

**Stateline Wind Project:  
Resource Impact Avoidance and Mitigation Plan  
[JUNE 6, 2003]**

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1 This plan describes measures that the certificate holder shall implement during  
2 construction and operation of facilities located in Category 1 habitat associated with the Stateline  
3 Wind Project in Oregon. This plan addresses the potential impacts to Category 1 habitat in and  
4 around turbine strings BG-B, BG-C and BG-E, as identified in the Final Order on Amendment  
5 #2. This plan acknowledges that construction and operation of the facility cannot avoid all  
6 impacts to Category 1 habitat within the energy facility site. The plan describes a framework of  
7 avoidance and mitigation measures. These measures assure that the certificate holder avoids  
8 impact to the resource to the extent possible and provides reasonable mitigation for those impacts  
9 that are unavoidable. This plan has been developed in consultation with the Oregon Department  
10 of Fish and Wildlife and the Oregon Office of Energy.

11 The avoidance and mitigation measures described in this plan are designed to offset  
12 unavoidable direct and indirect impacts on Category 1 habitat during construction and operation.  
13 The overall goal is to achieve a net benefit to the Washington ground squirrel (WGS), an  
14 endangered species under Oregon law. The plan has the following five elements:

- 15 ■ Avoidance of direct and indirect habitat impacts during construction
- 16 ■ On-site conservation of WGS habitat for the life of the energy facility
- 17 ■ Monitoring of the existing WGS colony
- 18 ■ Inventory of additional nearby suitable or occupied WGS habitat
- 19 ■ Support for research on the WGS at Boardman, Oregon.

20 **1. Avoidance of Impacts**

21 The objective of this element of the plan is to avoid and minimize potential impacts to the  
22 WGS. In the design and construction of the energy facility, the certificate holder shall avoid most  
23 of the known locations of WGS natal areas and associated use areas. The certificate holder shall  
24 avoid habitat that is of high value for supporting the species currently or in the future. High-  
25 value habitats are those areas characterized as areas of deep soil and the bluebunch wheatgrass  
26 vegetation community.<sup>1</sup> Avoidance of disturbances in Category 1 habitat during construction and  
27 rapid restoration of temporarily disturbed areas is critical to reducing the damage to the resource.  
28 The certificate holder shall limit construction activities as much as possible in affected areas and  
29 avoid the core of the known WGS colony.<sup>2</sup> The certificate holder shall prohibit vehicular traffic  
30 outside of identified construction areas and limit foot traffic to environmental and cultural survey  
31 needs and cleanup activities as required.

32 The certificate holder shall implement the following construction and operation  
33 measures:

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<sup>1</sup> Northwest Wildlife Consultants, Inc., *Washington Ground Squirrel Impact Minimization and Mitigation Plan, Stateline 3, Part B Wind Project*, Request for Amendment #2, Exhibit 14.

<sup>2</sup> The “known” WGS colony as used in this plan is based on survey data collected in 2001 through 2002.

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- 1 1. The certificate holder shall locate turbines, roads and underground transmission lines  
2 at strings BG-B, BG-C and BG-E to avoid Category 1 habitat to the extent possible.  
3 Where impact is unavoidable, the certificate holder shall locate these facilities in  
4 shallow, rocky soils to the extent possible and avoid deeper soils.
- 5 2. The certificate holder shall plan transformer box placement, crane pad locations and  
6 underground transmission line routes to reduce the area of Category 1 habitat  
7 impacts.
- 8 3. The certificate holder shall sequence the stages of construction to reduce habitat  
9 impacts.<sup>3</sup>
- 10 4. The certificate holder shall locate new access roads to the upwind side of the turbine  
11 string to avoid putting roads in deep soil areas.
- 12 5. The certificate holder shall provide an environmental inspector during construction.  
13 The environmental inspector shall identify authorized construction areas. The  
14 construction manager or his representative shall limit contractor activities to those  
15 authorized areas so as to reduce additional potential habitat impacts. The certificate  
16 holder shall provide contractors with maps showing sensitive habitat and closed areas.
- 17 6. The certificate holder shall locate areas of temporary disturbance during construction  
18 (laydown and staging areas) outside of Category 1 habitat. The certificate holder shall  
19 restore and reseed areas of temporary habitat disturbance according to the  
20 *Revegetation Plan* included in the final order as Attachment B and as revised from  
21 time to time. The certificate holder shall use the method of hydro-mulching on top of  
22 drilled grass seed instead of the more typical straw crimping method. This method  
23 avoids wind-blown straw collecting in undisturbed areas and potentially creating  
24 artificial mulch on top of an otherwise open grassland plant community.
- 25 7. The certificate holder shall implement general mitigation measures and site-specific  
26 restrictions on construction activities described in other site certificate conditions to  
27 reduce temporary and permanent impacts to Category 1 habitat at BG-B, BG-C and  
28 BG-E.

### 29 **2. On-Site Conservation Area**

30 Conserving WGS habitat in the area near BG-B, BG-C and BG-E offers a significant  
31 benefit to WGS survival. Despite the state listing of the WGS as an endangered species, there is  
32 no legal restriction on development by a private landowner of areas determined to be Category 1  
33 habitat essential to the WGS. An on-site conservation easement offers an opportunity that is  
34 otherwise unavailable for long-term preservation of known WGS habitat.

35 FPL Energy Vansycle, LLC, (FPL) has negotiated long-term Conservation Area  
36 Agreements for two parcels (360 and 40 acres) of native grassland habitat surrounding the  
37 known WGS colonies near BG-B and BG-C. The two parcels are contiguous but owned by

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<sup>3</sup> Normally, a wider area construction zone is needed to allow various contractors to work concurrently on their specific task without interrupting each other. At BG-B, BG-C and BG-E, sequencing the construction activities will minimize the disturbed area.

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1 separate landowners. Together, both parcels encompass the primary WGS colony and small  
2 active sites plus most of the associated use area as described in the Final Order on Amendment  
3 #2. The proposed Conservation Area Agreements (Parcel #1 and Parcel #2) prohibit the  
4 landowners from increasing livestock grazing beyond recent historical levels and from otherwise  
5 adversely affecting the habitat quality or knowingly disturbing the squirrels.

6 The conservation areas established under this plan are located on private property. This  
7 plan does not allow access to the conservation areas by the general public or government agency  
8 personnel. Access to the conservation areas must be authorized by the landowner or by the  
9 certificate holder under the terms of a lease with the landowner.

10 The conservation measures required under the terms of the Conservation Area  
11 Agreements will provide habitat protection to an existing WGS colony and an important use area  
12 that otherwise would be vulnerable to increased farm use or other land use changes. This  
13 protection will allow the WGS to use good quality habitat in a pattern similar to what was  
14 documented before construction, at least outside of the permanent footprint areas and reseeded  
15 areas. The Conservation Area Agreements assure long-term protection of a large block of  
16 Category 1 habitat suitable for the WGS and other grassland species for the life of the wind  
17 leases. The purpose of the Conservation Area Agreements is to provide a net benefit, despite the  
18 permanent loss of a relatively small area of Category 1 habitat.

19 The certificate holder shall provide to the Office of Energy fully-executed copies of the  
20 Conservation Area Agreements or other proof satisfactory to the Office before beginning  
21 construction of the Stateline 3 wind turbines at BG-B, BG-C and BG-E as described in the Final  
22 Order on Amendment #2. The certificate holder shall promptly provide fully-executed copies or  
23 other satisfactory proof of any future amendments or superseding future agreements. Any such  
24 amendments or superseding agreements must conform to the terms of this plan.

### 25 Parcel #1

26 Parcel #1 is the 360-acre parcel. The specific terms of the Conservation Area Agreement  
27 for Parcel #1 shall include, in substance, the following:

- 28 1. The life of the Conservation Agreement is the length of the wind lease. If the  
29 certificate holder wants to continue wind power generation beyond the current lease  
30 period, the wind lease would be renegotiated, and the Conservation Agreement's  
31 terms would be extended for the length of the renegotiated wind lease.
- 32 2. If the Stateline Wind Project is sold to another operator before retirement of the  
33 facility, the Agreement would remain in effect and transfer to the new operator or the  
34 new operator shall obtain a superseding agreement that conforms to the terms of this  
35 plan. If the landowner sells Parcel #1, the new owner shall be bound by the  
36 Agreement or a superseding agreement that conforms to the terms of this plan.
- 37 3. Livestock grazing is optional. The grazing season will commence between November  
38 15 and December 15 and shall end no later than May 5. Livestock shall not be  
39 allowed to access Parcel #1 outside of the grazing season.
- 40 4. No more than one Animal Unit per 10 acres of land is permitted. "Animal unit" is  
41 defined as (a) one adult cow or bull, (b) a cow and her calf, or (c) two yearlings. In

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1 addition, the landowner shall be allowed to graze up to three horses. No other types of  
2 domestic livestock are permitted on the Parcel #1. Currently the landowner grazes  
3 approximately 710 acres as one contiguous pasture, inclusive of the 360-acre parcel.  
4 Should the landowner wish to increase the number of Animal Units per acre for the  
5 710-acre pasture above one animal unit per 10 acres, the landowner would be  
6 required to separate the 360-acre Parcel #1 from the remaining acres to ensure the  
7 allowed ratio on the 360-acre parcel is met. Fences would be required if the  
8 landowner wishes to increase the number of Animal Units per acre on the adjoining  
9 property.

- 10 5. Existing fences will be maintained in good working order. Fences enclosing Parcel #1  
11 are not necessary unless the landowner wants to exceed more than one Animal Unit  
12 per 10 acres permitted for the Parcel (see #4).
- 13 6. No watering sites or mineral blocks will be allowed to be placed on the east side of  
14 the BG-C string so as to avoid the most sensitive WGS habitat.
- 15 7. The landowner agrees to refrain from any other use of the Mitigation Parcel that  
16 might detract from its value as habitat for WGS, including but not limited to clearing  
17 vegetation, plowing, grading, building barns, stables or similar structures, spraying  
18 herbicides and/or pesticides, and human activity beyond what is needed for managing  
19 the grazing. The landowner can spray weeds as needed to control starthistle or other  
20 noxious weeds to promote good grazing practices.

### 21 Parcel #2

22 Parcel #2 is the 40-acre parcel. The specific terms of the Conservation Area Agreement  
23 for Parcel #2 shall include, in substance, the following:

- 24 1. The life of the Conservation Agreement is the length of the wind lease. If the  
25 certificate holder wants to continue wind power generation beyond the current lease  
26 period, the wind lease would be renegotiated, and the Conservation Agreement's  
27 terms would be extended for the length of the renegotiated wind lease.
- 28 2. If the Stateline Wind Project is sold to another operator before retirement of the  
29 facility, the Agreement would remain in effect and transfer to the new operator or the  
30 new operator shall obtain a superseding agreement that conforms to the terms of this  
31 plan. If the landowner sells Parcel #2, the new owner shall be bound by the  
32 Agreement or a superseding agreement that conforms to the terms of this plan.
- 33 3. Current land use practices will be maintained for the duration of the wind lease as  
34 defined in the wind lease. Grazing is optional and can be eliminated if the landowner  
35 chooses.
- 36 4. Animal Units are allowed depending on the seasonal characteristics; there is no  
37 annual minimum or maximum. The landowner agrees to not increase the stocking or  
38 extend the grazing season beyond what has historically been in place by the family.
- 39 5. No newly constructed watering troughs will be allowed on the parcel. Any use of  
40 mineral blocks would remain consistent with recent historic use.

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- 1           6. The landowner agrees to maintain good land-use practices, which have thus far been  
2 compatible with a WGS colony, by agreeing to not plow the land for farming and to  
3 not build barns, stables or similar structures. The landowner can spray weeds as  
4 needed to control starthistle or other noxious weeds to promote good grazing  
5 practices.

### 6 **3. Monitoring of the Existing Colony**

7           The WGS presents a challenge for monitoring because of within- and between-year  
8 variability in patterns of WGS landscape use, recruitment, dispersal and natural mortality. Pre-  
9 and post-construction population density estimates, though a viable technique, require intensive  
10 effort and may be confounded by variable capture/recapture rates or violation of modeling  
11 assumptions. Such estimates may fail to reflect changes in patterns of landscape use by the  
12 WGS.

13           The objective of the monitoring element of this plan is to document measurable changes  
14 to the overall level of use of the existing population at BG-B and BG-C as characterized during  
15 the baseline study results conducted during the spring seasons of 2001, 2002 and 2003.<sup>4</sup> “Level  
16 of use” means the overall level of activity and distribution within and adjacent to the turbines in  
17 established survey corridors. It does not include an assessment of population dynamics or colony  
18 health. Measurable changes, for example, could potentially range from the known colony at  
19 BG-C vacating the site to, at the other extreme, a measurable increase in the size and distribution  
20 of the colony.

21           Two years (two squirrel seasons) of baseline data have been collected at the sites using  
22 the baseline monitoring protocol, described below. If construction does not begin in 2003 until  
23 after the peak squirrel use period (ending May 31), the certificate holder shall conduct a third  
24 year of baseline data collection in 2003 using the baseline monitoring protocol to better assess  
25 and update the baseline squirrel use.

26           Operational monitoring data collection will provide an understanding of the species’  
27 response to a change in their environment and ability to adjust to the presence of wind energy  
28 facilities. The certificate holder shall conduct operational monitoring in the first, third and fifth  
29 years after completion of construction within WGS habitat in the area near BG-B and BG-C. For  
30 example, if the certificate holder completes construction in these areas in 2003, the first year of  
31 operational monitoring would commence in the spring of 2004. The second monitoring year  
32 would be 2006 and the third, 2008. The monitoring schedule may be altered by amendment of  
33 this plan, as provided in Section 7 below, if there is a need to monitor consecutive years due to  
34 changes in use or other factors.

#### 35 Baseline Monitoring Protocol

36           The baseline monitoring protocol is a survey consisting of walking transects within 1,000  
37 feet of the proposed BG-B and BG-C turbines and all related or supporting facilities associated  
38 with the BG-B and BG-C strings. The survey is conducted during the WGS activity season  
39 (April and May). This survey method is designed to sample the area for presence of the WGS. In

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<sup>4</sup>Described in the Request for Amendment #2, Exhibit 14 and a report of 2003 baseline data to be prepared in June 2003.

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1 2003, the survey will exclude areas of steep, west-facing rocky slopes where WGS are not likely  
2 to burrow.

3 This site has been studied extensively for presence of wildlife species of concern.  
4 Intensive mapping of all squirrel holes in June 2002 validated the effectiveness of the 164-foot  
5 wide transects. For these reasons, this survey method should detect a change from the  
6 pre-construction use documented in 2001, 2002 and 2003. It may not be as sensitive to subtle  
7 changes or be able to measure changes in numbers of breeding adults, but it is expected to be  
8 thorough enough to detect a change in the level of activity characterized in the 2001, 2002 and  
9 2003 surveys.

### 10 Operational Monitoring Protocol

11 Operational monitoring will utilize the standard pre-construction data collection methods  
12 implemented in 2001, 2002 and 2003. The standard 164-foot wide transects will be walked once  
13 in early to mid-April and again in early May within 1,000 feet of the turbine strings on both  
14 Parcel #1 and Parcel #2 (measured from the outside edge of the permanent footprint, including  
15 access roads). Within the total transect area of about 334 acres near turbine strings BG-B and  
16 BG-C, approximately 43 acres have shallow, rocky soil on a steep slope that will not be  
17 monitored. Therefore, the monitored area will total about 291 acres.

18 Data gathered during operational monitoring will include locations of concentrated  
19 activity (indicating natal sites), estimated boundary of colony (if possible to determine), notes on  
20 sign of predator activity and habitat descriptions such as plant community type and quality. This  
21 survey effort will provide a representative sample of the area. It is not a complete survey. Data  
22 will be entered into a GIS database and results will be mapped at a scale of 1" = 200'. The  
23 certificate holder shall obtain continuous weather data covering the entire monitoring period  
24 through July 2008, unless the monitoring schedule is altered as described above. Because WGS  
25 populations appear to ebb and flow with vegetation response to weather patterns, the weather  
26 data will aid in assessing extremes that may be influencing the WGS population in the monitored  
27 area.

### 28 **4. Inventory of Nearby Habitat**

29 The certificate holder shall inventory and map WGS distribution near the BG-E turbine  
30 string in 2006 (or the third year after construction, whichever is later) in the area of the historic  
31 colony. The inventory areas include all of the suitable habitat and the young Conservation  
32 Reserve Program tract within the leased land within 1,000 feet of the BG-E turbine string  
33 (measured from the outside edge of the permanent footprint, including access roads).

34 The certificate holder shall conduct standardized surveys, using the operational  
35 monitoring protocol method described in Section 3 above. Transects will be walked by  
36 experienced field biologists, approximately 164 feet apart, twice from April 15 through May 20.  
37 Data gathered will include locations of concentrated use (indicating natal sites), estimated  
38 boundary of colony, notes on sign of predator activity and habitat descriptions such as plant  
39 community type and quality. The data will be entered into a GIS database and results will be  
40 mapped at a scale of 1" = 200'. The certificate holder shall obtain continuous weather data  
41 covering the entire monitoring period. Project personnel will be trained on identification of the  
42 species and will report any Washington ground squirrel observations at BG-E to the operations

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1 manager for the duration of the first three years of operation. The data will be included in  
2 monitoring reports prepared for this mitigation plan along with the formal inventory results  
3 collected during the third year after construction.

4 Data gathered in this inventory effort combined with results of the operational monitoring  
5 effort is intended to benefit the WGS in several ways. It will guide future regulatory decisions by  
6 providing a fuller understanding of the use of available suitable habitat and the extent of WGS  
7 distribution in the proposed development areas. It will aid in gaining insight on natal and  
8 dispersal area use and activity. The data will provide a better understanding of the habitat needs  
9 of the WGS. The data will provide insight to the ability of the WGS to use habitat in proximity to  
10 developments such as wind turbines, roads and underground collector cables and the associated  
11 vehicular traffic from maintenance vehicles. These data may also be useful for assessing the  
12 overall status of the WGS populations throughout their geographic range.

### 13 **5. Research Support**

14 The certificate holder shall contribute a one-time payment of \$10,000 to a masters-level  
15 WGS research project at Boardman, Oregon, before beginning construction in Category 1  
16 habitat. Such research efforts indirectly benefit the WGS because they provide information about  
17 the habitat requirements and behaviors of the WGS. This information can guide state agencies in  
18 future regulatory decisions that may affect the survival and recovery of the species.

19 The certificate holder's contribution, in conjunction with other funds, will support  
20 telemetry research into adult daily movements of the WGS in the Boardman study area. This  
21 research will refine understanding of day-to-day movements of individual squirrels in a colony  
22 and help determine the amount of room a colony needs to function successfully. The contribution  
23 will also support completion of a 10-year study in colony dynamics. This research seeks to  
24 clarify the evolution of a colony over time. This work will provide insight on why colonies  
25 establish, enlarge and vacate specific locations under natural circumstances. The purpose of this  
26 research is to shed light on the conditions and causes of colony disruption that result in size  
27 reduction or loss of a colony.

### 28 **6. Data Reporting**

29 The certificate holder shall report the monitoring and inventory data and analysis to the  
30 Oregon Office of Energy. This information may be included in the annual report required under  
31 OAR 345-026-0080 or may be submitted as a separate document when the certificate holder  
32 submits the annual report. In addition, the certificate holder shall provide to the Office any data  
33 or record generated in carrying out this mitigation plan upon request by the Office.

### 34 **7. Amendment of the Plan**

35 This plan may be amended from time to time by agreement of the certificate holder and  
36 the Oregon Energy Facility Siting Council. Such amendments may be made without amendment  
37 of the site certificate. The Council authorizes the Office of Energy to agree to amendments to  
38 this plan. The Office shall notify the Council of all amendments, and the Council retains the  
39 authority to approve, reject or modify any amendment of this plan agreed to by the Office.