



Decision Notice and Finding of No Significant Impact

Gray Butte Sidehill Antenna Application

USDA Forest Service
Crooked River National Grassland
Jefferson County, Oregon

Decision and Reasons for the Decision

Background

Gray Butte is an 80-acre existing electronic site designated in the Crooked River National Grassland Land and Resource Management Plan (LRMP). It is located within section 30, T.13S., R.14E., Willamette Meridian, approximately 15 air miles northwest of Prineville, Oregon, and is 5,118 ft. in elevation. The electronic facilities are clustered in a small area near and at the top of the Butte.

Currently, there are three facility owners at the site, Western Radio Services (Western Radio), Slater Communications and Electronics (Slater Communications) and Day Wireless Systems (Day Wireless), each with their own building and tower (Western Radio has two towers). All three have communication site leases from the USDA Forest Service.

The lessees provide a variety of communication services and facilities. There are broadcast translators which rebroadcast or amplify signals to provide local radio and TV station coverage. The lessees also provide facilities needed by businesses that provide wireless internet and cellular telephone services. Lastly, they provide facilities for businesses and government agencies, such as logging companies and law enforcement entities, to facilitate internal communications.

In March 2006, Western Radio submitted an application proposing that:

The existing two 158.7 mhz VHF transmit antennas mounted on Western Radio's existing 60- ft. lattice tower be relocated to two sidehill locations further downhill, mounted on two new 15- ft. monopole towers.

The existing three microwave dish antennas mounted on Western Radio's 20 ft. lattice tower would be replaced with four 6- ft. solid microwave antennas, mounted on two new 20- ft. monopole towers located at sidehill locations. The existing 20-foot tower would also remain.

Purpose and Need for Action

Western Radio has both VHF transmit and receive antennas on the same 60- ft. tower that operate at similar frequencies. Western Radio would like to relocate the transmit antennas to sidehill locations in order to increase the physical separation between the transmit and receive antennas, thereby reducing or eliminating the interference Western Radio states is occurring.

Western Radio is also proposing to install four larger microwave antennas ("dishes") on two new towers because Western Radio states the existing towers cannot support the larger microwave dish sizes.

In addition, the project area is a designated electronic site in the Crooked River National Grassland's Land and Resource Management Plan 1989 (LRMP). Low-power electronic equipment, such as radio and television relay stations are emphasized. Forest Service objectives in management include authorizing communication uses that meet LRMP objectives, providing a safe and high quality communications environment, and contributing to the telecommunications needs of the American public. (Forest Service Handbook 2709.11, Chapter 90, 90.2.)

Decision

Based on a review of all alternatives, I have decided to implement Alternative 3. My decision to select Alternative 3 includes all of the mitigation measures, design criteria and monitoring listed on pages 15-17 of the EA. Alternative 3 includes the following activities. A complete description of Alternative 3 is contained on page 14 of the EA.

The VHF antenna component of the application is denied.

The microwave component (four solid, 6-foot microwave dishes on two new 20-foot monopole towers) of the application is approved, as described in Alternative 2. VHF antennas are not allowed on the two new 20-foot monopole towers

The existing 20-foot tower is approved for both microwave and non-microwave antennas, as described in Alternative 2.

The LRMP is amended as described below.

The Site Plan will be amended in the future as described below..

Alternative 3 as is not consistent with the Crooked River National Grassland Plan LMRP or the Gray Butte Electronic Site Management Plan (Site Plan) because both Plans limit the site to three

towers. Because of this Alternative 3 requires a LRMP amendment and a subsequent Site Plan revision. The LRMP is hereby amended to remove references to the number of buildings and towers. The Site Plan will need to be amended to reflect the changes in the number of towers, to allow solid microwave dishes, and to acknowledge the existence and use of the existing 20-foot tower.

Alternative 3 best meets the purpose and need for the project while addressing the significant issues in a positive manner. It accomplishes this by allowing for part of Western Radio's request (locating the four microwave dishes on two sidehill monopoles), thereby providing stronger support structures. It also improves visual quality by removing the microwave dishes from the skyline, and does not increase potential interference with the other leaseholders. It also limits the increase of the footprint on the site by only adding two of the four proposed sidehill towers. In addition, it does not reduce the isolation between Western Radio's VHF antennas, as does Alternative 2, which may have increased the potential for interference with Western Radio's own VHF uses.

Current use would remain the same under Alternative 1. I did not select Alternative 1 because it does not meet any of the purpose and need. I did not select Alternative 2 because it does not address the significant issues as positively as Alternative 3. Although Alternative 2 also improves visual quality by removing the microwave dishes from the skyline, by moving some of the VHF antennas closer to the other leaseholder's towers, it increases the potential for interference. Alternative 2 also increases the footprint on the site the most by adding four sidehill towers. In addition, it does not increase the isolation between Western Radio's VHF antennas, and in fact, it likely decreases it, thereby increasing the potential for interference with Western Radio's own VHF uses. Alternative 4 was not selected because it does not meet part of the purpose and need (allowing the microwave dishes to be located on new sidehill towers). It would also have the most impact on visual quality (increasing the tower height to 100 feet and leaving the microwave dishes on the skyline). In addition, the modified tower may not be structurally strong enough to support the VHF antennas at this height.

Other Alternatives Considered

In addition to the selected alternative, I considered three other alternatives in detail. A comparison of these alternatives can be found in the EA on pages 18 - 22.

Alternative 1

Alternative 1 is the No Action alternative. The application would be denied. The two new VHF sidehill located towers would be denied, as would the two new microwave towers.

Western Radio could continue to operate the VHF and microwave system under the terms of their existing lease. They would have the option, without needing Forest Service approval, to use additional equipment such as filters, isolators, and combiners,

Alternative 2

Alternative 2 is the Proposed Action. The existing two 158.7 mhz VHF transmit antennas mounted on Western Radio's existing 60- ft. lattice tower would be relocated to two sidehill locations further downhill, mounted on two new 15- ft. monopole towers. One new tower would be approximately 95 ft. north of the existing 60- ft. tower, and the new other tower would be 99 ft. southeast.

The existing three microwave dish antennas mounted on Western Radio's 20 ft. lattice tower would be replaced with four 6- ft. solid microwave antennas, mounted on two two new 20- ft. monopole towers located at sidehill locations. VHF antennas would not be allowed on the two new 20- ft. monopole towers. One new tower is an estimated 60 ft. north of the existing 20 ft. lattice tower, and the other new tower would be about 45 ft. south. The existing 20-foot tower would also remain without restrictions on the antenna type. As with Alternative 3, Alternative 2 would require a Forest Plan and Site Plan amendment, as described previously in the Decision description of Alternative 3.

Alternative 4

The VHF antenna component of the application would be denied. The height of the existing 60 ft. lattice tower would be allowed to be increased to 100 ft., to allow for additional antenna separation. The increased height would be obtained by adding tower segments, and no replacement tower would be allowed.

The microwave component of the application would be denied. The applicant would not be allowed to construct two 20-ft. monopole towers.

The existing 20-foot tower would be approved, as described in Alternative 2.

Western Radio would continue to operate its existing microwave system of three 6- ft. antennas, and a new fourth 6-ft. dish, all mounted on the existing two towers. The LRMP would be amended to remove references to the number of buildings and towers. The Site Plan would be amended to reflect the increased tower height, to allow solid microwave dishes, and to acknowledge the existence and use of the existing 20-foot tower.

Public Involvement

Scoping

The application was listed in the Forest Schedule of Proposed Actions in 2006 and 2007 editions. In October of 2006, scoping letters were sent to 191 individuals and groups, including the three facility owners at the site, and The Confederated Tribes of the Warm Springs Reservation, the Burns Paiute Tribe, Confederated Tribes of the Umatilla Reservation, and the Klamath Tribes. A short newspaper article describing the application proposal was published by the Madras Pioneer on November 1, 2006.

Based on the scoping comments, potential alternatives to the proposal were considered. Because of these considerations, a December 2006 letter was sent to the three facility owners asking them for additional input.

The following comments were received:

Slater Communications has no issues with the microwave antenna component of the proposal, but is concerned that the relocation of the VHF antennas closer to their own tower will result in interference problems, since they also have equipment close to the 158.7 mhz frequency. They do not support amending the LRMP to allow more buildings or higher output powers. They commented that the 60- ft. vertical separation already provided on Western Radio's existing tower is more effective in providing isolation than the increased horizontal separation that is being proposed. Slater Communications question whether such similar frequencies closely located at Gray Butte can successfully operate, and suggests that Western Radio change their transmitter frequency.

Day Wireless has no issues with the microwave antenna component of the proposal, but is also concerned about the VHF antennas being moved closer to their facility.

Western Radio replied to our December letter requesting additional input on potential alternatives, stating that increasing the height of the existing 60- ft. tower would not provide the additional VHF separation required, nor would it add the extra capacity to support the microwave antennas. They believe that the height of the 60- ft. tower can be increased to 100 ft. by adding sections, without having to replace the tower. The existing cement base foundation would support the taller tower.

The Blue Mountain Biodiversity Project is concerned about the effects of electromagnetic radiation on birds and their migration.

The Sierra Club is concerned about the effects of towers and signals on avian species, and the additional areas of disturbance.

The Confederated Tribes of the Warm Springs Reservation supports documenting the archaeological site history and submitting the site as Not Eligible to the State Historic Preservation Office. They would like to see the archaeological site protected by retaining the cement slab that lies over it. They suggested completing a traditional oral history of Gray Butte by working with the tribal elders, and adding it to the documentation of the site. The oral history was completed in April 2007.

Key Issues and Alternatives

As a result of public scoping, the interdisciplinary team identified three key issues: These issues drove the development of alternatives and some of the design criteria.

Tower Separation/Isolation/Purpose & Need The relocation of the two VHF antennas closer to the other two leaseholder's towers has the potential to create interference to their radio communications, some of which also use similar frequencies.

The relocation of the two VHF antennas decreases the vertical separation between them.. This has the potential to increase interference to Western Radio's own radio communications.

Visual Quality: Gray Butte is a prominent peak from a number of viewpoints, including Highways 97 and 26, Smith Rocks State Park, and the Gray Butte trail. New facilities may not blend well with the existing landscape, degrading the visual quality.

Full Utilization of Existing Facilities: Only the top of Gray Butte allows omni-directional antenna systems. The existing facilities are concentrated at or near the top of the butte, which has limited physical space for additional towers or other facilities. Existing facilities should be fully utilized before new development is authorized. Additional facilities can create more physically crowded conditions for all users, and increase interference at the site. In addition, one of the 1989 Site Plan objectives is to maximize utilization of the site, (p.3- II # 3) and one Forest Service policy goal of site planning is to maximize the efficient use of each site (FSH 2709.11, 92)

Comment Period

A draft EA, Chapters 1 and 2, was released in May 2007, and a 30-day public comment period was held beginning May 30, 2007. Seven individuals and organizations requested and received a copy of the EA. One comment letter was received during the comment period. One voice message was received after the comment period closed.

In making this decision, I reviewed and considered all the comments that were submitted. The following section briefly summarizes the substantive comments and describes how I considered them. A complete response can be found in the project file.

Comment: My response to Kristen Bail's December 1, 2006 letter seems to have been misconstrued. My answers to her questions about adding sections to the tower does not mean Western Radio can add sections to its existing tower, relocate antennas to it and expect a tower so modified to survive the weather conditions at Gray Butte without failure.

FS response: We did not understand Western Radio's replies to our questions asking whether the existing tower could be heightened (versus being replaced), and could the existing cement foundation support the taller tower. When Western Radio provided affirmative answers to both questions, we took this to mean that adding additional height segments while using the existing cement foundation would be adequate structurally. Part of my decision to not select Alternative 4 is in part due to Western radio's response.

Comment: You can only estimate isolation or attenuation based on the distance between antennas if the antennas are orientated vertically or horizontally. When antennas are separated both vertically and horizontally, isolation or attenuation has to be measured. Physical separation

is only one of the factors to consider in mitigating interference potential. Other factors to evaluate are the operating frequencies, equipment specifications, design and construction, transmit power levels, site noise levels and the use of interference suppression devices such as isolators and bandpass filters.

FS response: Our analysis in Chapter 3 of the final EA discusses many of these assumptions, unknowns, and limitations in calculating theoretical isolation levels, recognizing that there are numerous other factors that influence interference potential, as mentioned in Western Radio's comments. Because one of the primary EA issues was VHF separation/isolation, we believed an analysis, even with limitations, was necessary.

Comment: You did not analyze the biological effects and potential hazards of radio frequency (RF) electromagnetic fields (this comment was received after the close of the comment period).

FS response: We have reviewed the Federal Communication Commission's (FCC) Office of Engineering and Technology (OET) Bulletins 56 and 65, regarding radio frequency radiation, public health, and exposure standards. We have analyzed the proponent's application using the Bulletin guidelines, and as a result, have added Project Design Criteria, EA p. 16, item # 18, to the final EA. Our summary of Bulletins 56 and 65, and our analysis, is documented in the analysis file.

Finding of No Significant Impact

After considering the environmental effects described in the EA, I have determined that these actions will not have a significant effect on the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27). Thus, an environmental impact statement will not be prepared. I base my finding on the following:

1. My finding of no significant environmental effects is not biased by the beneficial effects of the action.
2. There will be no significant effects on public health and safety. Design Criteria (EA, p. 16) to reduce the exposure to harmful radiation, has been added to the alternatives.
3. There will be no significant effects on unique characteristics of the area. The project site contains no prime farmlands, wetlands, wild and scenic rivers, or Congressionally designated areas. The lithic scatter has been compromised in the past and design criteria have been added to the alternatives to prevent further degradation. (EA, p. 16).
4. The effects on the quality of the human environment are not likely to be highly controversial, and there is no known scientific controversy over the impacts of the project. The Gray Butte Electronic Site is a designated electronic site in the LRMP (EA, pp. 7-8) and the proposed activities include only minor site disturbance. Public involvement efforts and the environmental analysis did not identify any controversy or debate over the effects of the project.

5. The environmental analysis demonstrates the effects are not uncertain, and do not involve unique or unknown risk (see EA Chapter 3). The effects of the proposed activities are minor.
6. The action is not likely to establish a precedent for future actions with significant effects. The effects of the proposed project are minor or low risk (EA, Chapter 3).
7. The cumulative impacts of the project are minor and are not significant (EA Chapter 3).
8. The action will have no significant adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places. The existing cultural site will be protected (EA p. 16). In addition, an oral history of Gray Butte was collected by the Confederated Tribes of the Warm Springs Reservation, to better understand the ethnology of the area.
9. The action will not adversely affect any endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973. There are no proposed, endangered, or threatened plant species documented or suspected of occurring within the Crooked River National Grassland (EA, p. 45- 46). The project will have no effect on endangered or threatened aquatic species (EA, p. 49).
10. The action will not violate Federal, State, and local laws or requirements for the protection of the environment. Applicable laws and regulations were considered in the EA (pp. 45-47, 50, 60, 61). The action is consistent with the Crooked River National Grassland Land and Resource Management Plan (EA, pp. 8-10, 31, 40, 54, 57, 58, 59).

Findings Required by Other Laws and Regulations

National Forest Management Act. This decision to approve a portion of the proponent's application, with project design criteria, is consistent with the intent of the long-term goals and objectives (EA, p. 8) contained in the Crooked River National Grassland LMRP.. The LMRP contains several standards and guidelines that apply Grassland-wide or to specific management areas. Both Grassland-wide and management area specific standards and guidelines were reviewed. If the alternatives are not consistent, a brief description of the needed Grassland Plan amendment is included. In addition, the requirements at USC (United States Code) 1604(g)(3) were reviewed and the selected activities are consistent.

My decision to implement Alternative 3 is consistent with the intent of the Grassland Plan's long-term goals and objectives, however; a non-significant amendment is needed to implement this alternative. I have elected to amend the Grassland Plan following the provisions found in FSM 1926.5.

Goals, Objectives, and Outputs – There would be no change in the long-term relationships between the levels of goods and services projected by the Grassland Plan Final EIS and the impacts of implementing Alternative 3.

Management Prescription – Although the amendment affects the entire management area, the management area is only 80 acres in size. Removing the language that restricts the number of buildings and towers improves the ability to meet the goals, objectives, and outputs, and provides opportunities to add uses that will contribute to achievement of the Gray Butte Electronic Site Management Area’s prescription.

National Environmental Policy Act. NEPA establishes the format and content requirements of environmental analysis and documentation. The entire process of preparing this environmental assessment was undertaken to comply with NEPA.

National Historic Preservation Act. A cultural resource inventory and report has been completed for the project area. The Oregon State Historic Preservation Office concurs with the analysis and findings.

Endangered Species Act. Biological Evaluations (BEs) have been prepared to document the effects of the proposed activities on threatened and endangered species. The project would have no effect on threatened or endangered species (EA, pp. 45-54). Consultation with the U.S. Fish and Wildlife Service or National Marine Fisheries Service is not needed.

Clean Water Act. The selected alternative will comply with the Clean Water Act. The ground disturbing activities have the potential to produce small, short-lived increases exposed soil. However, these increases are very small and with no streams, of any class, anywhere near the disturbed areas. There are no 303(d) listed streams in the project area.

Best Science. As required by 36 CFR 219.35, I have considered the best available science in making this decision. The project record demonstrates a thorough review of relevant scientific information, consideration of responsible opposing views, and, where appropriate, the acknowledgment of incomplete or unavailable information.

Implementation Date

If no appeals are filed within the 45-day filing period, implementation of the decision may occur on, but not before, 5 business days from the close of the appeal filing period. If appeals are filed, implementation may occur on, but not before, the 15th business day following the date of disposition of the last appeal.

Administrative Review or Appeal Opportunities

This decision is subject to administrative review (appeal) pursuant to 36 CFR Part 215. Any appeal must be filed (regular mail, fax, email, hand-delivery, or express delivery) with the Appeal Deciding Officer, Linda Goodman, Regional Forester, United States Forest Service, 333 SW First Ave., Portland Oregon 97208. The office business hours for those submitting hand-delivered appeals are 7:30-4:30 Monday through Friday, excluding holidays.

Appeals submitted via fax should be sent to (503) 808-2255. Appeals can be filed electronically at: appeals-pacificnorthwest@fs.fed.us. Electronic appeals must be submitted as part of the

actual e-mail message, or as an attachment in plain text (.txt), Microsoft Word (.doc), rich text format (.rtf), or portable document format (.pdf). E-mails submitted to addresses other than the one listed above, or in formats other than those listed, or containing viruses, will be rejected. In cases where no identifiable name is attached to an electronic message, a verification of identity will be required. A scanned signature is one way to provide verification. It is the responsibility of the appellant to confirm receipt of appeals submitted by e-mail.

Appeals, including attachments, must be filed within 45 days from the publication date of the legal notice announcing this decision in *The Bulletin* newspaper, Bend, Oregon. Attachments received after the 45-day appeal period will not be considered. The publication date in *The Bulletin* is the exclusive means for calculating the time to file an appeal. Those wishing to appeal this decision should not rely upon dates or timeframe information provided by any other source.

Individuals or organizations who submitted comments during the comment period specified at 215.6 may appeal this decision. The notice of appeal must meet the appeal content requirements at 36 CFR 215.14.

Contact

For additional information concerning this decision or the Forest Service appeal process, contact Paul Cuddy, Ochoco National Forest, 3160 NE Third St., Prineville, Oregon 97754, or (541) 416-6617.

JEFF WALTER
Forest Supervisor

Date

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