

# Fire Suppression Plan

North Umpqua Hydroelectric Project  
FERC Project No. 1927

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In consultation with  
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Pacific Northwest Region  
Umpqua National Forest

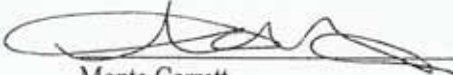
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## Fire Suppression Plan

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## ACRONYMS AND ABBREVIATIONS

ATV	All Terrain Vehicle
BLM	Bureau of Land Management
FERC	Federal Energy Regulatory Commission
IFPR	USDA-FS Industrial Fire Precaution Regulations
License	FERC Project License issued November 18, 2003
NFPA	National Fire Protection Association
OR OSHA	Oregon Occupational and Health Association
Plan	Fire Suppression Plan North Umpqua Hydroelectric Project
Project	North Umpqua Hydroelectric Project FERC No. 1927
R/W	Right-of-Way
SA	North Umpqua Hydroelectric Project Settlement Agreement
TMP	Transportation Management Plan North Umpqua Hydroelectric Project
UNF	Umpqua National Forest
USDA-FS	United States Department of Agriculture-Forest Service
USDA-FS(4e)	4(e) Conditioning Authority under the Federal Power Act
VMP	Vegetation Management Plan, North Umpqua Hydroelectric Project

## 1.0 Introduction

PacifiCorp, a United States division of Scottish Power, is the operator of the North Umpqua Hydroelectric Project, FERC No. 1927 (Project), originally licensed by the Federal Energy Regulatory Commission (FERC) in 1947. FERC issued a new license on November 18, 2003, with a 35-year term. Incorporated into the new license is the June 13, 2001, Settlement Agreement (SA) entered into by PacifiCorp, the United States Department of Agriculture-Forest Service (USDA-FS) and other agencies. The issued license also contains conditions placed by the USDA-FS under the Federal Power Act 4(e) conditioning authority (USDA-FS(4e)). USDA-FS 4(e) Condition No. 12 requires preparation of this Fire Suppression Plan in consultation with, and approved by, the USDA-FS.

### 1.1 Purpose and Intent

The primary purpose of this Plan is to provide a process to minimize fire starts and spread; assess fire risk and hazards; establish a fire response notification process; communicate existing PacifiCorp procedures and programs; and establish new guidelines to effectively manage fire suppression within the Project.

The Plan covers all Project lands and facilities within the Project boundary, including transmission and distribution lines. The Plan meets the USDA-FS 4(e) Conditions by presenting the following information as required by 4(e) Condition No. 12.

- 1) Describe the fire hazard associated with Licensee facilities. (Section 2.0)
- 2) Identify hazard abatement procedures. (Section 3.0)
- 3) Identify a notification process in the event of a fire involving Licensee Facilities (Section 4.0)
- 4) Cooperate with the USDA Forest Service for suppression of fire involving the Licensee facilities. (Section 5.0)

### 1.2 Goals

To meet the purpose and intent of this Plan, the following goals were developed to guide the operation of the Project and its transmission and distribution lines located on federally managed lands. These goals include:

- 1) Reduce risk of wildland and structural fires on the Project.
- 2) Ensure this Plan is consistent with USDA-FS Umpqua National Forest policies, current practices and plans;
- 3) Address preparedness for wild land fires threatening PacifiCorp facilities or personnel; and;

4) Identify measures to minimize the chances of a fire start and spread from PacifiCorp facilities.

### **1.3 Agency and PacifiCorp Roles and Responsibilities**

#### **1.3.1 PacifiCorp Roles and Responsibilities**

- Responsible for implementation of the Plan including funding and implementation of specific measures described within.
- Responsible for the coordination with other Project-related resource management plans including the Recreation Resource Management Plan, Transportation Management Plan (TMP), Aesthetics Management Plan, Erosion Control Management Plan, Vegetation Management Plan (VMP), Historic Properties Management Plan and the Resource Coordination Plan.
- Responsible for periodic reporting to FERC.
- Responsible for annual meeting, bi-annual reviews, and periodic (5-year) updates of the Plan.
- Shall be liable for all fire suppression costs to the extent required by all pertinent laws and regulations.

#### **1.3.2 USDA-FS Roles and Responsibilities**

- Responsible for informing PacifiCorp of any USDA-FS management activities involving fire or timber harvest within or near the FERC Project boundary.
- Responsible for informing PacifiCorp of any changes or proposed changes to USDA-FS standards or policies regarding fire suppression in the Umpqua National Forest that pertain to or may affect areas within the FERC Project Boundary.
- Attend annual Fire Suppression coordination meeting with PacifiCorp.
- Assume command for suppression of the wildland fires.
- Investigate all fire ignitions within the Project boundary.

### **1.4 Annual Plan Meeting**

PacifiCorp will hold an annual meeting with the USDA-FS to discuss current fire suppression and preparedness issues. PacifiCorp will organize the annual meeting outside of the typical fire season.



## **1.5 Coordination with other PacifiCorp North Umpqua Hydroelectric Project Management Plans**

This Plan is one of a number of management plans that provide implementation and operations guidance for various activities associated with the Project and addressed in the SA, License or USDA-FS 4(e) Conditions. Implementation of this Plan will be coordinated with the other Project Management Plans. Most notably are the Vegetation Management Plan and the Transportation Management Plan. PacifiCorp plans that will also require close coordination with this plan include the Emergency Procedures Manual and Emergency Action Plan. Generally, PacifiCorp Corporate level plans and procedures will provide policy level guidance for updates and changes to this Plan.

## **1.6 Relevant Plans and Regulations**

Listed below are plans and regulations that are relevant to this Plan:

- Umpqua National Forest Fire Prevention Plan (USDA - FS)
- Umpqua National Forest Structure Plan for Toketee and Clearwater Compound (USDA-FS)
- Vegetation Management Plan (PacifiCorp, USDA-FS, and BLM)
- Transportation Management Plan (PacifiCorp, USDA-FS, and BLM)
- North Umpqua Emergency Procedures Manual and Emergency Action Plan (PacifiCorp)
- Oregon Public Utility Commission Staff Policy – Tree to Power Line Clearances (State of Oregon) (Exhibit A)
- Industrial Fire Precautionary Regulations (USDA-FS) (Exhibit B)

## **2.0 Fire History, Risk Assessment Model, and Hazards Associated with or to Licensee Facilities**

This section of the plan sets out three distinct pieces of information, the first is a history of fires in the Project areas, the second is the use of the USDA-FS fire behavior ratings as they relate to the Project area, the third component is detailed descriptions of Project facilities and complexes.

The discussion of the Project facilities include the following: a characterization of structure flammability or resistance to fire and flammable materials stored, use of structures, description of surrounding landscape or forest, access routes and the fire behavior rating for the area per the USDA-FS model.

### **2.1 Fire history**

#### **2.1.1 Fires Caused by PacifiCorp Facilities**

PacifiCorp Risk Management and Hydro Resources FERC Compliance staff searched their databases for any claims resulting from fires started by Project facilities or operations during the history of the Project.

In recent history, there were three small fire starts associated with PacifiCorp transmission or distribution lines.

- Transmission Line Switch Fire (approximately 1990) – A line switch in the transmission R/W arced and started a small fire in the transmission corridor just east of the Clearwater Switch yard.
- Clearwater Canal Fire (before 1990) – This was a small fire caused by a distribution line arc with a fallen tree.
- Fish Creek Canal Fire – Distribution line along the canal (spring 2004) – This was a small fire caused by a distribution line arc with a fallen tree.
- Transmission Line Fire (2002) – This was a small fire near the forest boundary in Section 18, T.26S., R.1W. It was approximately ¼ acre in size caused by arcing of the main transmission line.

#### **2.1.2 Wildland Fires In Proximity to PacifiCorp Facilities**

There were four major wildland fires in close proximity to Project facilities that posed a potential threat. These fires included:

- Apple Fire (1987, burned 2,415 acres)
- Spring Fire (August 1996, burned 16,000 acres) - This fire threatened the Control Center, Toketee School and Clearwater Village areas. It also threatened the main transmission line that leaves the Project area. The line was shut down for approximately three days.

Helicopters used water from Fish Creek forebay and Lemolo 2 forebay to assist with fire suppression.

- Limpy Rock Fire (July 2002, burned 859 acres)
- Apple II Fire (August 2002, burned 17,600 acres) – This fire was located on the North Umpqua Ranger District. There was no direct threat or affect to PacifiCorp’s facilities.
- Kelsey Fire (July 2003, burned 1,400 acres) – This fire was approximately three miles from Lemolo 1 generator and somewhat closer to the Lemolo 1 canal. There was no direct threat or affect. Helicopters used water from Lemolo Lake to assist with fire suppression efforts.

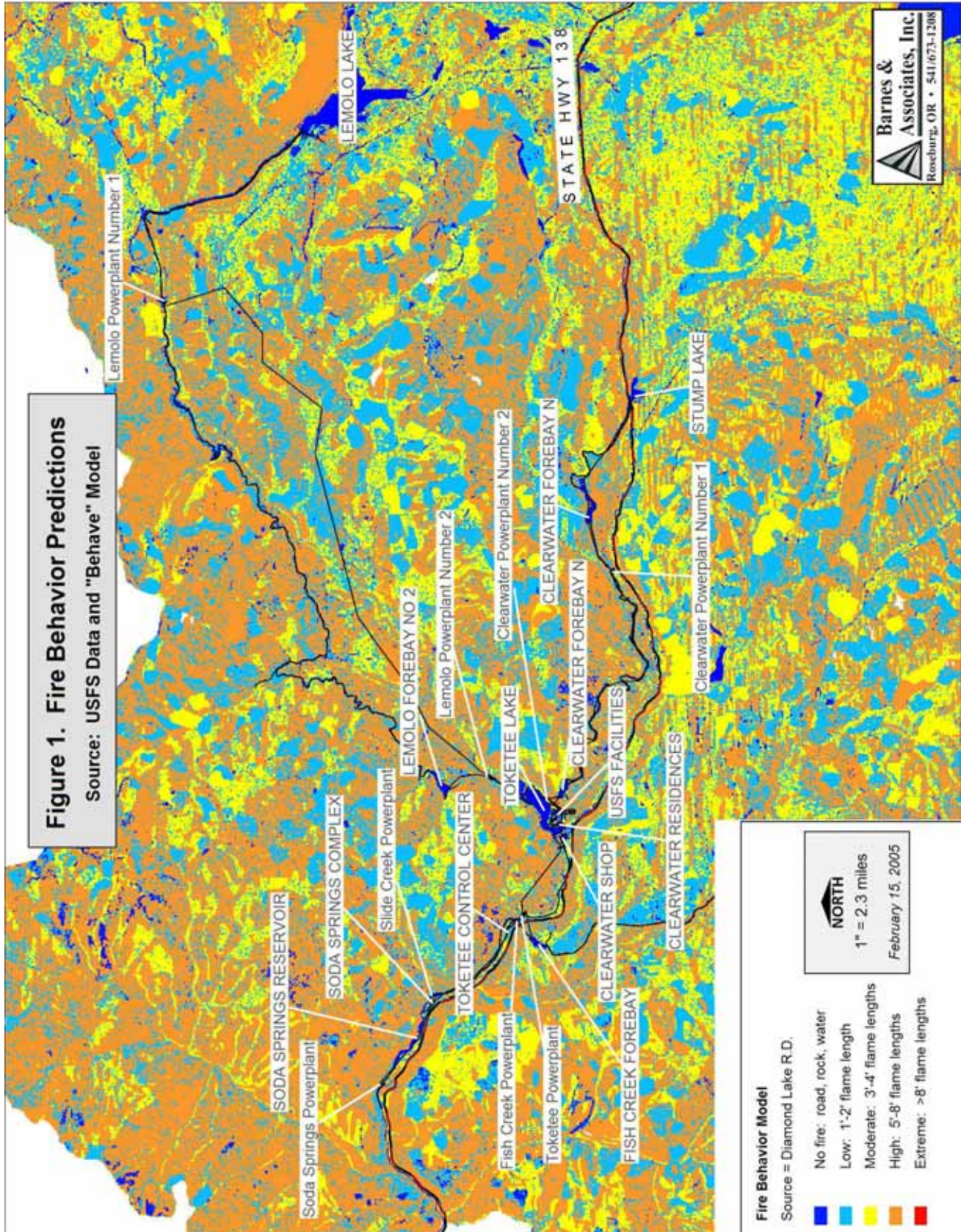
## 2.2 USDA-FS Fire Behavior Model

The USDA-FS has developed fire behavior ratings for the UNF using the “Behave” fire prediction model. This program utilizes a fuel model map, slope, aspect, and a set of weather conditions to predict fire behavior. In general, the Fire Behavior Predictions map of the Project area (Figure 1) shows a rating of low to moderate near the PacifiCorp facilities and a rating of high for the surrounding forests. Table 1 illustrates the ratings as they relate to predicted flame length.

Table 1: Fire Behavior Model Ratings

Fire Behavior Rating	Predicted Flame Length
No fire	Roads, rock, water
Low	1’ to 2’ flame length
Moderate	3’ to 4’ flame length
High	5’ to 8’ flame length
Extreme	Greater than 8’ flame length

A map showing the predicted fire behavior rating is shown in Figure 1 on the following page.



## **2.3 Toketee Control Center Complex (Toketee Complex)**

The Toketee Complex includes the following:

- Control Center for the Project
- Toketee elementary school, (not a Project facility)
- Water treatment plant
- Three residences for the elementary school (not Project facilities)
- Fish Creek and Toketee powerhouses
- Employee housing in nine historic homes and associated outbuildings

### **2.3.1 Fire Risk Assessment for the Toketee Complex**

The Toketee Complex is located on a flat bench just south of the North Umpqua River. See Figure 2 on the following page for location and layout of the complex. Between the complex and the river is a dense stand of timber, approximately 200 feet wide, with dense understory vegetation. Approximately 400 feet south of the complex is Highway 138. Across Highway 138 from the complex the terrain becomes steep with a dense stand of timber on a northern exposure.

The USDA-FS Fire Predictions model “Behave” predicts fire behavior within 300 feet of the complex to be primarily a low rating with the exception of the strip of timber between the complex and the river. This area between the complex and the river, the land across the river from the complex, and the forestlands south of Highway 138 are predominately rated as high fire behavior. See Figure 1 for a map showing the fire behavior ratings. Following is a map of the Toketee Complex (Figure 2) followed by the risk assessment for the various facilities in the complex.

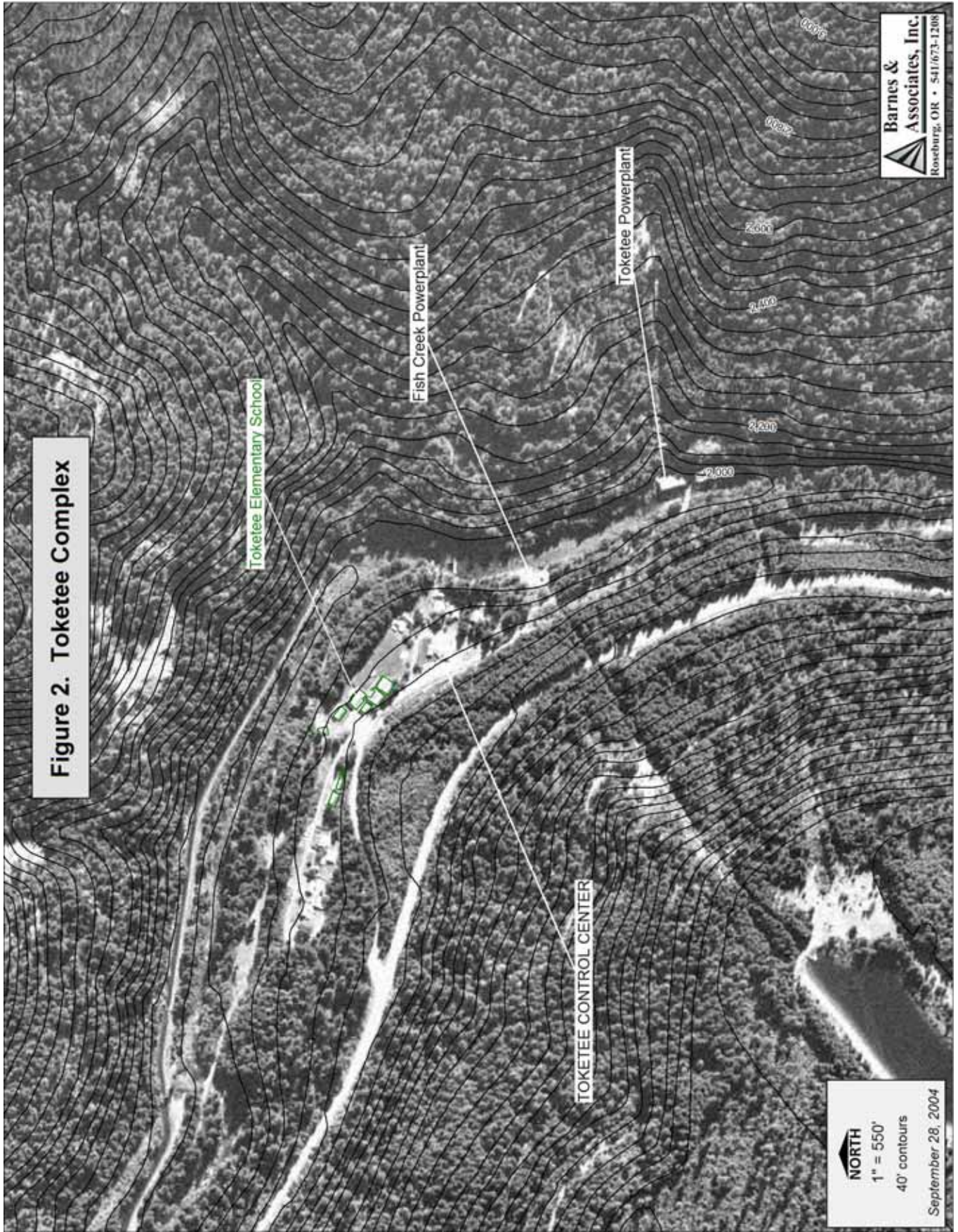


Figure 2. Toketee Complex

### **2.3.1.1 Access and Evacuation Routes for the Toketee Complex**

There are two access points for the Toketee Complex. The main access/evacuation route is located near the center of the complex close to the Toketee School and runs up to Oregon State Highway 138. A second access route runs from the center of the complex across the river on Forest Road 4775-010 and continues downstream along the Slide Creek Canal. This road crosses back across the river near the Slide Creek powerhouse and ties in with USFS 4775 leading back to Highway 138. See the PacifiCorp North Umpqua Emergency Procedures Manual for details of Project evacuation routes and meeting places.

### **2.3.1.2 Control Center**

The control center structure (including the 2004 addition) is a block building with a metal roof. This building houses electronic monitoring and control equipment for the Project. Because the exterior of the building is constructed with non-flammable materials and there is a cleared area around the building, this facility provides a low risk of a fire escaping to the adjacent forest. There is a heavy stand of timber approximately 80 feet from the building that in most situations would not be threatened if the control center were on fire.

The equipment in the control center building is essential to Project operations. The loss of this facility would be costly in terms of the value of the equipment and the building along with losing the control center functions. This building would likely survive an oncoming fire due to the cleared area around the building and the non-flammable materials on the exterior of the building.

The Control Center is staffed 24 hours a day 7 days a week. The use of the building is best described as a typical office environment.

### **2.3.1.3 Water Treatment Plant**

The water treatment plant is concrete block with a metal roof. This building is not staffed except for daily equipment monitoring and periodic tests and adjustments. Because building construction is of non-flammable materials and contains little combustible material there is a low risk of a fire escaping to the adjacent forest. There is minimal cleared area around this building. It abuts a dense stand of trees on the uphill side that might be at risk in the event of a fire in the structure.

### **2.3.1.4 Toketee Falls Elementary School**

Although not Project facilities, the Toketee Falls Elementary School and its associated structures and residences are included because they are intermingled with the Toketee Complex. The Toketee Falls Elementary School has approximately 20 students from kindergarten through sixth

grade. A new school was built after it burned down in the early 1970's. The school complex includes modular classrooms, a gym and three residences. The school buildings are wooden structures with metal or composition roofs. The school residences are also wooden structures with metal or composition roofs. One of the residences is a mobile home with a cover built over the top of it. The largest risk of a fire start is likely to be kids playing with matches, smoking, or arson.

### **2.3.1.5 Fish Creek and Toketee Powerhouses**

The Toketee powerhouse building is constructed with fire resistant materials including a metal roof. The Fish Creek facilities outside structures are constructed with steel. The only fuel for a fire would be the bearing or cooling oil and electric lines. These powerhouses have a relatively low probability for a fire start. It is likely any fire started from these facilities would remain localized but would be hot and burn for several hours due to the oil in the generators. Embers would not be a major problem as burning oil would not create embers. There would be some potential for burning embers from burning electric and hydraulic lines. There are heavy stands of timber in close proximity (within 30 feet) of these generation facilities.

### **2.3.1.6 Historic Homes and Residences**

PacifiCorp employees and their families occupy Project residences. These structures are wood frame and siding with metal roofs. The risk of fire from these residences is significant. Materials stored within the residences are likely to be typical for single-family residences. Fires are started from typical residences in a number of ways. These include, but are not limited to, careless smoking, kids playing with matches, mowing grass, cooking accidents, malfunction of electrical devices, outdoor barbeques, etc. There are heavy stands of timber in close proximity (within 30 feet) to many of these residences.

These residences all have mowed yards around the homes. Properly maintained yards will help minimize the chance of fires spreading to nearby residences or the forest, as well as protect them from oncoming fires. At a maximum potential there are four fire hydrants near the historic homes which lie east of the control center and four fire hydrants for the four residences located on the west end of the complex.

## **2.4 Clearwater Shop Complex**

The Clearwater Shop Complex includes:

1. Shop buildings
2. Covered areas for storing rolling stock and miscellaneous equipment
3. Fuel storage and fueling area
4. Outdoor storage cabinet for hazardous waste
5. Outdoor storage cabinet for oil, other lubricants and miscellaneous petroleum products



6. Bunk houses and manufactured homes for lodging
7. Recreation hall and cookhouse

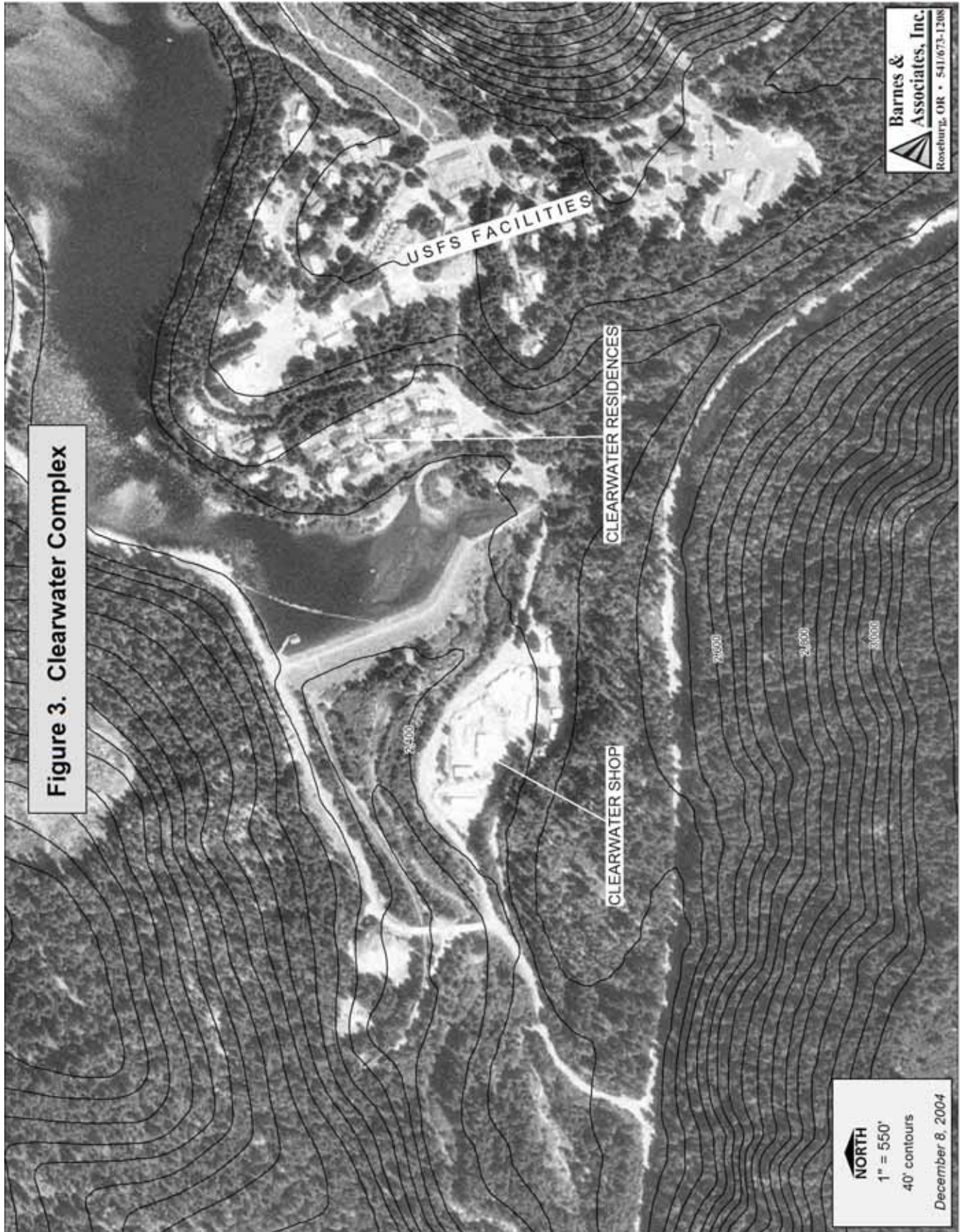
#### **2.4.1 Fire Risk Assessment for the Clearwater Shop Complex**

The Clearwater Shop Complex is a large cleared area located on a flat bench approximately 400 feet southwest of Toketee Lake. See Figure 3 on the following page for layout and location. The majority of vegetation around the complex is a shrub layer intermixed with young trees. The exception is to the south of the complex where there is a dense stand of timber immediately adjacent to bunkhouses, meeting hall and cookhouse. The slopes are gentle within approximately 400 feet of the complex but become steep with dense timber to the northwest across the river and to the south of the complex.

The USDA-FS Fire Predictions model “Behave” predicts fire behavior within 400 feet of the complex to be primarily a low to moderate rating. The steep slopes that begin approximately 400 feet from the complex are rated as high. See Figure 1 for a map of the predicted fire behaviors.

#### **2.4.2 Access and Evacuation Routes for the Clearwater Shop Complex**

Forest Road Number 4776 provides access/evacuation to the west or to the east. This road when taken to the west intersects USFS 3400 at the intersections going either south to Highway 138 or north along Toketee Reservoir. Following FS 4776 east from the shop complex leads to Highway 138. See the PacifiCorp North Umpqua Emergency Procedures Manual for details of Project evacuation routes and meeting places.



### **2.4.3 Shop Buildings**

The shop buildings are steel or wood framed buildings with metal roofs and siding. There are significant cleared areas around these buildings making it unlikely a fire would spread from the shop buildings to other buildings or the nearby forest area.

The risk to these buildings from an oncoming fire is low. These buildings have enough cleared area around them that it is reasonable to assume they would survive an oncoming fire.

Typically, employees use these buildings during regular work hours for the service of vehicles, communication equipment and overhauling other types of electrical or mechanical equipment. At a maximum potential there are six fire hydrants in shop area.

### **2.4.4 Storage and Dispensing of Fuel and Storage of, Hazardous/Universal Waste, New and Used Oil, Solvents, Lubricants and Tires**

These areas all have cleared gravel or concrete surfacing around them. With proper safety rules, the likelihood of a fire start is low. (See PacifiCorp Hydro South Safety and Health Procedures, Project Environmental Management Systems Handbook and Project Spill Control and Containment Plans.) This area, however, would create significant risk if it were to catch on fire. All of these functions are in close proximity to one another, so a problem in one of these areas would most likely affect the nearby products and buildings.

The threat from an oncoming fire is greatest from a fire approaching from the west and southwest. If the oncoming fire catches a bunkhouse or crew meeting hall on fire, these burning structures could create enough heat that materials in this storage area could ignite. In this scenario, it is likely the nearby shop buildings would become involved in the fire.

Staff uses this area for fueling vehicles or equipment, dropping off waste and picking up new product. Contractors are in this area also, dropping off waste or picking up product. Material suppliers and haulers use this area to fill underground fuel storage tanks, delivery product and to stage the pick up of used oil and other hazardous and universal wastes.

At this location, PacifiCorp accumulates hazardous and universal wastes coming from the various generation plants. No waste accumulation or storage happens at the hydro plants other than short-term storage or accumulation during work in progress.

### **2.4.5 Bunkhouses, Recreation Hall and Dining Hall**

PacifiCorp employees staying overnight and contractors working on extended projects use these facilities. These buildings are framed and sided with wood and have metal or composition roofs. The dining hall has metal siding. The risk of fire in these facilities is similar to those in a typical residence. They include kitchen fire, careless smoking, faulting wiring, malfunction of electrical

devices, fire started by lawn mower, etc. The buildings are immediately adjacent to heavy stands of timber so the risk of a fire from these buildings spreading to the nearby forest is high.

The greatest risk to these facilities from an oncoming fire is from the west or southwest. In the current forest condition, an oncoming fire would have a relatively high probability of burning some of these facilities. At a maximum potential, there are four fire hydrants near these structures.

## **2.5 Fire Risk Assessment for the Clearwater Residences Including the Guesthouse**

The Clearwater residences include 11 residences located on the south side of Toketee Lake. PacifiCorp employees and their families occupy these residences. The residences are located on relatively flat ground that extends for at least 600 feet from the complex. Toketee Lake provides a good fire buffer for these facilities to the north and west. The areas within approximately 70 feet of the residences are either yards or roads. To the east and south are dense stands of timber within approximately 70 feet of the residences.

The USDA-FS Fire Predictions model “Behave” predicts fire behavior near the residences range from low to high. The dense stands of timber near the residences are the reason for the high ratings. The chance of oncoming fires threatening this residential area is greatest from the east and south.

The Clearwater housing complex homes are all wooden structures with metal roofs. These residences all have mowed yards. Properly maintained yards will help minimize the chance of fires spreading to nearby residences or the forest, as well as protect them from oncoming fires. At a maximum potential there are six fire hydrants strategically located for the protection of these residences.

Materials stored within the residences are likely to be typical for single-family residences. Fires are started from residences in a number of ways. These include, but are not limited to, careless smoking, kids playing with matches, mowing grass, cooking accidents, malfunction of electrical devices, outdoor barbeques, etc.

### **2.5.1 Access Routes for the Clearwater Residences**

Forest Road Number 4776 provides access/evacuation to the West or to the East. This road leads to the West to USFS 3400 and then either South to Highway 138 or North along Toketee Reservoir. Following FS 4776 east will tie into Highway 138. See the PacifiCorp North Umpqua Emergency Procedures Manual for details of Project evacuation routes and meeting places.

## **2.5.2 Fire Risk Assessment for Outlying Powerhouses, Transformers and Associated Residences**

There are a number of powerhouses and residences scattered throughout the Project area that are outside the Toketee and Clearwater Complexes. These include:

- Slide Creek powerhouse with a control building and two residences,
- Soda Springs powerhouse with a control building,
- Lemolo 1 powerhouse with a control building and one residence,
- Lemolo 2 powerhouse with a control building and two residences,
- Clearwater 1 powerhouse with one residence, and
- Clearwater 2 powerhouse

The powerhouses and transformers are generally located in the bottom of steep ravines or steep hillsides that front a body of water. The Fire Behavior ratings produced by the “Behave” model show these areas as a high fire rating due to the steep terrain and dense vegetation. There are frequently rock outcroppings near the powerhouses that may help mitigate the ratings to some extent. The residences are generally located on flat benches with cleared areas immediately adjacent to the homes but with high-risk forests within a short distance.

The powerhouse control buildings are constructed with concrete and/or steel and have metal roofs. The Fish Creek and Clearwater 1 power facilities have no control building and the outside structures are constructed with steel. The fuel for a fire is limited because the only fuel would be the generator cooling and bearing oil, transformer oil or associated electric lines. It is likely any fire started from these facilities would remain localized but would be hot and burn for several hours due to the oil. Embers would not be major problem as burning oil would not create embers. There would be some potential for burning embers from burning electric and hydraulic lines. There are heavy stands of timber in close proximity (within 30 feet) to most of the powerhouses and transformers.

Oncoming fires could do damage to the transformers and generators, but would typically do little damage to the structures themselves.

Staff frequents the powerhouses on a daily basis for collection of monitoring data, maintenance and adjustment of equipment.

All of the residences are wooden buildings with metal roofs. Any outbuildings associated with the residences are wooden structures with either metal or composition roofs. The fire risk associated with these residences is similar to the other residences in the Project area. See Section 2.3.1.6, which addresses residences in the Toketee Complex and Section 2.5, which address the Clearwater residences.

## **2.6 Diversion Dams, Canals, Forebays and Access Roads**

Forebays, canals and associated access roads provide a great benefit to fire suppression activities. The diversion dam impoundments, forebays and canals provide a source of water for fire

suppression and the access roads provide important routes for crews and equipment to quickly access fires. Recreational users are the likely source of fire starts in these areas. Unattended campfires, careless smokers or fires started by vehicles are the likely causes. If grass and weeds grow in the roadways, vehicle traffic will create a significant fire risk.

Oncoming fires may disrupt access for a period, but would probably do minimal damage to the generation structures themselves. The exception being distribution lines that provide power to gate motors and monitoring equipment associated with these facilities. If fire debris accumulate in the canals and forebays cleaning may be necessary before resuming generation.

PacifiCorp staff and contractors are present in most of these areas on a daily basis.

## **2.7 Distribution and Transmission Lines and Switches**

Distribution lines are a circuit of lower voltage wires, energized at voltages from 0 to 69 kV, and used to distribute energy to residential, industrial and commercial customers. Transmission lines support voltages from 115 kV and up.

The distribution lines are normally constructed using wood poles with various cross arms to support the necessary electrical conductors. These distribution lines typically follow roads. PacifiCorp maintains 94 miles of distribution circuitry in the North Umpqua watershed, with portions of these lines located inside the Project boundary.

The transmission line supports are either steel towers or multi-post wood supports and have their own dedicated right of way. There are 68.7 miles of transmission line corridor on lands managed by the USDA-FS. The Right-of-way clearance area associated with the Project transmission lines average about 100 feet (50 feet each side of the line) and is entirely within the Project boundary.

The distribution and transmission lines stretch across the forest in a wide range of fire hazards but are most commonly in areas rated as high using the “Behave” fire behavior model. (See Figure 1)

There were three fires started from transmission or distribution lines in recent years (See Section 2.1.1) all three fires remained small. Oncoming forest fires are of great concern as they could do substantial damage to these lines.

The transmission corridors, when maintained with the proper fuel treatments, by their nature help to create a break for wildfire. The access roads for these corridors also provide valuable access for wildfire suppression efforts.

## **2.8 Service Vehicles**

Employees and contractors use service vehicles (that include ATVs) to provide transportation to various portions of the Project as well as perform various construction and maintenance

functions. Due to the extent of the canals, transmission lines and distribution lines in the Project area, these service vehicles cover a large area. Much of the area traveled by these service vehicles are in lands with high fire behavior predictions.

Service vehicles create a fire risk when driving through dry grass and other vegetation. The service activities associated with these vehicles, such as welding, grinding and using chain saws can create a risk as well.

### **3.0 Hazard Abatement Procedures**

This chapter of the plan is organized into eleven sections. Each section contains distinct information on the PacifiCorp's existing procedures and programs and on new programs to be implemented in the interest of increasing preparedness, prevention of fire and protection of PacifiCorp's assets.

#### **3.1 Fuel Reduction Program**

PacifiCorp will implement two fuel reduction procedures. The first (Type A), fuel reduction procedure is for areas around residential structures and other wood framed buildings like the Cook House and Recreation Hall. The second (Type B), fuel reduction procedure is for areas around generation facilities like powerhouses, switchyards and other generation facilities like shop, mechanical and material storage buildings that may be subject to damage from wildfire. Both of these procedures will be adapted to site conditions and modified as appropriate by persons qualified to make fire risk assessments and recommend appropriate fuel load reductions. USDA-FS will be notified prior to implementation of fuel reduction projects. Details of the plans implementation will be reviewed and approved by the USDA-FS at the annual coordination meeting or prior to implementation (Section 1.4).

##### **3.1.1 Fuel Reduction Zone Type A**

Within 30 feet of residential or other wood framed structures. At each location, persons qualified to make fire risk and forest hazard assessments will evaluate the risk and recommend the application of these guidelines as appropriate.

1. All buildings will have roofs comprised of non-combustible material.
2. There will be a three-foot area around buildings clear of combustible material. Examples include, lumber, tires and dead plant material.
3. Shrubs, deciduous and evergreen, adjacent to a structure shall be trimmed below a maximum height of 4 FT.
4. Remove all vegetation within ten feet any direction of a structure's chimney or stovepipe.
5. Remove vegetation within 6 FT horizontal from a structure's eave.
6. There will be spark arresters on all chimneys.
7. There will be no overhanging vegetation within 15 feet vertically of any structures roofline.
8. Flammable material must be removed from beneath exterior wooden decks. Examples include lumber, tires and dry grass.
9. The ground cover within this zone should be substantially non-flammable. Examples of this include asphalt, bare soil, concrete, green grass, mulches, rock, green-ground cover plantings or wildflowers. Maintain dry grass within this zone to a height of less than four inches.



10. Maintain shrubs and trees in a green condition, substantially free of dead plant material and without potential “ladder fuels.” Ladder fuels are an arrangement of shrubs and trees that, when burning, transmit fire from the ground into the trees’ crown.
11. Minimum tree limbing height for mature trees is at least 8 feet above the ground. An exception to this is lone trees growing in maintained lawn areas, limb these trees up a sufficient distance so a grass fire will not ignite the lower limbs and the accumulation of leaf litter can be prevented under the low branches.
12. There will be no downed woody material within 30 feet of any structure.
13. Wooded areas within this zone will have overtopped or suppressed trees removed (generally less than six inches in diameter.)
14. Firewood:
  - i. Will be stored a minimum of 20 feet from residential structures (the house).
  - ii. May be stored in sheds intended for wood storage if shed is 20 feet from residential structures.
  - iii. Storage of wood in sheds attached to garages is acceptable if garage and shed are not attached to the house.

### **3.1.2 Fuel Reduction Zone Type B**

This zone includes both the area within PacifiCorp fences and thirty feet outside of these fences. This zone applies to powerhouses, switch yards, transformer installations and other generation support facilities like shop, mechanical and material storage buildings that may be subject to damage from wildfire. At each location, persons qualified to make fire risk and forest hazard assessments will evaluate the risk and recommend the application of these guidelines as appropriate.

1. All buildings will have roofs and siding comprised of non-combustible material.
2. There will be a three-foot area around buildings clear of combustible material.
3. There will be no overhanging vegetation.
4. The ground cover within the zone should be substantially non-flammable, examples of this include asphalt, bare soil, concrete, green grass, mulches, rock, green-ground cover plantings or wildflowers. Maintain dry grass within this zone to a height of less than four inches.
5. Shrubs and trees should be in a green condition, substantially free of dead plant material and without potential “ladder fuels.” Ladder fuels are an arrangement of shrubs and trees that, when burning, transmit fire from the ground into the trees’ crown.
6. Minimum tree limbing height for mature-trees is 8 feet above the ground. Exceptions include trees specifically planted to screen facilities. Lone trees growing in maintained lawn areas or landscaped areas may be limbed up a sufficient distance so a grass fire will not ignite the lower limbs and the accumulation of leaf litter can be prevented under the low branches.
7. There will be no downed woody material within 30 feet.
8. Wooded areas within this zone will have overtopped or suppressed trees removed (generally less than six inches in diameter.)

### **3.2 Vegetation Management for Transmission and Distribution Lines**

The management of vegetation along transmission and distribution lines will utilize the guidelines discussed in VMP. As with its transmission system, PacifiCorp is required to maintain certain clearances between the distribution conductors and adjacent vegetation to ensure safe and reliable customer service. In addition to clearance requirements in the National Electric Safety Code, PacifiCorp must also abide by requirements enforced by the State of Oregon through the Oregon Public Utility Commission. (See Exhibit A).

### **3.3 Vegetation Management for the Access Roads for Transmission Lines, Distribution Lines, Forebays, Canals, etc.**

The management of vegetation along access roads will be in accordance with the procedures outlined in the TMP and VMP.

### **3.4 Fire Hazard Abatement for the Clearwater Shop Complex**

Unique hazards exist within the Clearwater Shop Complex due to fuels (gasoline and diesel) plus oils and other hazardous material storage.

Currently, all of these materials are stored in close proximity to each other near the entrance to the shop yard. If there is a fire in one area of stored materials, there is a possibility that a fire could spread to other stored materials. It is recommended that further analysis of this area be conducted to look at the quantities of materials typically on hand, their storage locations and the needs for convenient access for staff. This additional analysis will identify the best alternative within the Clearwater Shop area for storage and handling areas for these materials.

Further analysis may recommend that one or both of the following guidelines for the storage of these materials be implemented:

- A) Create a greater separation between fuels, oil and hazardous materials. The distance between these materials would be such that a fire in one of these products would not ignite the other products.
  
- B) Create a greater distance between fuels, oil and hazardous materials and adjacent structures. The distance will be adequate so if the structure caught fire, it would not ignite the flammable materials. Moreover, the distance will also be such that a fire in the materials would not ignite adjacent structures.

### **3.5 Fire Hazard Abatement for Service Vehicles**

All service vehicles and passenger vehicles will be equipped with fire extinguishers; axes, shovels and other equipment as specified in the Industrial Fire Precaution Regulations (IFPR) (see Exhibit B) during the fire season of April 1 through October 31. The operators of service vehicles will stay informed of the current industrial fire precautionary level and adhere to the requirements of the current level.

ATV's are required to meet the same requirements as vehicles that carry passengers as described in the IFPR. The current requirements are:

- a. One 5 BC fire extinguisher,
- b. One "D" handled or long handled round point shovel, size "0" or larger. The D-handle shovel works well on ATV's.
- c. One 3.5 pound or larger double-bit axe or Pulaski.

### **3.6 Fire Hazard Abatement for Mobile Fueling**

Fueling mobile equipment in the field will be on a road or in another location cleared of mineral soil. No vehicle will carry in excess of 660 gallons of fuel to a mobile fueling location without making arrangements with the UNF to establish the terms and conditions for handling volumes of fuel in excess of this amount.

### **3.7 Training, Fire Regulations and other Resources**

In the event of a fire emergency, how personnel are trained is an important component of their ability to protect their personal safety and that of those around them. The following section outlines the current training programs at PacifiCorp and required training by the State of Oregon for forest workers. This section also contains a recommendation to evaluate the ability and effectiveness of PacifiCorp developing a fire awareness training program aimed at non-employee residents of PacifiCorp housing.

#### **3.7.1 PacifiCorp Training**

Fire Training - As part of PacifiCorp's training program, it is a PacifiCorp goal to annually have:

- all employees receive fire training which includes fire extinguisher training,
- a percentage of Project staff will receive a day of fire fighting training that includes fire extinguisher and hose use for defensive fighting of structure fires.
- 25% of the Project staff will spend one day training in fire fighting.

Electrical Hazard Awareness –This training is intended for those working around transmission or distribution lines. The Transmission and Distribution side of PacifiCorp has historically provided this training. PacifiCorp will continue to make this training available to contractors who work around these lines and appropriate USDA-FS personnel who may coordinate fire response.

Non-Employee Residence Fire Awareness - PacifiCorp will evaluate the feasibility of developing and presenting an annual evening fire-safety awareness program to non-employee residents of PacifiCorp housing. This 1 to 2 hour evening course could be conducted on an annual basis prior to June 1 of each year. Potential topics could include:

- General residential fire safety, hazardous materials, electricity, etc.
- How to maintain the residence and yard in a fire safe condition
- Emergency contacts
- Location of fire hydrants and fire fighting equipment to be used by those properly trained.
- Fire extinguisher training.
- Evacuation plans for the area.

### **3.7.2 Oregon Occupational Safety and Health Administration (OSHA)**

Fire Suppression and Safety Training - This training is designed to address initial fire response and safety issues for forest workers. Oregon OSHA requires this program for forest workers. All PacifiCorp contractors who are performing forestry work need to have completed this course.

### **3.7.3 National Fire Protection Training Programs**

PacifiCorp employees who wish to train on their own initiative have taken the National Fire Protection Association (NFPA) Training Programs. It is PacifiCorp's policy that employees with these skills are allowed to respond locally if they are not performing a critical function at the time.

### **3.8 USDA-FS Industrial Fire Precaution Regulations (IFPR)**

During fire season, all PacifiCorp contractors will annually have their fire equipment inspected by an authorized USDA-FS representative prior to work on National Forest Systems lands (NFS lands). Inspections are available at the North Umpqua or Diamond Lake Ranger Districts. PacifiCorp, on behalf of their contractor, shall notify the Ranger District of the need for inspection and schedule the inspection. Inspections should be scheduled a week in advanced whenever possible. PacifiCorp shall also have all equipment used on the Project to be inspected by an authorized USDA-FS representative annually.

During fire season, PacifiCorp shall notify the local Ranger District in advance of the work locations where spark emitting machinery or internal combustion engines are planned to be used outside of fenced project areas such as the powerhouses or the Clearwater shop areas.

All PacifiCorp contractors and employees are required to follow these regulations and be aware of the current fire closure level when working in the forest. See Exhibit B for the IFPR's in effect at the time of printing of this document. Any required water supply and fire tools will be on each active operation site as required by the IFPR. Crews that leave their vehicles and hike in to a work site are required to have appropriately stocked fire-boxes with their vehicles. The fire-boxes stay in the vehicles, they do not need to be with the crew. The required content of the fire-boxes is based on the crew size.

See Section 3.5 Fire Hazard Abatement for Service Vehicles for applicability to ATVs.

### **3.8.1 Fire Season Work Waivers**

The IFPL may prohibit different types of work during different fire closure levels during fire season. PacifiCorp will apply for waivers for specific types of work during an IFPL closure at the local Ranger District office. The local District Fire Management Officer reviews applications and determines if a waiver is appropriate. If authorized, additional precautions including equipment maybe required. The contractor is required to possess a copy of the waiver at the work site and adhere to all requirements of the waiver. PacifiCorp is responsible to assure their contractors are in compliance with waivers.

### **3.9 Fire Equipment Inventory**

PacifiCorp maintains a list of fire equipment on the Project at the Toketee Control Center. The list is available for review at the Toketee Control Center.

### **3.10 Fire Extinguishers**

Fire extinguishers are present in all buildings and near flammable materials as required by Oregon OSHA. All PacifiCorp vehicles have fire extinguishers. Extinguishers are inspected annually to insure they are in proper working order. Employees receive fire extinguisher training annually.

### **3.11 Fire Hydrants and Hoses**

There are a number of fire hydrants throughout the PacifiCorp facilities. See the area descriptions in Section 2 for the maximum potential number of hydrants in the Toketee Complex, Clearwater Shop Complex and the Clearwater Residential Complex. Inspections of the fire-equipment station boxes at fire hydrant locations are per the procedure in PacifiCorp's

Hydro South Health and Safety Manual. The procedure describes the specific inspections needed to assure the required equipment, fittings and associated hydrants are in working order.

### **3.12 Burn Permits**

Burn permits for burning of debris and piled vegetation is required year-round. Permits may be obtained at the local Ranger District offices.

## **4.0 Notification Process**

### **4.1 PacifiCorp Employees and Contractors**

In the case of a fire involving the Project, started by PacifiCorp or contractor, the reporting party shall call the Toketee Control Center at (541) 498-2603. If the reporting party does not have this number immediately available, they should call 911. When Toketee Control Center receives notification of a fire it will follow PacifiCorp's Emergency Notification Procedure (Exhibit C), immediately notifying the USDA-FS at (541) 498-2239.

### **4.2 USDA – FS**

In the case of a wildfire on the Umpqua National Forest, with potential of moving toward or damaging any Project facilities, the Toketee Control Center is to be notified immediately at (541) 498-2603.

## **5.0 Emergency Coordination**

### **5.1 Wildland Fire Suppression**

In the event of a fire start by PacifiCorp or its contractor, if personnel are safe, they will take initial attack actions on any fires started. The employee or contractor will notify the Toketee Control Center per the Emergency Notification Procedure (Exhibit C). Toketee Control Center will contract the USDA-FS Emergency Fire Number at (541) 498-2239. Once the USDA-FS personnel arrive on the site, the USDA-FS will assume command for wildland fire suppression activities and PacifiCorp employees will assist, as able and requested by the USDA-FS. A USDA-FS Fire Investigation will commence immediately to determine the cause of the fire.

### **5.2 Structural Suppression**

In the event of a structural fire, the USDA-FS is not responsible for suppression or protection of Project facilities. The USDA-FS can assist qualified structural firefighters to prevent the spread of fire to the wildland. PacifiCorp will attack these fires with the goal of preventing these fires from spreading to other structures or nearby woodlands without entering the structures.



## **6.0 Fire Suppression Plan Review**

PacifiCorp will conduct bi-annual review during every other annual meeting (Section 1.4) of the required actions and references in this Plan. The purpose of the review is to assure implementation of appropriate hazard reduction work, training, equipment inspections and other components of the Plan. PacifiCorp will provide an annual update to the USDA-FS that summarizes the efforts completed in the previous year. On a five-year basis, PacifiCorp and the USDA-FS will review and update the Plan as necessary to maintain consistency with relevant plans and procedures appropriate at that time. PacifiCorp and the USDA-FS will mutually agree to changes to the Plan.

Exhibit A – Oregon Public Utility Commission Tree to Power Line Clearances

**Oregon Public Utility Commission  
Staff Policy**

**Tree To Power Line Clearances**

**PURPOSE**

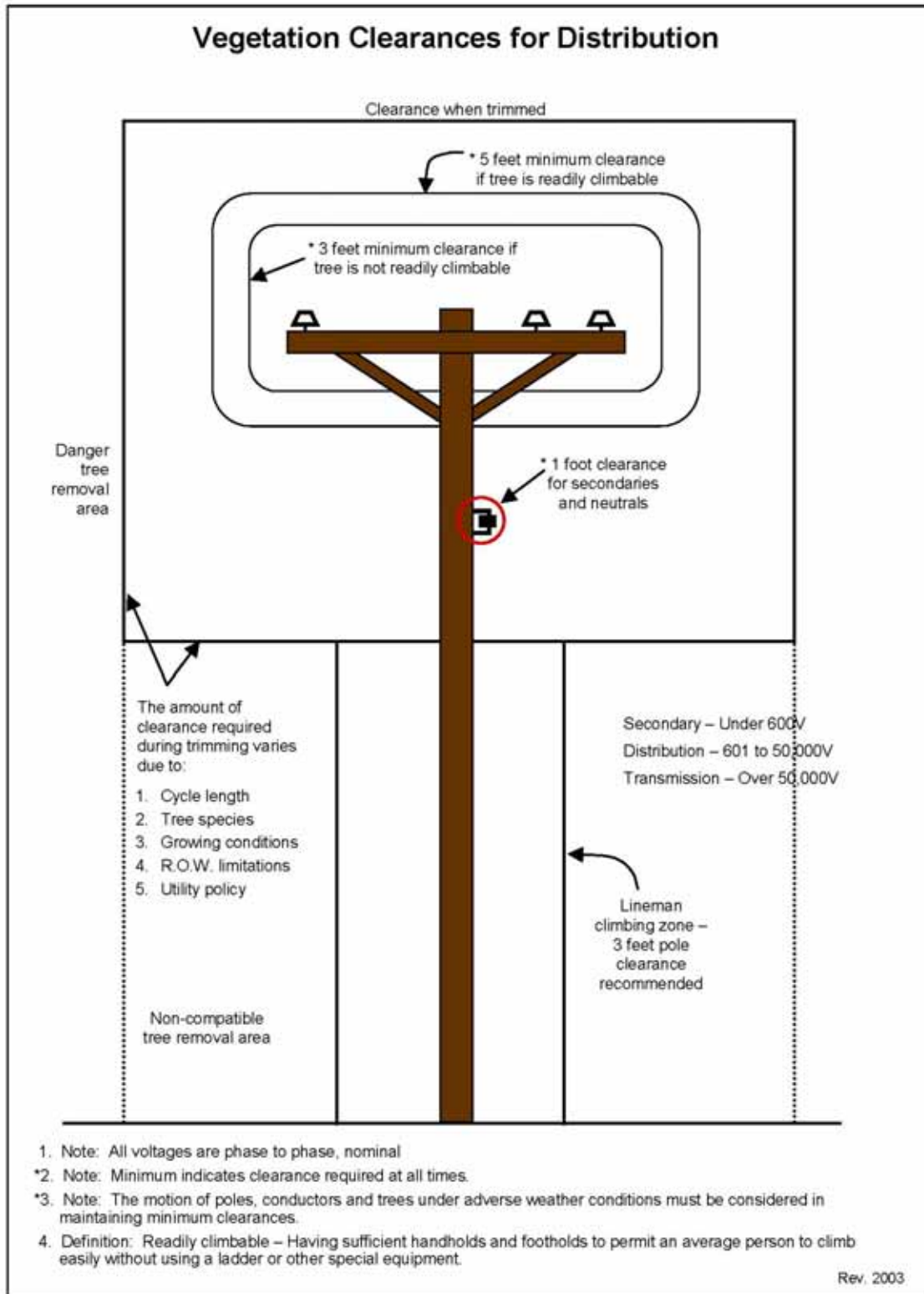
The purpose of this policy is to modify and define the tree trimming rules of ANSI C2, National Electrical Safety Code (NESC) as interpreted by the administrative authority (Reference--NESC Rules 012, 013, and 218). This policy is to set forth the specifications and guidelines relating to tree trimming, tree removal, and line clearance to provide for reasonable service continuity, safety to the public, and to guard against forest fire damage caused by supply conductors.

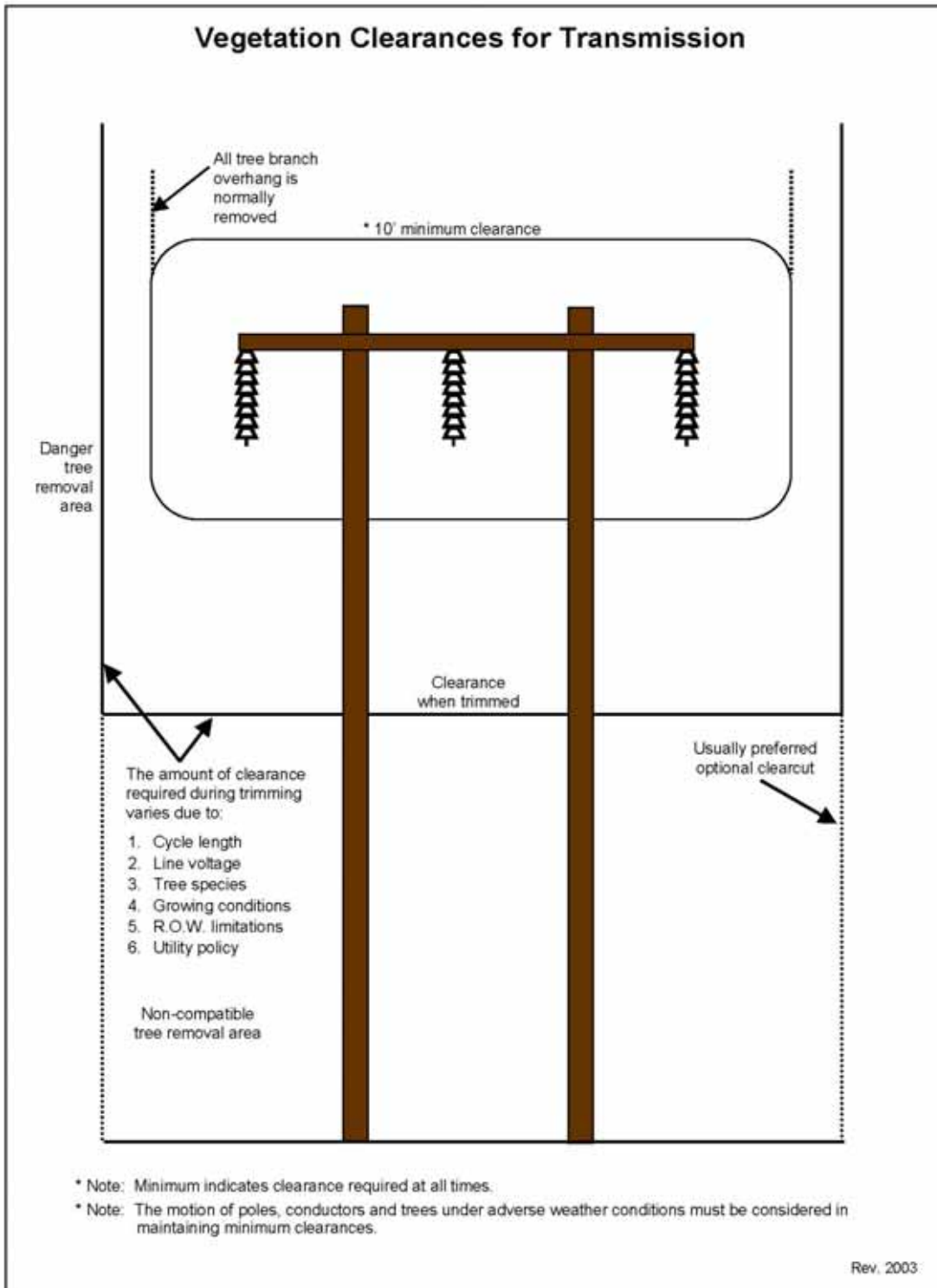
**POLICY**

Trees which may interfere or do interfere with supply conductors should be trimmed or removed.

- A. Specifications and guidelines for line clearances.
  - 1. The necessary clearance of supply lines from trees is determined by:
    - a. Voltage, location, and importance of individual line.
    - b. The height of the poles and line.
    - c. The growth habit and final appearance of the trees.
    - d. Combined movement of trees and conductors under adverse weather conditions.
    - e. Sag of conductors at elevated temperatures.
  - 2. Concept:
    - a. Transmission lines should have a minimum clearance of ten feet in all directions.
    - b. Primary distribution lines.

There should be a minimum 5-foot clearance between an energized high voltage distribution conductor and any part of a tree. This clearance may be reduced to three feet if the tree is not readily climbable (having sufficient handholds and footholds to permit an average person to climb easily without using a ladder or other special equipment).





## Exhibit B – Industrial Fire Precaution Regulations

C7.2 - SPECIFIC FIRE PRECAUTIONS. (9/02) When the industrial fire precaution level is I or higher, unless waiver is granted under C7.22, specific required fire precautionary measures are as follows:

### A. Fire Security.

Purchaser shall designate in writing a person or persons who shall perform fire security services listed below on Sale Area and vicinity. The designated person will be capable of operating Purchaser's communications and fire fighting equipment specified in the contract, excluding helicopters, and of directing the activities of Purchaser's personnel on Forest fires. Such person must report any fire detected to Forest Service within 15 minutes of detection. In lieu of having the designated person perform the required supervisory duties, Purchaser may provide another person meeting the qualifications stated above to direct the activities of Purchaser's personnel and equipment during all fire fighting activities.

Services described shall be for at least 1 hour from the time Purchaser's Operations are shut down. For the purposes of this provision, personnel servicing equipment, and their vehicles, who are not engaged in cutting or welding metal are excluded.

Fire security services shall consist of moving throughout the operation area or areas constantly looking, reporting, and taking suppression action on any fires detected. Where possible, the designated person shall observe inaccessible portions of helicopter operating areas from vantage points within or adjacent to Sale Area.

Purchaser shall furnish fire security services based on the predicted industrial precaution level, obtained by Purchaser from the appropriate Ranger District Headquarters. If predictions made after 6:00 p.m. local time, are significantly different than originally estimated, Forest Service will inform Purchaser when changes in fire security services are indicated.

### B. Fire Extinguisher and Equipment (on Trucks, Tractors, Power Saws, etc.).

(a) Each yarder or loader equipped with an internal combustion engine or other spark emitting source shall be equipped with a readily accessible fire extinguisher, with an Underwriter's Laboratory (UL) Rating of at least 5 B,C.

(b) All power-driven equipment operated by Purchaser on National Forest land, except portable fire pumps, shall be equipped with one fire extinguisher

having a UL rating of at least 5 B,C and one "D" handled or long handled round point shovel, size O or larger. In addition, each motor patrol, truck and passenger-carrying vehicle shall be equipped with a double-bit axe or Pulaski, 3-1/2 pounds or larger.

(c) Equipment required in (a) and (b) shall be kept in a serviceable condition and shall be readily available.

(d) Each gasoline power saw operator shall be equipped with a pressurized chemical fire extinguisher of not less than 8-ounce capacity by weight, and one long handled round point shovel, size O or larger, except at a landing where a suitable fire extinguisher and shovel are immediately available. The extinguisher will be kept in possession of the saw operator at all times. The shovel shall be accessible to the operator within 1 minute.

(e) Each helicopter shall be equipped with one fire extinguisher having a UL rating of at least 5 B,C mounted inside the aircraft within reach of the pilot's operating position.

(f) One refill for each type or one extra extinguisher sufficient to replace each size extinguisher required on equipment shall be safely stored in the fire tool box or other agreed upon place on Sale Area that is protected and readily available.

(g) At each area where helicopters are being serviced or supplied, a carbon dioxide fire extinguisher with a UL rating of at least 20 B,C will be provided on the site and placed where it is available for immediate use.

### C. Spark arresters and mufflers.

Each internal combustion engine shall be equipped with a spark arrester qualified and rated under USDA Forest Service Standard 5100-1a as shown in the National Wildfire Coordination Group Spark Arrester Guide, unless it is:

(a) Equipped with a turbine-driven exhaust supercharger such as the turbocharger. There shall be no exhaust bypass.

(b) A multi-position engine, such as on power saws which must meet the performance levels set forth in the Society of Automotive Engineers (SAE) "multi-positioned small engine exhaust fire ignition standard, SAE recommended practice J335B" as now or hereafter amended.

(c) A passenger carrying vehicle or light truck, or medium truck up to 40,000 GVW, used on roads and equipped with a factory designed muffler complete with baffles and an exhaust system in good working condition.

(d) A heavy duty truck, such as a dump or log truck, or other vehicle used for commercial hauling, used only on roads and equipped with a factory designed muffler and with a vertical stack exhaust system extending above the cab.

Exhaust equipment described in this Subsection, including spark arresters and mufflers, shall be properly installed and constantly maintained in serviceable condition.

D. Fire Tools.

Purchaser shall furnish serviceable fire fighting tools in a readily accessible fire tool box or compartment of sound construction with a hinged lid and hasp so arranged that the box can be secured or sealed. The box shall be red and marked "Fire Tools" in letters at least 1 inch high. It shall contain a minimum of:

- (a) Two axes or Pulaskis with a 32 inch handle.
- (b) Three adze eye hoes. One Pulaski may be substituted for one adze eye hoe.
- (c) Three long handled, round point shovels, size 0 or larger.

E. Tank Truck.

Purchaser shall provide a tank truck or trailer, containing not less than 300 gallons of water, during yarding, skidding, loading, land clearing, right-of-way clearing, mechanical falling, and mechanical treatment of slash. Such tank truck or trailer shall be maintained in a serviceable condition and located within 10 minutes, round trip, from each operating side during Fire Precautionary Period (closed season), except as provided under B7.21.

The tank truck or trailer shall be equipped with a pump capable of discharging 20 gallons of water per minute, using a 1/4 inch nozzle tip, through a 50 foot length of poly or rubber lined hose. In addition, 500 feet of serviceable hard rubber poly or rubber lined or FJRL hose of not less than 1 inch outside diameter, fitted with a nozzle capable of discharging a straight stream of 1/4 inch diameter and a spray pattern shall be immediately available for use. The tank, pump, nozzle and at least 250 feet, of the total 500 feet of hose, shall be connected and ready for use at all times. Synthetic hose may be used by agreement.

If a trailer is used, it shall be equipped with a hitch to facilitate prompt movement. A serviceable tow vehicle shall be immediately available for attachment to the trailer and must meet the time requirements stated above. Such truck or trailer shall be equipped to operate for a minimum of 8 hours.

Where designated on Sale Area Map, Purchaser shall provide a tank trailer or water source and pumping equipment, including accessories, which can be lifted and transported by the yarding system. The component parts shall meet all specifications above. The tank trailer or water supply and pumping accessories shall be deliverable to a fire, in area of operations, within 15 minutes of detection.

In lieu of the above tank trailer or water supply for helicopter operations, Purchaser may provide a suitable helicopter water bucket with a 300 gallon capacity. When Purchaser provides a water bucket, a water source shall be provided within 5 minutes round trip flight time from operating side.

F. Communications.

During Purchaser's Operations, excluding powersaw falling and bucking, Purchaser shall provide adequate two-way communication facilities to report a fire to Forest Service within 15 minutes of detection. Citizen Band radios (CB's) are not considered adequate two-way communications because FCC Regulations prohibit commercial use.

G. Smoking and Open Fire Restrictions.

Smoking and fires shall be permitted only at the option of Purchaser. Purchaser shall not permit open fires on Sale Area without advance permission in writing from Forest Service.

H. Blasting.

Blasting shall be permitted only for road construction purposes unless advance permission is obtained from Forest Service.

Whenever the Industrial Fire Precaution Level is II or greater, a fire security person equipped with a long handled round point No. 0 or larger shovel and a 5 gallon backpack pump can filled with water, will stay at location of blast for 1 hour after blasting is done. Blasting may be suspended by Forest Service, in areas of high rate of spread and resistance to control.

Fuses shall not be used for blasting. Explosive cords shall not be used without permission of Forest Service, which may specify conditions under which such explosives may be used and precautions to be taken.

I. Compliance with State Fire Laws.

Listing of specific fire precautionary measures in the foregoing Subsections is not intended to relieve Purchaser in any way from compliance with State fire laws covering fire prevention and suppression equipment, applicable to Purchaser's Operations.



J. Aircraft Communications.

Every aircraft used in conjunction with Purchaser's Operations shall be equipped with an operable radio system. The radio system shall be capable of transmitting and receiving on VHF frequency 122.85 Megahertz (MHz) with a minimum output of 5 watts at the transmitter. The system shall be located and installed so that the pilot can operate it while flying. A shielded all-weather broad-band antenna shall be part of the system. Radio and antenna shall be properly installed and maintained.

Upon discovery or notification of a fire on Sale Area, all aircraft pilots controlled by Purchaser shall monitor VHF frequency 122.85 MHz when within 5 miles of a fire and broadcast their intentions.

K. Logging Block Equipment.

Purchaser shall provide a serviceable 5 gallon backpack pump full of water, one axe, and one long handled round point shovel, size 0 or larger, at each haulback block through which a running line passes.

The area below such blocks must be kept clear of all flammable debris under 4 inches in diameter for a distance of 6 feet in all directions. Material larger than 4 inches that poses a fire risk, such as punky logs, must also be removed.

Purchaser shall avoid line-rub on rocks or woody material which may result in sparks or sufficient heat to cause ignition of fire.

C7.22 - EMERGENCY FIRE PRECAUTIONS. (9/04) Purchaser shall restrict operations in accordance with the Industrial Fire Precaution Levels attached. Forest Service may change the Industrial Fire Precaution Levels to other values upon revision of the National Fire Danger Rating System and may change the specific Industrial Fire Precaution Levels when such changes are necessary for the protection of the National Forest. When sent to Purchaser, the revised Industrial Fire Precaution Levels will supersede the attached levels.

## **INDUSTRIAL FIRE PRECAUTIONS SCHEDULE**

### LEVEL INDUSTRIAL FIRE PRECAUTION

- I. Closed Season - Fire precaution requirements are in effect. A Fire Watch/Fire Security is required at this and all higher levels unless otherwise waived.
  
- II. Partial Hootowl - The following may operate only between the hours of 8 p.m. and 1 p.m. local time:  
  
power saws, except at loading sites;  
cable yarding;  
blasting;  
welding or cutting of metal.
  
- III. Partial shutdown - The following are prohibited:  
  
cable yarding - except that gravity operated logging systems employing non-motorized carriages may be operated between the hours of 8 p.m. and 1 p.m. local time when all blocks and moving lines are 10 feet or more above the ground, excluding the line between the carriage and the choker.  
  
power saws - except at loading sites and on tractor/skidder operations between the hours of 8 p.m. and 1 p.m. local time.  
  
In addition, the following are permitted between the hours of 8 p.m. and 1 p.m. local time:  
  
tractor, skidder, feller-buncher, forwarder, or shovel logging operations where tractors, skidders or other equipment with a blade capable of constructing fireline are immediately available to quickly reach and effectively attack a fire start;  
mechanized loading and hauling;  
blasting;  
welding or cutting of metal;  
any other spark-emitting operation not specifically mentioned.
  
- IV. General shutdown - All operations are prohibited.

## **INDUSTRIAL FIRE PRECAUTIONS SCHEDULE C7.22 (9/04)**

The following definitions shall apply to these Industrial Fire Precaution Levels:

Cable yarding systems: A yarding system employing cables and winches in a fixed position.

Closed Season (Fire Precautionary Period): That time period each year when a fire hazard exists and as described in A12.

Hauling: Where hauling involves transit through more than one shutdown zone/regulated use area, the precaution level at the woods site shall govern the level of haul restrictions, unless prohibited by other than the Industrial Fire Precaution Level system.

Loading sites/woods site: A place where any product or material (including but not limited to logs, firewood, slash, soil, rock, poles, posts, etc.) is placed in or upon a truck or other vehicle.

Advance written waiver of the above precautions may be issued by the Contracting Officer or Forest Service Representative.

Such waiver, or substitute precautions under B7.21, shall prescribe measures to be taken by Purchaser to reduce the risk of ignition, and/or the spread of fire. The Contracting Officer or Forest Service Representative shall consider site specific weather factors, fuel conditions, and specific operations that result in less risk of fire ignition and/or spread than contemplated when precaution level was predicted. Consideration shall also be given to measures that reduce the precaution levels above. Purchaser shall assure that all conditions of such waivers or substitute precautions are met.

Purchaser shall obtain the predicted Industrial Fire Precaution Level from the appropriate Ranger District headquarters. If predictions made after 6:00 p.m., local time, are significantly different than originally estimated, Forest Service will inform Purchaser when changes in restrictions or industrial precautions are indicated.

Exhibit C – North Umpqua River Emergency Notification Process

