

# Echanis Wind Energy Project

## Weed Management and Control Plan

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### SECTION 1.0 - INTRODUCTION

Echanis, LLC (“Echanis”) is constructing a wind energy project in Harney County, Oregon. The turbine strings are to be placed along ridges located approximately ten miles southeast of the town of Diamond, Oregon.

In addition to the turbine strings, additional facilities such as access roads, underground and overhead transmission lines, and a substation are being constructed to implement the project. As part of the development of the project in the lease and Conditional Use Permit granted to Echanis by Harney County, Echanis has agreed to control noxious weeds on the project site.

This plan discusses how noxious weeds will be managed during construction and rehabilitation activities on the portions of the transmission line located on Bureau of Land Management (BLM)-administered lands.

#### 1.1 PLAN PURPOSE

The purpose of this noxious weed control plan is to prescribe methods to prevent and control the spread of noxious weeds during construction and rehabilitation activities on BLM-administered land traversed by the transmission line and access roads. Echanis acknowledges that construction may promote the spread of noxious weeds on public and private lands. Echanis and its contractors will be responsible for carrying out the methods described in this plan. The weed control plan will discuss:

- Measures to control introduction and spread of noxious weeds in the project corridor;
- Worker training;
- Inspection procedures for construction materials and equipment used in the project corridor;
- Post-construction monitoring for noxious weeds; and
- Monitoring and control methods.

This plan is applicable to the construction and rehabilitation of the proposed transmission line and access roads on BLM-administered lands. It is anticipated the transmission line will be deeded over to the local grid operator once the transmission line is complete and the project is fully operational. At that time, it is anticipated the local transmission system operator will maintain the Right-Of-Way (ROW) in accordance with normal practices on its many miles of transmission line currently in place on public and privately-owned lands within BLM Burns District and generally in Harney County, Oregon.

#### 1.2 GOALS AND OBJECTIVES

The goal of this weed control plan is to implement early detection protocols, define containment strategies, and put into practice methods of control and monitoring to minimize the spread of noxious weeds during Project construction and rehabilitation activities. Noxious weeds are opportunistic plants that readily colonize disturbed areas and adversely affect the habitats they invade economically, environmentally or ecologically. These plant species are able to exclude or out-compete desired native species and lead to a decrease in overall species diversity.

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To prevent noxious weeds from spreading into the proposed construction areas, the project biologist will survey the project corridor and any access roads for populations of noxious weeds prior to the start of and during construction. All populations of noxious weeds within 50 feet of the ROW in narrow roads or access zones will be flagged and treated prior to construction. Construction activities in all other segments of the Project will be restricted to the roads. After construction is complete, Echanis, LLC will visit all sites where prior treatments occurred to determine if additional treatments are required. Follow up treatments will be completed if necessary.

### 1.3 PROJECT DESCRIPTION

The proposed North Steens 230-kV Transmission Line Project would transport electrical power from the Echanis Wind Energy Project to an existing 115 kilovolt (kV) transmission line near Crane, Oregon operated by Harney Electric Cooperative (HEC). The proposed transmission line would cross approximately 33 miles of private land and 12.1 miles of land administered by the BLM (Burns District Office). The permanent ROW easement for the new transmission line would be 150 feet (total width).

The BLM has prepared an Environmental Impact Statement (EIS) with a Record of Decision prior to approving the ROW grant application requested by Echanis. The EIS analyzed the potential environmental effects of two action alternatives and the no action alternative. While this environmental review requires disclosure of potential effects on private lands as a connected action, federal agencies only have authority to approve or issue permits for those actions occurring on public lands.

Construction of the infrastructure along the transmission line corridor will begin in fall 2012 as dictated by ground conditions and weather.

Disturbance of any off-ROW desert habitat is not proposed by this project, and will not be allowed by Echanis.

## **SECTION 2.0 - NOXIOUS WEED OCCURRENCES**

### 2.1 NOXIOUS WEED INVENTORIES

Many exotic plant species are found within the Project area, but only a portion of these are considered to be noxious weeds. For a complete list of noxious weeds that may occur in the project area please see the Final North Steens 230-kV Transmission Line Project EIS pages 3.3-22 to 3.3-23. The Oregon Department of Agriculture's Noxious Weed Control Program maintains a list of noxious weeds scheduled for control in Oregon (ODA 2009b). Treatment of "B" designated weeds is limited to intensive control at the state, county or regional level as determined on a site-specific, case-by-case basis.

### 2.2 WEED MANAGEMENT

A list of noxious weed species of particular concern to the BLM (Burns District Office) is provided in Table 1. Three of these species have been reported along various transmission line

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alternatives: Canada thistle (*Cirsium arvense*), bull thistle (*Cirsium vulgare*), and perennial pepperweed (*Lepidium latifolium*). An additional "B" designated species, kochia (*Kochia scoparia*), has also been reported to be present along the transmission line alternatives. More occurrences may be found when additional surveys are completed. The noxious weed species most prevalent in the vicinity of the project include: Canada thistle, bull thistle, Scotch thistle (*Onopordum acanthium*) and perennial pepperweed. Some of the roads in the vicinity of the project contain whitetop (*Cardaria draba*), and medusahead rye (*Taeniatherum caput-medusae*) is also present in the vicinity and could spread into areas disturbed by Project activities.

**Table 1: List of Noxious Weed Species**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Rating</b>
Russian knapweed	<i>Acroptilon repens</i>	B
Whitetop	<i>Cardaria draba</i>	B
Musk thistle	<i>Carduus nutans</i>	B
Spotted knapweed	<i>Centaurea biebersteinii</i>	B
Diffuse knapweed	<i>Centaurea diffusa</i>	B
Yellow starthistle	<i>Centaurea solstitialis</i>	B
Rush skeleton weed	<i>Chondrilla juncea</i>	B
Canada thistle	<i>Cirsium arvense</i>	B
Bull thistle	<i>Cirsium vulgare</i>	B
Field bindweed (morning glory)	<i>Convolvulus arvensis</i>	B
Leafy spurge	<i>Euphorbia esula</i>	B
Halogeton	<i>Halageton glomeratus</i>	B
St John's wort	<i>Hypericum perforatum</i>	B
Perennial pepperweed	<i>Lepidium latifolium</i>	B
Dalmatian toadflax	<i>Linaria dalmatica</i>	B
Purple loosestrife	<i>Lythrum salicaria</i>	B
Scotch thistle	<i>Onopordum acanthium</i>	B
Mediterranean sage	<i>Salvia aethiopsis</i>	B
Tansy ragwort	<i>Senecio jacobaea</i>	B
Medusahead rye	<i>Taeniatherum caput-medusae</i>	B
Puncturevine	<i>Tribulus terrestris</i>	B

### SECTION 3.0 - NOXIOUS WEED MANAGEMENT

#### 3.1 IDENTIFICATION OF PROBLEM AREAS

Prior to construction, Echanis will provide information and training regarding noxious weed management to the contractors. Training will include weed identification and impacts on agriculture, livestock, wildlife, and fire frequencies. The importance of preventing spread of noxious weeds in areas currently uninfested, and controlling the proliferation of weeds already present, will also be explained.

During construction, areas of concern will be identified and flagged in the field by Echanis staff or the project biologist. The flagging will alert construction personnel that weeds are present and will prevent access into these areas until noxious weed management control measures have been implemented.

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### 3.2 PREVENTIVE MEASURES

The following preventive measures will be implemented to minimize the spread of noxious weeds:

- Before ground-disturbing activities begin, the project biologist will review the Weed Risk Assessment Form and prepare a Weed Management Plan that will inventory and prioritize weed infestations for treatment within the transmission line ROW. If weed infestations spread beyond 50 feet of the transmission line, weeds will be treated as a part of the Project. This includes access roads into the project site;
- The Echanis and/or the project biologist will locate relatively weed-free areas for temporary equipment storage, machine and vehicle parking, and other areas needed for the storage of people, machinery and supplies
- All contractor vehicles and equipment will be cleaned prior to arrival at the work site using compressed air or high-pressure water spraying equipment. The wash/blow down will concentrate on tracks, feet, or tires and on the undercarriage, with special emphasis on axles, frame, cross members, motor mounts, and on underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. The contractor, with Environmental Inspector (E.I.) oversight, will ensure that vehicles and equipment are free of soil and debris capable of transporting noxious weed seeds, roots, or rhizomes before the vehicles and equipment are allowed use of access roads. Seeds and plant parts will be collected, bagged and deposited in dumpsters destined for local landfills, when practical;
- When vehicles and equipment are washed/blown down, a log will be kept stating the location, date and time, types of equipment, and methods used. The crewmember that washed the vehicle will sign the log. Written logs will be included in the monitoring reports;
- Project workers will inspect, remove, and dispose of weed seed and plant parts found on their clothing and personal equipment. The product will be bagged and disposed of in a dumpster for deposit in local landfills or other location deemed acceptable by the BLM;
- Echanis and its contractors will avoid or minimize all types of travel through weed-infested areas or restrict major activities to periods of time when the spread of seed or plant parts are least likely. The contractor will begin project operations in weed free areas whenever feasible before operating in weed-infested areas;
- The contractor will limit the size of any vegetation and/or ground disturbance to the absolute minimum necessary to perform the activity safely and as designed. The contractor will also avoid creating unnecessary soil conditions that promote weed germination and establishment;
- The contractor in conjunction with the project biologist will evaluate weed management options, including area closures, to regulate the flow of traffic on sites where native vegetation needs to be established;
- In areas where infestations are identified or noted in the field, the contractor will stockpile cleared vegetation and salvaged topsoil adjacent to the area from which they are stripped to eliminate the transport of soil-borne noxious weed seeds, roots, or rhizomes. During reclamation, the contractor will return topsoil and vegetative material from infestation sites to the areas from which they were stripped;
- The contractor will ensure that straw or hay bales used for sediment barrier installations or mulch distribution are certified weed-free, as per Oregon Department of Agriculture's

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certification program;

- The contractor will implement the reclamation of disturbed lands immediately following construction as outlined in the Restoration and Re-vegetation Plan, continuing seeding efforts with certified weed-free seed will ensure adequate vegetative cover to prevent the invasion of noxious weeds, if necessary; and
- The contractor will apply fertilizer to reclaimed areas only according to the Restoration and Re-vegetation Plan and as directed by BLM.

To prevent contamination of weed species into new habitats, wash/blow down stations may be set up in staging areas to remove any seeds that may have attached to construction vehicles. All vehicles may be washed with water or blown down using compressed air prior to entering the construction site. The contractor will implement control measures for invasive and noxious weeds. The contractor will adhere to the BLM and County Weed District management guidelines for reducing the potential for the introduction of noxious weeds and invasive, non-native plant species.

### 3.3 TREATMENT METHODS

Echanis will implement noxious weed control measures that will be in accordance with existing regulations and jurisdictional land management agency agreements. Before construction, only herbicides that are approved by the respective State and the BLM will be applied to any identified weed infestations on public lands to reduce the spread or proliferation of weeds. Post-construction control measures may include one or more of the following methods:

- Mechanical methods rely on equipment used to mow or disc weed populations. If such a method is used, subsequent seeding will be conducted to re-establish a desirable vegetative cover that will stabilize the soils and slow the potential re-invasion of noxious weeds. Seed selection will be based on site-specific conditions and the appropriate seed mix identified for those conditions, as presented in the Restoration and Re-vegetation Plan;
- Disking or other mechanical treatments that would disturb the soil surface within native habitats will be avoided;
- Herbicide application is an effective means of reducing the size of noxious weed populations.
- Treatment methods will be based on species-specific and area-specific conditions (e.g., proximity to water or riparian areas, or agricultural areas, and time of year) and will be coordinated with the local regulatory offices; and
- If areas are not seeded until the following spring because of weather or scheduling constraints, all annuals and undesirable vegetation that have become established will be treated before seeding.

### SECTION 4.0 - MONITORING

Post project monitoring will be implemented for detection of invasive. All areas, including wash-down and staging areas, within the Echanis project footprint and transmission line route will be monitored for new noxious weed infestations. To ensure discovery of new weed species, post project noxious weed monitoring will occur during the growing season within

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one year after construction is completed, and on an ongoing basis annually. Any areas within the public lands ROW, where a noxious weed infestation is noted, particularly in previously unaffected areas, will be further evaluated to determine if these areas require remedial action and treatment. Following the field inspections, Echanis will document its observations and make monitoring reports available to BLM as required. Echanis will identify such areas to the BLM using GPS coordinates, and will record any additional noxious weed control treatments. A Pesticide Applicator Record (PAR) will be prepared for any herbicide treatments.

### 4.1 ONGOING MONITORING

The transmission line will need to be monitored and treated for noxious weeds annually. The ROW holder, (Echanis, LLC or its assignee) is responsible for keeping the ROW free from weeds for the life of the ROW per the terms and conditions of the ROW grant, OR-65891. Echanis shall communicate with BLM if concerns arise pertaining to noxious weeds within the jurisdiction of the agency. The BLM may also contact Echanis to report the presence of noxious weeds within the ROW. Echanis shall control the weeds on a case-by-case basis. Furthermore, Echanis operations personnel will be trained in the identification of predominant noxious weed populations and will report spread of noxious weeds during construction or rehabilitation activities.

### 4.2 MONITORING OF KNOWN INFESTATION AREAS

In addition to ongoing noxious weed monitoring, Echanis will conduct annual site visits to monitor known infestation areas within the ROW and newly created access roads. These areas will be evaluated and treated. Echanis will continue to visit any infestation areas on an ongoing basis or until noxious weeds in the area are controlled.

## **SECTION 5.0 - HERBICIDE TREATMENTS**

### 5.1 HERBICIDE APPLICATION AND HANDLING

Herbicide application will be based on information gathered from the Weed Districts and the BLM. Before application of herbicide, Echanis or its Contractors will obtain any required permits from the local authorities. Permits may contain additional terms and conditions that go beyond the scope of this management plan. Only a State licensed contractor, whom is also approved by the BLM, will perform herbicide applications. All herbicide application will be applied in accordance with applicable laws and regulations and permit stipulations. On BLM lands, the herbicides and adjuvants used within or adjacent to the project site must be approved for use on Oregon BLM lands and approved at the district level.

All herbicide applications must follow United States Environmental Protection Agency label instructions. Application of herbicides will be suspended when any of the following conditions exists:

- wind velocity exceeds 6 miles per hour (mph) during application of liquids or 15 mph during application of granular herbicides;
- snow or ice covers the foliage of noxious weeds; and
- precipitation is occurring or is imminent (unless acceptable on the label).

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Vehicle-mounted sprayers (e.g., handgun, boom, and injector) will be used mainly in open areas that are readily accessible by vehicle. Hand application methods (e.g., backpack spraying) that target individual plants will be used to treat small or scattered weed populations in rough terrain. Calibration checks of equipment will be conducted at the beginning of spraying and periodically throughout treatment to ensure that proper application rates are achieved. Herbicides will be transported to the project site daily with the following provisions:

- only the needed quantity for that day's work will be transported;
- concentrate will be transported in approved containers only and in a manner that will prevent tipping or spilling, and in a location that is isolated from the vehicle's driving compartment, food, clothing, and safety equipment;
- mixing will be done at a distance greater than 200 feet from open or flowing water, wetlands, or other sensitive resources. Only herbicides approved for use in these sites will be applied at these areas and appropriate buffer distances as authorized by appropriate regulatory agencies will be followed; and
- all herbicide equipment and containers will be inspected for leaks daily. Disposal of spent containers will be in accordance with the herbicide label.

### 5.2 HERBICIDE SPILLS AND CLEANUP

All reasonable precautions will be taken to avoid herbicide spills. In the event of a spill, clean-up will be immediate. Contractors will keep spill kits in their vehicles and in herbicide storage areas to allow for quick and effective response to spills. Items to be included in the spill kit are:

- protective clothing and gloves,
- absorptive clay, "kitty litter," or other commercial adsorbent,
- plastic bags and bucket,
- shovel,
- fiber brush and screw-in handle,
- dust pan,
- caution tape,
- highway flares (use on established roads only), and
- detergent.

Response to herbicide spills will vary with the size and location of the spill, but general procedures include:

- Contacting Oregon Emergency Response System
- BLM notification,
- traffic control,
- dressing the clean-up team in protective clothing,
- stopping the leaks,
- containing the spilled material,
- cleaning up and removing the spilled herbicide or contaminated adsorbent material and soil, and
- transporting the spilled herbicide and contaminated material to an authorized disposal site.

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### 5.3 WORKER SAFETY AND SPILL REPORTING

All herbicide contractors will be certified by the State of Oregon and approved by the BLM (when applying herbicides on BLM lands) to apply herbicides. The contractors will obtain and carry with them, copies of the appropriate product labels and material safety data sheets for the herbicides used. All herbicide spills will be reported in accordance with applicable laws and requirements.

### **SECTION 6.0 - PESTICIDE USE**

In the event any pesticides will be used on site, Echanis will comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those pesticides. Pesticide applications will be within the framework of BLM and DOI policies on BLM-administered lands. Only non-persistent, immobile, EPA-registered pesticides will be applied. Pesticides will be applied in accordance with terrestrial and aquatic application permits and label directions.

Any spills that may occur will be handled as directed under Section 5.2 of this plan.