells, or water supplies were identified along the rights of way for this project.

Threatened and Endangered Species: Pursuant to its obligations under the Endangered Species Act, BPA has made a determination of whether its proposed project will have any effects on any listed species or critical fish habitat. A species list was obtained from the United States Fish and Wildlife Service (USFWS) on November 9, 2004 as potentially occurring in the project area. In addition a review of species under the jurisdiction of NOAA Fisheries was conducted. A determination of No Effect was made for all ESA listed species and designated critical habitat for the project.

Essential Fish Habitat: A review of NOAA database did not identify Essential Fish Habitat (EFH) streams occurring in the project area.

Cultural Resources: No cultural resources are known for the project area. If a site is discovered during the course of vegetation control, work will be stopped in the vicinity and the BPA Environmental Specialist, and the BPA archeologist will be contacted.

Re-Vegetation: Native grasses are present on the entire right-of-way and are expected to seed into the areas that will have lightly disturbed soil predominately located on the right-of-way roads.

Monitoring: The entire project will be inspected during the work period. Additionally, monitoring for the follow-up herbicide treatment will be in late summer of 2005.

Findings: This Supplement Analysis finds that (1) the proposed actions are substantially consistent with the Transmission System Vegetation Management Program FEIS (DOE/EIS-0285) and ROD, and; (2) there are no new circumstances or information relevant to environmental concerns and bearing on the proposed actions or their impacts. This Supplement Analysis also finds the proposed actions will not affect threatened or endangered species. Therefore, no further NEPA documentation is required.

/s/ James R. Meyer for
Frederick J. Walasavage
Environmental Protection Specialist

CONCUR: /s/ Thomas C. McKinney
Thomas C. McKinney
NEPA Compliance Officer

DATE: 11/24/2004

Attachment:
Capt. Jack-Olinda Vegetation Management Checklist
USFWS Species List Reference # 1-10-05-008
Effects Determination

cc:
L. Croff – KEC-4
T. McKinney – KEC-4
J. Meyer – KEP-4
J. Sharpe – KEPR-4
F. Walasavage – KEP/Celilo
P. Key – LC-7
J. Hilliard Creecy – TF/DOB-1
K. Rodd – T-DITT-1
R. Melzer – TFR/Redmond
Environmental File – KEC-4
Official File – KEP (EQ-14)

1. IDENTIFY FACILITY AND THE VEGETATION MANAGEMENT NEED

1.1 Captain Jack-Olinda Transmission Line 1/2-7/3. Noxious weed management within Klamath, County.

Corridor Name	Corridor Length & kV	Easement width	Miles of Treatment
Capt. Jack-Olinda	7miles- - 500 kV	200' wide	Approx 7 miles

Right-of-Way – clearing in right-of-way – Approximately 169 acres

Transmission Structures – clearing around structures, includes mowing & herbicide applications.

Access Road clearing – approximate miles – Approx. 8 miles

Reclaim (“C”) Trees – occasional

Other – Noxious weeds: See list below.

1.2 Describe the vegetation needing management.

Vegetation Types: Juniper. Sage, bitterbrush and grasses.

Density: Low (25 stems/per acre)

Noxious weeds: Listed by common name:

Scotch Thistle

Spotted Knapweed

Medusa head rye

Yellow Starhistle

1.3 List measures taken to help promote low-growing plant communities. Bonneville’s overall goal is to have low-growing plant communities along the rights-of-way to control the development of potentially threatening vegetation.

Tall-growing vegetation that is currently or will soon be a hazard to the line will be removed.

Vegetation that will grow tall will be selectively eliminated *before* it reaches a height or density to begin competing with low-growing species.

Desirable low-growing plants will not be disturbed unless the distance from the ground to the conductor is less than 20 feet. Only selective vegetation control methods that have little potential to harm non-target vegetation will be used.

Riparian areas – the objective is to selectively cut & treat only tall growing vegetation within the riparian areas. Where the transmission lines span across riparian areas and the ground-to-conductor clearance is > than 125 feet, only trees with tops within 50’ to the line would be identified and selectively cut. All other tall growing trees, shrubs & grasses will be left intact.

1.4 Overall management scheme/schedule.

Description of the Proposed Action: During the late fall or early spring, BPA proposes to clear unwanted vegetation along the Captain Jack-Olinda right-of-way (1/2-7-3), along access roads and around tower structures that may impede the operation and maintenance of the subject transmission line. All work will be in accordance with the National Electrical Safety Code and BPA Veg. Management FEIS, dated 2000.

BPA plans to manage vegetation with the goal of removing tall growing vegetation that is currently or will soon become a hazard to the transmission line. (A hazard is defined as one or more branches, tops, and/or whole trees that could fall or grow into the minimum safety zone of the transmission line(s) causing an electrical arc, relay and/or outage.) BPA's overall goal is to have low-growing plant communities along the rights-of-way to control the development of potentially threatening vegetation. Juniper trees over 1 foot tall and conifers over 5 feet tall will be cut. The width of the ROW is 200' feet and acquired as an easement. All work will be accomplished by selective vegetation control methods (except for access roads and tower sites) to ensure that there is little potential harm to non-target vegetation and to low-growing plants. The work will provide system reliability.

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Except on BLM land, access roads and tower sites will be treated using selective and non-selective methods including hand cutting, mowing, and herbicide spot, localized and broadcast applications including cut stubble and localized granular treatments.

The selection of methods and herbicides for noxious weed management will be based on their location and proximity to water resources. Treatment will be limited to spot, localized and ground broadcast treatments (see descriptions page) and performed by the Klamath County Weed Department with BLM approval. Non-selective treatments using ground broadcast methods may be required in areas of high infestation (monocultures) of weeds. Localized Granular treatments will also be considered.

Subsequent entry–

Due to the amount of rainfall, low ground-to-conductor clearance, density and typical growth of trees, the treatment cycle will be every 8-10 yrs. The same prescription as stated in the initial entry will apply although the amount of cutting and herbicide use will drop off with each subsequent entry as low growing plant communities take over.

Future cycles–

Future entry prescriptions will be similar to the initial entry although the amount of cutting and herbicide treatment will be significantly reduced due to the in vegetation manipulation.

2. IDENTIFY SURROUNDING LAND USE AND LANDOWNERS/MANAGERS

2.1 Landowners and land uses along the corridor.

Private/rural

BLM – Klamath District – herbicide to be used only on noxious weeds.

Agricultural/pasturelands

2.2 Method for notifying right-of-way landowners and requesting information

BLM – copy of checklist will be sent to the BLM with the clear understanding that no herbicide will be used except for noxious weed management. Klamath County weed control crew will perform noxious weed management only.

Private landowner will be contacted via mail informing them of when, what, how the vegetation will be controlled. Landowner issues will be resolved prior to commencing work.

2.3 Specific land owner/land use measures:

For all lands:

When using herbicides, ensure that treated areas are posted and reentry intervals are specified and enforced in accordance with label instructions.

Prevent the spread of noxious weeds by cleaning seeds from equipment used off-road and before entering cropland, etc.

On grazing lands where there is potential for pine needle poisoning, do not lop and scatter pine tree vegetative debris—machine-chip or haul debris off-site.

When using herbicides on grazing lands, comply with grazing restrictions as required per herbicide label.

When using herbicides near crops for consumption, comply with pesticide-free buffer zones, if any, as per label instructions.

For rights-of-way adjacent to agricultural fields, observe appropriate buffer zones necessary to ensure that no drift will affect crops.

2.4 Existing landowner agreements (e.g. tree/brush Permits or Agreements).

No tree & brush agreements found.

Casual informal use of the right-of-way by non-owner publics:

Hunters and recreationists may occasionally use the row. The planned entry is not expected to affect their use.

Other potentially affected people, agencies, or tribes (that are not landowners/managers) that need to be notified or coordinated with.

None identified.

3. IDENTIFY NATURAL RESOURCES

3.1 Water resources (streams, rivers, lakes, wetlands) that may be impacted by vegetation control activities. For each water body, the control methods and requirements or mitigation measures that will be used are described:

General requirements:

Leave vegetation intact, where possible.

Under the Clean Water Act, any discharge of material (displaced soils, and in certain circumstances, vegetation debris) within a water of the U.S. may possibly be subject to fill and removal permitting by U.S. Army Corps of Engineers and the Oregon Department of State lands.

Do not permit debris from tree falling, cutting, or disposal to fall into or be placed in any watercourse, spring, pond, lake, or reservoir, unless there is approval from the appropriate authorities for stream habitat projects. For specific requirements, see Section 4.1 – Vegetation control methods.

No refueling, herbicide mixing, or washing any equipment or vehicles within 300’ of a riparian area.

Span		Waterbody	Buffer Zone, ² Herbicide & application method.	¹ Other
From	To			
3/2	3/3	Intermittent Cr.	35’ both sides. Spot/localized Garlon 3A or Rodeo®	³ Spanned Canyon See #2 below.
3/4	3/5	Intermittent Cr.	35’ both sides. BLM – No herbicides	
3/5	4/1	Intermittent Cr.	35’ both sides. BLM – No herbicides	
4/5	5/1	Intermittent Cr.	35’ both sides. BLM – No herbicides	
5/4	6/1	Mill Cr.	35’ both sides. BLM – No herbicides	Spanned Canyon See #2 below.

¹Manual methods include: cutting trees & brush with hand and power tools such as machetes, shears, clippers, chainsaws, brush saws, or axes; and girdling by cutting a ring around the trunk of the tree. (See 4.1 for complete discussion.)

¹Mechanical methods include: Mowing, tilling, disking or plowing, chopper/shredders, walking brush controllers, feller-buncher machines, roller-choppers, and blading. Mechanical control may be carried out over large areas or be confined to smaller areas. (See 4.1 for complete discussion.)

²Herbicide methods include: application of site specific herbicides in liquid or granular form through the use of wand or broom sprayers mounted on or towed by trucks, backpack equipment containing a pressurized container with an agitation device, injection, hand wicking cut surfaces, and ground application of granular formulas. Herbicides will be mixed with water as a carrier (no

oil-based carriers will be used) and may also contain a variety of additives to promote saturation and adherence, to stabilize, or to enhance chemical reactions. (See 4.1 for complete discussion.)

³Spanned Canyon: Where the conductors span canyons and the conductors are greater than 38.1 m (125 ft.) vertical distance from the ground surface, the Contractor will be directed to cut only of individual trees (single tree cuts) with tops/branches encroach into the transmission corridor danger zone (40').

BUFFERS/MITIGATION FOR WETLANDS, PERRENIAL & INTERMITTENT STREAMS:

Buffers: Vegetation located within 35 feet on both sides of stream/wetlands. All buffers will be surveyed and flagged prior to treatment. Buffer width measured from high water mark.

Methods allowed: manual, spot and localized herbicide, and biological treatments.

Herbicide: Except on BLM lands, only Non-toxic formulations and slightly toxic (to aquatic species) formulations of glyphosate (such as Rodeo®) and triclopyr (Garlon 3A) may be prescribed for cut-stump, basal-stem, stem-injection, and spot-foliar treatments (localized). Spray application would be prohibited when wind speeds are greater than 8 kilometers per hour (5 mph).

Mechanical: None with 35 feet of streams or wetlands except along access roads and tower sites.

Water body	T&E?	Herbicide	Application Technique	Specialized Treatment Zones/Widths	Other
Creeks Streams Wetlands	No	Non Toxic Glyphosate, Triclopyr (Garlon 3A	Spot, localized	35' both sides	All Areas will be surveyed and flagged before treatment

In all riparian areas, vegetation cut shall be treated as follows:

Where possible, larger diameter trees (greater than 10 inches diameter at breast height (DBH) may be felled within riparian areas to span streams. Prior to cutting, landowner shall be notified and agree with the direction and number of tree(s) to be fell as further permitting may be required.

Other trees that need to be felled should be felled uphill and/or parallel to the stream or water body.

A minimum of 20-foot wide gaps through this down material are required every 100 feet of the stream in order to provide for wildlife access.

Slash piles shall not be located within 50 feet slope distance of the stream.

No trees shall be felled across stream course in any area where there is obvious stream instability.

3.2 If planning to use herbicides, list locations of any known irrigation source, wells, or springs (landowners maybe able to provide this info if requested).

None identified.

3.3 List below the areas that have Threatened or Endangered Plant or Animal Species and the name of the species, and any special measures that need to be taken due to their presence. Attach any Bas, T&E maps, or letters from US Fish and Wildlife.

No ESA plants have been identified.

3.4 List any other measures to be taken for enhancing wildlife habitat or protecting species.

Where possible and appropriate, leave brush piles for small animal habitats.

Where possible and appropriate, top and leave tall dead trees (snags) in place for wildlife habitat.

3.5 List any visually sensitive areas and the measures to be taken at these areas.

Selective cutting techniques will limit visual effects.

3.6 List areas with cultural resources and the measures to be taken in those areas.

None known. Soil disturbance not expected, and if any, will be limited to access roads and tower sites using mechanical equipment.

3.7 Areas with steep slopes or potential erosion areas and the measure and methods to be applied in those areas.

Mechanical treatments limited to roads and structure sites.

No ground (soil)-disturbing mechanical equipment on slopes over 20%.

Perform mechanical clearing when the ground is dry enough to sustain heavy equipment.

Avoid using granular or total vegetation management (non-selective) herbicides on slopes over 10%.

No herbicides prescribed that have a high potential for surface runoff.

Perform mechanical clearing when the ground is dry enough to sustain heavy equipment.

Reseed or replant seedlings on slopes with potential erosion problems and/or take other erosion control measures as necessary.

3.8 List areas of spanned canyons and the type of cutting needed.

Where the conductors span canyons and the conductors are greater than 38.1 m (125 ft.) vertical distance from the ground surface, the Contractor will be directed to cut only of individual trees (single tree cuts) that could encroach into the transmission corridor danger zone (50').

Manual: Hand tools and chainsaws. Refer to Riparian treatment specifications

Mechanical: Only on Access Roads and Tower sites

Herbicide: For the treatment of noxious weeds only. Refer to Riparian treatment specifications.

No ground (soil)-disturbing mechanical equipment to clear on slopes over 20%.

Avoid using granular or total vegetation management (non-selective) herbicides on slopes over 10%.

No herbicides prescribed that have a high potential for surface runoff.

Perform mechanical clearing when the ground is dry enough to sustain heavy equipment.

4. DETERMINE VEGETATION CONTROL METHODS

4.1 List Methods that will be used in areas not previously addressed in steps above.

APPLICATION METHOD DESCRIPTIONS

Herbicide application methods: - liquid or granular forms of herbicides would be applied either with machinery or by hand. Mechanized application would be done with vehicle-mounted (pick-up, 4-wheeler, or tractor) fixed-booms, or spray guns. Hand application methods to be used are: (1) Spot-spraying with hand-held spray nozzles either mounted on a vehicle or attached to a backpack system; (2) hand-spreading granular formulations; and (3) wicking, wiping, dripping, painting, or injecting target vegetation.

Spot Herbicide Application

A spot application treats individual plant(s) with the least amount of chemicals possible. The methods include, but are not limited, to the following:

Stump treatments. Herbicide is applied by hand (squirt bottle) or backpack to freshly cut stumps of broadleaf trees and shrubs to prevent re-sprouting.

Injection and notch treatments. Herbicide is injected into the tree around the base using tubular injectors (lances); or herbicide is squirted or sprayed into frills, notches, or cups chopped around the base of individual trees or shrubs. These very selective treatments are only used for specific trees or shrubs and within sensitive areas such as near water.

Wick and carpet roller applications. The herbicide is wiped on the plant(s) (noxious weeds) using hand held or equipment mounted rope wicks, sponges, fiber covered wipers, or carpet wiper designs. This application device uses saturated ropes, wick or sponges that are used to apply the herbicide selectively on the plant. This method is effective where drift or sensitive water sources are a concern.

Localized Herbicide Application

“Localized” herbicide application is the treatment of individual or small groupings of plants.

This application method is normally used only in areas of low-to-medium target-plant density.

The application methods for this application group include, but are not limited to, the following:

Basal treatment. The herbicides are applied by hand (squirt bottle) or by backpack. Herbicides are applied at the base of the plant (the bark or stem) from the ground up to knee height. The herbicide is usually mixed with an oil carrier to enhance penetration through the bark, and applied to the point short of run-off. These treatments can be done during the dormant season or active growing season.

Low-volume foliar treatment. Herbicides are applied with the use of a backpack sprayer, all terrain vehicle (ATV), or tractor with a spray gun. Herbicide is applied to the foliage of individual or clumps of plants during the growing season, just enough to wet them lightly. A relatively high percentage of herbicide is used mixed with water. Thickening agents are added where necessary to control drift. Dyes may also be added to see easily what areas have been treated.

Localized granular application. Granular or pellet forms of herbicide are hand-applied to the soil surface beneath the drip lines of an individual plant, or as close to a tree trunk or stem base as possible. Herbicide is applied when there is enough moisture to dissolve and carry the herbicide to the root zone—but not so much water that it washes the granules off-site.

Broadcast Ground Herbicide Application

Broadcast herbicide applications treat an area, rather than individual plants. Broadcast applications are used to treat right-of-ways that are thickly vegetated (heavy stem density) with non-desirable species, access roads, and noxious weeds. The application methods for this group include, but are not limited to, the following:

High-volume foliar treatments. Herbicides are applied by truck, ATV, or tractor with a spray gun, broadcast nozzle, or boom. A hydraulic sprayer mounted on a rubber-tired tractor or truck or tracked-type tractor is used to spray foliage and stems of target vegetation with a mixture of water and a low percentage of herbicide. The herbicide mixture is pumped through hoses to a hand-held nozzle. A worker activates the nozzle and directs the spray to the target vegetation. Boom application methods involve a fixed nozzle or set of nozzles that spray a set width as the tractor passes over an area.

Cut-stubble treatment. Herbicide is sprayed from a truck with a mounted boom over large swaths of freshly mechanically cut areas. This treatment is the broadcast style of cut-stump treatments. It is intended to keep plants from re-sprouting.

Other herbicide conservation measures:

The measures listed below are for terrestrial application of chemicals only, and are designed to prevent chemicals from entering any surface waters. Aquatic application of chemicals is not covered under this Checklist. Applicators will only use the herbicides and adjuvant as proposed in this Checklist.

Product label directions will be followed as required by the Federal Insecticide, Fungicide, and Rodenticide Act, including “mandatory” statements (such as registered uses, maximum use rates, application restrictions, worker safety standards, restricted entry intervals, environmental hazards, weather restrictions, and equipment cleaning).

All product label “precautionary” statements such as environmental hazards, physical or chemical hazards, soil and climate application restrictions, wildlife warnings, and threatened and endangered species warnings will be followed.

Herbicides will only be applied by a licensed applicator (valid for the state where the work is located) and only in accordance with EPA labeling or the restrictions identified in the Checklist, whichever are more restrictive. Applicators will use the herbicide specifically targeted for a particular vegetation species that will cause the least impact to non-target vegetation.

Applicators will keep records of each application, the active ingredient, formulation, application rate, date, time, location, etc. Records will be available to state and Federal inspectors, and will be supplied to applicable regulatory agencies and land managers as requested.

Applicators will also supply application information to BPA for the annual NOAA Fisheries reporting and monitoring requirements described in the Reporting, Monitoring, Evaluation, and Adaptive Management portion of this section.

Applicators will never leave herbicides or equipment unattended in unrestricted access areas.

Only the minimum area necessary for the control of noxious weeds will be treated. *Prior to application*, applicators will thoroughly review the site to identify and mark, if necessary, the specialized treatment area requirements. The most restrictive widths for the conditions at the site will apply.

Applicators will observe restricted entry intervals specified by the herbicide label.

No 2,4-D ester formulations of any kind will be used.

Only glyphosate that is factory-formulated *without* a surfactant will be used within 100 feet of any surface waters.

No carrier other than water will be used for tank mixing.

Drift and Leach Reduction Conservation Measures.

Applicators will use drift reduction agents, as appropriate, to reduce the drift hazard when applying herbicides as broadcast or localized foliar treatments.

Colorants will be used to the extent practicable to ensure proper coverage and targeting.

Herbicides/adjuvants with a groundwater or surface water label advisory will not be used within 100 feet of any surface water.

For basal bark/stem and stump applications, applicators will directly spray the root collar area, sides of the stump, and/or the outer portion of the cut surface, including the cambium, until thoroughly wet, but not to the point of runoff, in order to avoid or minimize deposition to surrounding surfaces. A marker colorant/dye is recommended to establish coverage and prevent plant runoff.

Treatment will be delayed if precipitation is forecasted to occur within 24 hours, except for pellet application.

Mixing Conservation Measures.

Applicators will prepare spray mixtures in accordance with the label(s) instructions and will not exceed the amount of herbicide per acre specified on the label.

Applicators will mix and load herbicides at least 100 feet from any surface waters and only in locations where accidental spills cannot flow into waters, or contaminate groundwater.

Spills and Misapplication Conservation Measures.

Applicators will conduct regular testing on field calibration and calculations to prevent gross application errors.

The applicator will develop a Spill Containment and Control Plan (SCCP) prior to herbicide application. The plan will contain notification procedures, specific clean up and disposal instructions for different products, quick response containment and clean up measures that will be available on site, proposed methods for disposal of spilled materials, and employee training for spill containment. All individuals involved, including any contracted applicators, will be instructed on the plan.

In addition to an applicator's SCCP, applicators will report spills and misapplications to EPA, Dept. of Environmental Quality, and the USFS in accordance with the BPA's Government Agency Plan. Applicators will report spills and misapplications and clean up according to Federal and applicable state laws and regulations. At a minimum:

Handling Conservation Measures.

During transportation, applicators will secure herbicide containers to prevent movement within the vehicle or loss from the vehicle during the operation of the vehicle.

When spray equipment is not being used, applicators will ensure that all valves and tank covers will be closed during any movement of the vehicle.

Applicators will firmly secure any portable tanks used for herbicide application to the frame of the vehicle.

Storage of Herbicides, Containers, and Equipment Conservation Measures.

Applicators will follow label requirements for storage.

Storage of herbicides will be in strict compliance with the relevant regulations of the State in which the herbicides are being stored.

Applicators will inspect storage areas frequently for leakage and clean up spill areas immediately.

Applicators will store only minimum amounts of chemicals at field and temporary locations, and will order out no more chemicals than necessary.

Applicators will dispose of unwanted or unusable products promptly and correctly.

In temporary storage locations, such as the field, applicators will store all chemicals in buildings or vehicles that can be locked up and no closer than 300 feet from any surface water.

Disposal Conservation Measures.

Applicators will use water-soluble packaging (WSP) when available, to eliminate the need for container disposal (BPA 2000).

Applicators will not burn paper and carton-type containers unless stated as permissible on the label.

Applicators will dispose of containers or cartons in one of three ways:

Triple rinse containers of liquid herbicides before disposal. The rinse solution will be poured into the mix-tank and used for treatment. Each rinse solution will be equal to at least 10% of the container volume. Dispose of the empty containers as non-contaminated waste, at any legal landfill dump.

Use a rinsing nozzle (instead of triple rinsing). A rinsing nozzle has a sharp point that can puncture a plastic or metal empty herbicide container and flush the container's contents into the mix tank.

Return returnable "mini-bulk" type containers to the distributor for refill (BPA 2000).

Applicators will observe the applicable buffers when washing or rinsing spray tanks near waters.

Applicators will dispose of unwanted or unusable herbicide products as contaminated waste at an approved waste facility.

Applicators will dispose of contaminated materials (including contaminated soil) resulting from cleanup procedures according to EPA directives.

5. DETERMINE DEBRIS DISPOSAL AND REVEGETATION

5.1 Describe the debris disposal methods to be used and any special considerations.

Lop and Scatter (Branches of a fallen tree are cut off (lopped) by ax or chainsaw, so the tree trunk lies flat on the ground. The trunks are occasionally cut in 1-to-2-m (4-to-8-ft.) lengths. The cut branches and trunks are then scattered on the ground, laid flat, and left to decompose.) Some mulching will occur where mowers can be used.

5.2 List areas of reseeding or replanting (those areas not already described in steps 1, 2, or 3).

No ground disturbance or exposed soil expected.

5.3 If not using native seed/plants, describe why.

NA.

5.4 Describe timing and any follow-up that will need to take place to ensure germination/success of seeding/planting.

If seeding becomes necessary, seeding should be completed when there is enough moisture to allow for 2 months of growth.

6. DETERMINE MONITORING NEEDS

Right-of-way will be visited during operations and late summer after contractor has completed work to determine if target vegetation was cut and treated effectively, whether desired results were achieved for riparian as well as non-riparian areas and if mitigation measures were appropriately utilized and effective.

6.1 Describe the follow-up/monitoring cycle that will be used to evaluate the effectiveness of the vegetation control methods used.

Annually field verify results of previous veg. mgmt schemes and look for new alternatives for treatment, etc.

6.2 Describe any follow-up or monitoring needed to determine if mitigation measures were effective.

Review TLM patrol reports and aerial patrol tapes.

7. PREPARE APPROPRIATE ENVIRONMENTAL DOCUMENTATION

Checklist submitted to environmental staff to ensure compliance with BPA's Veg. Mgmt. EIS. Upon approval, BPA's NEPA compliance officer will issue a Supplemental Analysis and contract will be issued.

7.1 Describe any potential project impacts or project work that are different than those disclosed in the Transmission System Vegetation Management Program EIS. Describe how those differences impact natural resources and if the differences are "substantial".

None

7.2 Is there a need for additional NEPA documentation (i.e. Forest Service requirement, Record of Decision, supplemental EIS)? If so, attach.

None