# EXHIBIT A

# APPLICANT INFORMATION

OAR 345-021-0010(1)(a)

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**ATTACHMENTS**

## A.1 NAME AND ADDRESS OF APPLICANT AND CONTACT PERSON

**OAR 345-021-0010(1)(a)(A)** *The name and address of the applicant including all co-owners of the proposed facility, the name, mailing address and telephone number of the contact person for the application, and if there is a contact person other than the applicant, the name, title, mailing address and telephone number of that person*;

Response:

The applicant is Leaning Juniper Wind Power II, LLC ( "the Applicant"). The full name and address is:

Leaning Juniper Wind Power II, LLC
1125 NW Couch Street, Suite 700
Portland, OR 97209

**Contact persons, mailing address, and telephone number:**

Andrew O'Connell
PPM Energy, Inc.
1125 NW Couch Street, Suite 700
Portland, OR 97209
(503) 796-7081

Sara McMahon
PPM Energy, Inc.
1125 NW Couch Street, Suite 700
Portland, OR 97209
(503) 796-7732

**Contact persons other than the Applicant:**

Erin Toelke
CH2M HILL
2020 SW 4th Avenue, Suite 300
Portland, OR 97201
(503) 872-4442

Peter Mostow
Stoel Rives
900 SW Fifth Avenue
Suite 2600
Portland, OR 97204-1268
(503) 294-9338

## A.2 PARTICIPANT INFORMATION

**OAR 345-021-0010(1)(a)(B)** *The contact name, address and telephone number of all participating persons, other than individuals, including but not limited to any parent corporation of the applicant, persons upon whom the applicant will rely for third-party permits or approvals*

*related to the facility, and, if known, other persons upon whom the applicant will rely in meeting any facility standard adopted by the Council.*

Response:

**Parent Company:**

PPM Energy, Inc.
1125 NW Couch Street, Suite 700
Portland, OR 97209

**Contact person, mailing address, and telephone number:**

Andrew O'Connell
PPM Energy, Inc.
1125 NW Couch Street, Suite 700
Portland, OR 97209
(503) 796-7081

**Permitting Assistance:**

At this time, no third-party permits are expected to be required to complete the Facility.

## A.3 CORPORATE INFORMATION

**OAR 345-021-0010(1)(a)(C)** *If the applicant is a corporation, it shall give: (i) The full name, official designation, mailing address, and telephone number of the officer responsible for submitting the application; (ii) The date and place of its incorporation; (iii) A copy of its articles of incorporation and its authorization for submitting the application; and (iv) In the case of a corporation not incorporated in Oregon, the name and address of the resident attorney-in-fact in this state and proof of registration to do business in Oregon.*

*(i) The full name, official designation, mailing address and telephone number of the officer responsible for submitting the application;*

Response: Information for the officer responsible for submitting the application follows:

Don Furman
PPM Energy, Inc.
1125 NW Couch Street, Suite 700
Portland, OR 97209
(503) 796-7723

*(ii) The date and place of its incorporation;*

Response: Leaning Juniper Wind Power II, LLC, was organized and acknowledged by the Oregon Secretary of State on December 22, 2005, in Oregon.

*(iii) A copy of its articles of incorporation and its authorization for submitting the application; and*

Response: The articles of organization for the Applicant are provided in Attachment A-1. The Applicant's authorization for submitting the application is provided in Attachment A-2.

*(iv) In the case of a corporation not incorporated in Oregon, the name and address of the resident attorney-in-fact in this state and proof of registration to do business in Oregon.*

Response: Not applicable. Leaning Juniper Wind Power II, LLC, is organized in Oregon.

## A.4 PARENT COMPANY INFORMATION

**OAR 345-021-0010(1)(a)(D)** *If the applicant is a wholly owned subsidiary of a company, corporation, or other business entity, in addition to the information required by paragraph (C), it shall give the full name and business address of each of the applicant's full or partial owners.*

PPM Energy, Inc., is the parent company and 100 percent owner of Leaning Juniper Wind Power II, LLC. Leaning Juniper Wind Power II, LLC, will have access to PPM Energy's resources and expertise in the development, construction management, and operation of the Facility. The business address is as follows:

PPM Energy, Inc.
1125 NW Couch Street, Suite 700
Portland, OR 97209

## A.5 MISCELLANEOUS INFORMATION

**OAR 345-021-0010(1)(a)(E)** *If the applicant is an association of citizens, a joint venture or a partnership, it shall give: (i) the full name, official designation, mailing address and telephone number of the person responsible for submitting the application; (ii) the name, business address and telephone number of each person participating in the association, joint venture or partnership and the percentage interest held by each; (iii) proof of registration to do business in Oregon; (iv) a copy of its articles of association, joint venture agreement or partnership agreement and a list of its members and their cities of residence; and (v) if there are no articles of association, joint venture agreement or partnership agreement, the applicant shall state that fact over the signature of each member.*

Response: The Applicant is not an association of citizens, joint ventures, or partnerships.

**OAR 345-021-0010(1)(a)(F)** *If the applicant is a public or governmental entity, it shall give: (i) the full name, official designation, mailing address and telephone number of the person responsible for submitting the application; and (ii) written authorization from the entity's governing body to submit an application.*

Response: The Applicant is not a public or governmental entity.

**OAR 345-021-0010(1)(a)(G)** *If the applicant is an individual, the individual shall give his or her mailing address and telephone number.*

Response: The Applicant is  not an individual.

**ATTACHMENT A-1**

# Articles of Organization

**ATTACHMENT A-2**

# Authorization for Submitting the Application

330078-99

# ARTICLES OF ORGANIZATION

# OF

# LEANING JUNIPER WIND POWER II, LLC

an Oregon Limited Liability Company

FILED
DEC 22 2005
OREGON
SECRETARY OF STATE

## ARTICLE I

The name of the limited liability company (the "Company") is **Leaning Juniper Wind Power II, LLC.**

## ARTICLE II

The Company shall have perpetual existence.

## ARTICLE III

The name of the initial registered agent is CT Corporation System and the address of the initial registered office is 388 State Street, Suite 420, Salem, Oregon 97301.

## ARTICLE IV

The address where the Division may mail notices is c/o Office of General Counsel, 825 NE Multnomah, Suite 1900, Portland, Oregon 97232.

## ARTICLE V

The Company shall be managed by one or more managers.

## ARTICLE VI

The name and address of the organizer is Douglas A. Kusyk, 825 NE Multnomah, Suite 1900, Portland, Oregon 97232

## ARTICLE VII

ORS 63.185(4) shall not apply in the event an additional or substitute member is admitted to the Company.



12-2

330078-99

## ARTICLE VIII

These Articles of Organization may be amended, restated or modified from time to time by members holding more than fifty percent (50%) of the votes held by members then entitled to vote, consent to or otherwise decide any matter submitted to the members, as determined pursuant to the operating agreement of the Company; provided that any amendment to these Articles of Organization that would or could have the effect of changing the number of managers or any person specified as a manager under the operating agreement of the Company, changing a required voting percentage for approval of any matter or a member's voting rights or altering the interest of one or more members in profits, losses, similar items or any Company distribution shall require the affirmative vote of all members then entitled to vote.

## ARTICLE IX

To the fullest extent the Oregon Limited Liability Company Act, as it exists on the date hereof or may hereafter be amended, permits the limitation or elimination of liability of managers or members, a manager or member shall not be liable to the Company or the other members for monetary damages for conduct as a manager or member. Any amendment to or repeal of this Article IX shall not adversely affect any right or protection of a manager or member for or with respect to any acts or omissions of such manager or member occurring prior to such amendment or repeal.

## ARTICLE X

The effective date of the Company's existence is the date of filing of these Articles of Organization by the Secretary of State.

**DATED this 21st day of December, 2005.**

Douglas A. Kusyk, Organizer

# OPERATING AGREEMENT

# OF

# LEANING JUNIPER WIND POWER II, LLC

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# OPERATING AGREEMENT
# OF
# LEANING JUNIPER WIND POWER II, LLC

This OPERATING AGREEMENT of LEANING JUNIPER WIND POWER II, LLC, an Oregon limited liability company (the **"Company"**), entered into by PPM Energy, Inc., an Oregon corporation and the initial Member of the Company (the **"Initial Member"**), and any other Members or successors to interests in the Company, is effective December 22, 2005 (this **"Agreement"**). Capitalized terms used in this Agreement shall have the meanings ascribed thereto in **Schedule A**.

## ARTICLE 1
## ORGANIZATION AND PURPOSES OF COMPANY

### 1.1 Organization.

The Company was created by the execution and filing of the Articles under the Act. The Initial Member agrees to conduct the Company's business and affairs consistent with this Agreement, the Act and the Articles. The Initial Member shall from time to time contribute such Property to the Company as is agreed upon by the Company and the Initial Member.

### 1.2 Purposes and Powers.

The Company shall have all powers provided for in the Act and may engage in any lawful business permitted by the Act or the laws of any jurisdiction in which the Company may do business.

### 1.3 No Personal Liability.

The Company is an Oregon limited liability company and not a general or limited partnership. No Member shall have personal liability for any Company operations, debts, obligations or liability merely as a result of being a Member.

## ARTICLE 2
## MANAGEMENT

### 2.1 Management by Manager.

Pursuant to the Articles, the Company is manager-managed. The Company shall have one Manager, who may but need not be a Member, may be a natural person or an Entity and need not be a resident of Oregon. The Manager shall initially be PPM Energy, Inc.

### 2.2 Authority.

The Manager shall have full and complete authority, power and discretion to manage and control the business, affairs and properties of the Company, to make all decisions regarding those matters listed below in this Section 2.2 or that this Agreement or the Act does not make

expressly subject to approval by the Members, and to perform any and all other acts or activities necessary, customary, desirable or incident to the management of the Company's business. Notwithstanding any provision of the Act to the contrary, the Manager shall have authority to take the following actions on behalf of the Company without any consent of the Members:

(a) To cause the Company to borrow money for any purpose of the Company from financial institutions, the Manager, a Member, or any affiliate of the Manager or a Member on such terms and conditions as are commercially reasonable in the judgment of the Manager;

(b) In connection with any borrowing by the Company, to hypothecate, encumber and grant security interests in any or all of the Company Property to secure repayment of the borrowed sums;

(c) To acquire, improve, manage, charter, operate, lease, sell, transfer, exchange, encumber, pledge or dispose of any or all Company Property (whether in any such case in a single transaction of all or substantially all of the Company Property or in individual transactions), including without limitation in a transaction on terms and conditions that are commercially reasonable in the judgment of the Manager between the Company and either the Manager or a Member;

(d) To cause the Company to merge or otherwise combine with any other entity on terms and conditions that are commercially reasonable in the judgment of the Manager; and

(e) To execute instruments and documents, including without limitation checks, drafts, notes and other negotiable instruments, leases, mortgages or deeds of trust, security agreements, financing statements, deeds, assignments, bills of sale and other documents providing for the acquisition, mortgage or disposition of Company Property, partnership agreements, operating agreements of other limited liability companies, power purchase or sale agreements and any other instruments or documents necessary, in the opinion of the Manager, to the business of the Company.

Unless authorized to do so by this Agreement or by the Manager, no Member, employee or other agent of the Company shall have any power or authority to bind the Company in any way, to pledge its credit or to render it liable for any purpose.

**2.3 Limitation of Liability.**

The Manager shall not be personally liable for any debt, obligation or liability of the Company merely by reason of being the Manager.

**2.4 Discharge of Management Duties.**

The Manager shall discharge the duties of manager in good faith, with the care an ordinarily prudent person in a like position would exercise under similar circumstances and in a manner the Manager reasonably believes to be in the best interests of the Company. The

Manager shall devote to the Company and apply to the accomplishment of Company purposes so much of time and attention as in the judgment of the Manager is reasonably necessary to manage and operate properly and prudently the affairs of the Company. The Manager may delegate the oversight and management of the day-to-day operations of the Company to such designees as the Manager may determine from time to time and may cause any such designee to be an officer of the Company with such powers and authority as the Manager may from time to time prescribe in writing.

**2.5 Compensation and Reimbursement.**

During the term of this Agreement, the Manager may receive a management fee in such amount as is determined from time to time by the Manager. The Manager shall also be reimbursed on a monthly basis, or such other basis as the Manager may determine, for all out-of-pocket expenses the Manager incurs on behalf of the Company and for other expenses incurred by the Manager (such as rent and other office expenses, travel expenses, compensation expenses of employees and agents, accounting and legal fees, and general overhead) to the extent that such expenses are, in the reasonable judgment of the Manager, allocable to the Company.

**2.6 Indemnification.**

To the fullest extent provided or allowed by the laws of Oregon, the Company shall indemnify the organizer, the Manager, each officer of the Company performing the duties of the Manager pursuant to Section 2.4 and each Member from and against all costs, losses, liabilities, damages, claims and expenses (including without limitation attorneys' fees and costs as incurred on trial and on appeal) incurred in the capacity of organizer, manager, officer or member or in any other capacity on behalf of the Company, including without limitation claims arising from any such Person's actions or inactions taken or omitted as organizer or a manager, officer or member or in any other capacity in furtherance of the business or affairs of the Company, whether taken prior to or subsequent to the formation of the Company; provided that the foregoing shall not eliminate or limit any such Person's liability for:

(a) Any breach of the duty of loyalty to the Company or the Members as described in this Agreement;

(b) Acts or omissions not in good faith which involve intentional misconduct or a knowing violation of law;

(c) Any unlawful distribution under the Act; or

(d) Any transaction not expressly approved or ratified by a Majority of the Members or permitted under this Agreement from which the Manager derives an improper personal benefit.

### 2.7 Signature Authority.

The signature of the Manager or of any officer of the Company then serving pursuant to Section 2.4 and authorized by the Manager shall be necessary and sufficient to bind the Company, and a copy of this Agreement may be shown to the appropriate parties in order to confirm the same.

## ARTICLE 3
## RIGHTS OF MEMBERS

### 3.1 Voting Rights.

All Members (other than a Member that, pursuant to Section 6.4(b), has ceased to be entitled to vote) shall be entitled to vote on or consent to any matter submitted to a vote of, or requiring consent from, the Members. A Member entitled to vote may exercise by vote or consent that number of votes determined by multiplying the decimal equivalent of the Percentage Interest of the Member by 100.

### 3.2 Economic Rights.

The Members shall share in profits, losses or any other items allocable to any period and in distributions of Company Property in accordance with Percentage Interests. Notwithstanding the foregoing, however, distributions following any dissolution of the Company shall be made in accordance with Section 7.2.

### 3.3 Approval of Members.

Any action or transaction that requires the approval of the Members under this Agreement shall be authorized upon the affirmative vote, implementing action or written consent of a Majority of the Members unless either this Agreement or the Articles expressly imposes a higher standard for approval by the Members, in which case the specified approval of the Members shall be required for such action or transaction. Any Member (including the Manager) that has an interest in the outcome of a matter submitted to the Members for a vote may vote and have such vote as a Member counted upon such matter.

### 3.4 Meetings; Other Action by Members.

Any Member or Manager may call a meeting of the Members, and the meeting shall be held in the principal executive office of the Company or at such other place and at such time as is specified in the notice of such meeting given by such Member or Manager. Members may participate in or conduct meetings through telephonic or other means of communication by which all authorized representatives (or proxy holders) of the Members participating may simultaneously communicate with each other. Members may take any action without a meeting, either by written consent describing the action taken or by implementing action (including but not limited to execution of documents), effective as of the date of signature by the necessary Members or such other date as is set forth therein. Any such consent or evidence of

implementing action shall be maintained in the Company records. The attendance of a Member at a meeting shall constitute a waiver of objection to lack of notice or defective notice of the meeting, unless the Member objects at the beginning of the meeting to holding the meeting or transacting business at the meeting. A waiver of notice by a Member, given either before or after a meeting, shall be equivalent to the giving of notice of the meeting to such Member. There shall be no quorum requirement for any meeting of Members but any action that requires a vote of Members shall be approved at a meeting only upon receiving the vote of a Majority of the Members or such other vote as is required under this Agreement. Action not within the purposes described in a meeting notice may be taken at the meeting provided that such action is approved at the meeting by a Majority of the Members or such other vote as is required under this Agreement.

### 3.5 Withdrawal.

Notwithstanding any provision of the Act to the contrary, no Member has the power to withdraw voluntarily from the Company. A Member that purports to withdraw voluntarily from the Company prior to any dissolution of the Company shall be in breach of this Agreement, shall be liable to the Company for any damages arising directly or indirectly from such purported withdrawal, shall cease to be a Member but shall continue to hold Economic Rights in the Company as an Assignee and shall not be entitled to any distribution from the Company by reason of such withdrawal.

## ARTICLE 4
## CONFLICTS OF INTEREST

### 4.1 Duty of Loyalty.

The Manager and each Member may engage in other business activities and may pursue business opportunities competitive with the business and operations of the Company without presenting any such opportunity to the Company or the Members, and the Company, the Manager and each Member hereby waives any right or claim to participate therein. Notwithstanding the foregoing, however, unless otherwise expressly approved or ratified by a Majority of the Members or otherwise permitted under this Agreement, the Manager and each Member shall account to the Company and hold as trustee for the Company any benefit or any profits derived by such Member or Manager from any transaction connected with the formation, conduct or winding up of the Company or from any use of Company Property by such Member or Manager, including without limitation any information developed for the Company or any opportunity expressly offered to the Company.

### 4.2 Loans and Other Transactions with Company.

The Company may borrow money or transact other business with the Manager or a Member on terms that are commercially reasonable determined by the Manager in its reasonable discretion. The rights and obligations of a Member or Manager that lends money to or transacts business with the Company shall be the same as those of a Person that is not a Member or Manager, subject to other applicable law. No transaction with the Company shall

be voidable solely because a Member or a Manager has a direct or indirect interest in the transaction if the transaction is expressly permitted by this Agreement or is approved or ratified as provided in this Agreement or in the Act.

## ARTICLE 5
## ADDITIONAL MEMBERS

One or more Additional Members may be admitted only if the Manager and all of the Members consent to any such admission, which consent may be given or arbitrarily withheld in the sole and absolute discretion of the Manager and each Member. Any Additional Member shall make such contribution to the Company in cash or other Property as is agreed upon in writing by the Manager, the Members and the Additional Member, which writing shall specify the value of the Additional Member's contribution, the time for making such contribution, the respective Percentage Interest of each Member following such contribution and, if the admission of the Additional Member will cause there to be more than two "Members" for tax purposes, the partnership tax provisions governing the Company effective upon the admission of the Additional Member (unless such provisions have been adopted in connection with any earlier admission of an Additional Member or Substitute Member). Notwithstanding the foregoing, a Person shall not become an Additional Member unless and until such Person becomes a party to this Agreement as a Member by signing a counterpart signature page to this Agreement and executing such documents and instruments as the Manager reasonably may request to confirm such Person as a Member in the Company and such Person's agreement to be bound by the terms and conditions of this Agreement.

## ARTICLE 6
## TRANSFERS OF INTERESTS

### 6.1 Restriction on Transfers.

Except as otherwise permitted by Section 6.2, no Member or Assignee shall Transfer all or any portion of such Person's interest in the Company. Any purported Transfer not permitted under Section 6.2 shall be null and void and of no force or effect whatsoever.

### 6.2 Permitted Transfers.

Subject to the conditions and restrictions set forth in Sections 6.3 and 6.4, a Member or Assignee may at any time Transfer all or any portion of such Person's interest in the Company:

(a) To any other Member;

(b) In the case of the Initial Member, or any successor to any or all of the interest of the Initial Member in the Company, to any transferee acceptable to the Initial Member or such successor in the sole and arbitrary discretion of such Member or successor, whichever is the Assignor;

(c) In any involuntary Transfer by operation of law; or

(d) To any transferee upon the consent of the Manager and a Majority of the Members, taking into account, in the case of the latter, only the non-Transferring Members.

Notwithstanding any provision of this Section 6.2 apparently to the contrary, any permitted Assignee under this Section 6.2 shall be admitted as a Substitute Member only in accordance with Section 6.5 except that (i) an Assignee described in Section 6.2(a), 6.2(b) or 6.2(c) shall be automatically admitted as a Substitute Member with respect to the interest acquired without any action pursuant to Section 6.5, unless otherwise expressly provided in connection with such Transfer, and (ii) an Assignee in a Transfer described in Section 6.2(d) that is approved by a vote sufficient under both of Sections 6.2(d) and 6.5(a) shall, unless otherwise expressly provided in connection with such vote, be automatically admitted as a Substitute Member without a separate vote pursuant to Section 6.5(a).

**6.3 Conditions to Permitted Transfers.**

A Transfer shall not be permitted under Section 6.2 unless and until each of the following conditions are satisfied:

(a) The Assignor and Assignee have executed and delivered to the Company such documents and instruments of conveyance as may be necessary or appropriate in the opinion of counsel to the Company to effect such Transfer and to confirm the agreement of the Assignee to be bound by the provisions of this Agreement and, if the Transfer will cause there to be more than two "Members" for tax purposes, all of the Members have agreed in writing on the partnership tax provisions governing the Company effective upon the admission of the Substitute Member (unless such provisions have been adopted in connection with any earlier admission of an Additional Member or Substitute Member).

(b) The Assignor and/or Assignee have reimbursed the Company for all costs and expenses that the Company reasonably incurs in connection with the Transfer.

(c) The Assignor and Assignee have provided to the Company the Assignee's taxpayer identification number, sufficient information to determine the Assignee's initial tax basis in the interest Transferred and any other information reasonably necessary to permit the Company to file all required federal and state tax returns and other legally required information statements or returns. Without limiting the generality of the foregoing, the Company shall not be required to make any distribution otherwise provided for in this Agreement with respect to any interest Transferred until it has received such information.

**6.4 Rights and Obligations of Assignees and Assignors.**

(a) A Transfer by any Member or other Person shall not itself dissolve the Company or, except as otherwise provided in this Agreement, entitle the Assignee to become a Member or exercise any rights of a Member, including without limitation any Management Rights.

(b) A Transfer by any Member, including without limitation any involuntary Transfer, shall eliminate the Transferring Member's power and right to vote (in proportion to the extent of the interest Transferred) on any matter submitted to the Members, and, for voting purposes, such interest shall not be counted as outstanding in proportion to the extent of the interest Transferred. The Transfer shall also eliminate the Member's entitlement to any Management Rights associated with the Transferred interest, including without limitation rights to information, but shall not cause the Member to be released from any liability to the Company solely as a result of the Transfer.

(c) An Assignee not admitted as a Substitute Member shall be entitled only to the Economic Rights with respect to the interest Transferred and shall have no Management Rights (including without limitation rights to any information or accounting of the affairs of the Company or to inspect the books or records of the Company) with respect to the interest Transferred. If an Assignee becomes a Substitute Member, the voting rights associated with the interest Transferred shall be restored and be held by the Substitute Member along with all other Management Rights with respect to the interest Transferred. The Assignee shall have no liability as a Member solely as a result of the Transfer.

(d) If a court of competent jurisdiction charges an interest in the Company with the payment of an unsatisfied amount of a judgment, to the extent so charged the judgment creditor shall be treated as an Assignee.

**6.5 Admission of Assignee as Substitute Member.**

Subject to any other applicable provisions of this Article 6, an Assignee may be admitted to the Company as a Substitute Member, with all of the Management Rights of a Member, but only upon satisfaction of all of the following conditions:

(a) The Manager and a Majority of the non-Transferring Members consent to such admission, which consent may be given or arbitrarily withheld in the sole and absolute discretion of the Manager and each such Member;

(b) The Assignee becomes a party to this Agreement as a Member by executing a counterpart signature page to this Agreement and executing such documents and instruments as the Manager may reasonably request as necessary or appropriate to confirm such Assignee as a Member in the Company and such Assignee's agreement to be bound by the terms and conditions of this Agreement;

(c) The Assignee pays or reimburses the Company for all reasonable legal, filing and publication costs that the Company incurs in connection with the admission of the Assignee as a Member with respect to the interest Transferred; and

(d) If the Assignee is not a natural person of legal majority, the Assignee provides the Company with evidence reasonably satisfactory to counsel for the Company of the authority of the Assignee to become a Member and to be bound by the terms and conditions of this Agreement.

### 6.6 Effect of Admission of Substitute Member.

A Substitute Member shall have, to the extent of the interest Transferred, the rights and powers, and be subject to the restrictions and liabilities, of a Member and shall be liable for any obligations of the Assignor to make contributions but shall not be obligated for liabilities unknown to the Substitute Member at the time of becoming a Member.

## ARTICLE 7
## DISSOLUTION AND WINDING UP

### 7.1 Dissolution Events.

Pursuant to the Articles, the duration of the Company is perpetual. However, the Company shall nevertheless dissolve and commence winding up and liquidating upon the first to occur of any of the following (each, a **"Dissolution Event"**):

(a) The sale of all or substantially all of the Company Property other than in the ordinary course of business, as determined by the Manager in the Manager's sole discretion; or

(b) The vote of the Manager and a Majority of the Members to dissolve, wind up and liquidate the Company.

Notwithstanding anything in the Act to the contrary, to the maximum extent permitted by law, the Dissolution Events are the exclusive events that may cause the Company to dissolve, and the Company shall not dissolve prior to the occurrence of a Dissolution Event notwithstanding the occurrence of any event specified in the Act or any other event that might otherwise cause a dissolution.

### 7.2 Winding Up.

Upon the occurrence of a Dissolution Event, the Company shall continue solely for the purposes of winding up its affairs in an orderly manner, satisfying the claims of its creditors and Members and liquidating or distributing its assets to the extent necessary therefor. Neither the Manager nor any Member shall take any action that is inconsistent with, or not necessary to or appropriate for, the orderly winding up of the Company's business and affairs. The Manager (or, if there is none then serving, a Majority of the Members, acting as Manager) shall oversee the winding up and dissolution of the Company, provide a full accounting of the Company's liabilities and Property, cause the Company Property to be distributed in kind or to be liquidated as promptly as is consistent with obtaining the fair value thereof and shall cause any net proceeds therefrom and any remaining Property to be applied and distributed in the following order:

(a) First, to the payment and discharge of all of the Company's debts and liabilities to creditors, including to any Member to the extent permitted under the Act;

(b) Second, to the payment and discharge of any remaining debts or liabilities of the Company to any Member; and

(c) Third, to the sole Member, or, if there is more than one Member, to the Members in accordance with positive capital account balances after giving effect to all contributions, distributions and allocations for all periods.

The Manager or a Member that performs more than *de minimis* services in completing the winding up and termination of the Company pursuant to this Article 7 shall be entitled to receive reasonable compensation for the services performed.

### 7.3 Establishment of Trust or Reserves.

In the reasonable discretion of the Manager a pro rata portion of the distributions that would otherwise be made to the Members pursuant to this Article 7 may be:

(a) Distributed to a trust established for the benefit of the Members for the purposes of liquidating Company assets, collecting amounts owed to the Company and paying any contingent or unforeseen liabilities or obligations of the Company. The assets of any such trust shall be distributed to the Members from time to time, in the reasonable discretion of the Manager in the same proportions as the amount distributed to such trust by the Company would otherwise have been distributed to the Members pursuant to Section 7.2; or

(b) Withheld to provide a reasonable reserve for Company liabilities (contingent or otherwise) and to reflect the unrealized portion of any installment obligations owed to the Company; provided that such withheld amounts shall be distributed to the Members as soon as practicable.

### 7.4 Notices of Dissolution Event, Etc.

If any Dissolution Event occurs, the Manager shall, within thirty (30) days thereafter, provide notice thereof to each Member and take such other actions as the Manager determines to be necessary or appropriate.

## ARTICLE 8
## BOOKS, RECORDS AND ACCOUNTINGS

### 8.1 Books and Records.

At the expense of the Company, the Manager shall maintain records and accounts of all operations and expenditures of the Company. At a minimum the Company shall keep at its principal place of business the following records:

(a) A current list of the full name and last known business, residence or mailing address of each Member and Manager, both past and present;

(b) A copy of the Articles and all amendments thereto, together with executed copies of any powers of attorney pursuant to which any amendment has been executed;

(c) Copies of the Company's federal, state and local income tax returns and reports, if any, for the three (3) most recent years;

(d) Copies of the Company's currently effective written Operating Agreement and all amendments thereto, copies of any writings permitted or required under the Act and copies of any financial statements of the Company for the three (3) most recent years;

(e) Minutes of every meeting of the Members and any consents obtained from Members for actions taken without a meeting; and

(f) To the extent not contained in this Agreement, a statement prepared and certified as accurate by the Manager that describes (i) the amount of cash and a description and statement of the agreed value of other Property or consideration contributed by each Member or that each Member has agreed to contribute in the future, (ii) the times at which or events on the occurrence of which any additional contributions agreed to be made by each Member, if any, are to be made and (iii) if agreed upon, the time at which or the events upon which the Company is to be dissolved and its affairs wound up.

**8.2 Reports.**

Within ninety (90) days after the end of each fiscal year of the Company, the Company shall furnish to each Member an annual report consisting of at least the following to the extent applicable:

(a) A copy of the Company's federal income tax return for that fiscal year, if any;

(b) Profit and loss statements;

(c) A balance sheet showing the Company's financial position as of the end of that fiscal year; and

(d) Any additional information that the Members may require for the preparation of their individual federal and state income tax returns.

In addition, if the Company indemnifies or advances expenses to a Manager or Member in connection with a proceeding by or in the right of the Company, the Company shall report the indemnification or advance in writing to the Members.

**8.3 Rights of Members; Inspection.**

Each Member shall have the right to receive the reports and information required to be provided by the Act, the Articles or this Agreement. Upon reasonable request, each Member,

and any authorized representative of any Member, shall have the right, during ordinary business hours, to inspect and copy, at the requesting Member's expense, the books and records that the Company is required to maintain and keep by the Act, the Articles or this Agreement.

## ARTICLE 9
## AMENDMENT

This Agreement and the Articles may be amended, restated or modified from time to time by a Majority of the Members then entitled to vote, consent to or otherwise decide any matter submitted to the Members, as determined pursuant to this Agreement; provided that any amendment that would change the number of managers of the Company or any Person specified as the Manager under Section 2.1, change a required voting percentage for approval of any matter or a Member's voting rights or alter the interest of one or more Members in profits, losses, similar items or any Company distribution shall require the affirmative vote of all Members then entitled to vote. Subject to the foregoing, neither the Manager nor any Member shall have any vested rights under this Agreement that can not be modified from time to time through an amendment to this Agreement.

## ARTICLE 10
## MISCELLANEOUS

### 10.1 Application of Oregon Law.

This Agreement, and the application or interpretation hereof, shall be governed exclusively by its terms and by the laws of Oregon, and specifically the Act, without regard to choice of law rules.

### 10.2 Construction.

Whenever required by the context in this Agreement, the singular number shall include the plural and vice versa, and any gender shall include the masculine, feminine and neuter genders. The term "Member" when used in any provision relating to capital accounts or any other tax or financial matter shall be deemed to include any Person having Economic Rights under this Agreement.

### 10.3 Counterparts; Facsimiles.

This Agreement may be executed in counterparts, each of which shall be deemed an original but all of which shall constitute one and the same instrument. Facsimile signatures of the parties on this Agreement or any amendment of this Agreement shall be deemed original signatures, and each Member or other party shall forward the original signed version of such document promptly following facsimile transmission.

### 10.4 Waiver of Partition.

Each Member specifically waives any direct or indirect right of partition such Member may have or may hereafter acquire that would enable such Member to cause any Company Property to be the subject of a suit for partition.

### 10.5 Execution of Additional Instruments.

Each Member hereby agrees to execute such other and further statements of interest and holdings, designations, powers of attorney and other instruments necessary to effectuate the purposes of this Agreement or comply with any laws, rules or regulations applicable to the Company.

### 10.6 Headings.

The headings in this Agreement are inserted for convenience only and are in no way intended to describe, interpret, define or limit the scope, extent or intent of this Agreement or any provision hereof.

### 10.7 Heirs, Successors and Assigns.

Each and all of the covenants, terms, provisions and agreements contained in this Agreement shall be binding upon and inure to the benefit of the parties and, to the extent permitted by this Agreement, their respective heirs, legal representatives and permitted successors and assigns.

### 10.8 Notices and Consents, Etc.

Any notice, demand or communication required or permitted to be given by any provision of this Agreement shall be in writing and shall be deemed to have been sufficiently given or served for all purposes if delivered personally to the party or to an executive officer of the party to which the same is directed or, if sent by registered or certified mail, postage and charges prepaid, addressed to the Manager's, Member's or Company's address, as shown in the records of the Company. Except as otherwise provided herein, any such notice shall be deemed to be given five (5) Business Days after the date on which the same was deposited in the United States mails.

### 10.9 Severability.

If any provision of this Agreement or the application thereof to any person or circumstance shall be invalid, illegal or unenforceable to any extent, the remainder of this Agreement and the application thereof shall not be affected and shall be enforceable to the fullest extent permitted by law.

**10.10 Waivers.**

The failure of any party to seek redress for violation of or to insist upon the strict performance of any covenant or condition of this Agreement shall not prevent a subsequent act, which would have originally constituted a violation, from having the effect of an original violation.

**10.11 Entire Agreement.**

The Articles, this Agreement and any other document to be furnished pursuant to the provisions hereof embody the entire agreement and understanding of the parties as to the subject matter contained herein. There are no restrictions, promises, representations, warranties, covenants or undertakings other than those expressly set forth or referred to in such documents. This Agreement and such documents supersede all prior agreements and understandings with respect to the subject matter hereof.

**IN WITNESS WHEREOF,** the Initial Member has executed this Agreement effective as of the date first set forth above.

**Initial Member:**

**PPM ENERGY, INC.**

By:_____
Peter C. van Alderwerelt
Senior Vice President

Acknowledged and Appointment Accepted:

**Manager:**

**PPM ENERGY, INC.**

By:_____
Peter C. van Alderwerelt
Senior Vice President

## Schedule A

## TABLE OF DEFINITIONS

## DEFINITIONS

The following terms used in the foregoing Operating Agreement shall have the following meanings (unless otherwise expressly provided therein):

**"Act"** shall mean the Oregon Limited Liability Company Act, as amended.

**"Additional Member"** shall mean a Member, other than a Substitute Member, that has acquired both Economic Rights and Management Rights from the Company after the date of this Agreement.

**"Agreement"** shall mean this Operating Agreement, as amended from time to time.

**"Articles"** shall mean the Articles of Organization of the Company previously filed with the Secretary of State of Oregon, as amended or restated from time to time.

**"Assignee"** shall mean an Owner of Economic Rights that has not been admitted as a Substitute Member, including an owner of Economic Rights pursuant to a Transfer permitted under Article 6.

**"Assignor"** shall mean a Person that either voluntarily or involuntarily Transfers an interest in the Company.

**"Business Day"** shall mean any day other than Saturday, Sunday or any legal holiday on which banks in Portland, Oregon are closed.

**"Company"** shall mean the Oregon limited liability company governed by this Agreement.

**"Company Property"** shall mean any Property owned by the Company.

**"Dissolution Event"** shall mean any of the events described in Section 7.1 as causing a dissolution of the Company.

**"Economic Rights"** shall mean a Member's share of the profits, losses or any other items allocable to any period and distributions of Company Property pursuant to the Act, the Articles and this Agreement but shall not include any Management Rights.

**"Entity"** shall mean any general partnership, limited partnership, limited liability company, corporation, joint venture, trust, business trust, cooperative or other association or entity, including without limitation any foreign trust or foreign business organization.

**"Initial Member"** shall have the meaning set forth in the first paragraph of this Agreement.

**"Majority of the Members"** shall mean, at any time, the Member or Members (including any proxy holder acting on behalf of a Member) holding more than 50 percent of the

votes held by Members then entitled to vote, consent to or otherwise decide any matter submitted to the Members.

**"Management Rights"** shall mean the right of a Member to participate in the management of the Company, including rights to information and to consent or approve actions of the Members.

**"Manager"** shall mean the Manager provided for in Section 2.1.

**"Member"** shall mean each Member named herein and any Person that may hereafter become an Additional or Substitute Member, but only for so long as such Member is a Member under the terms of this Agreement.

**"Percentage Interest"** shall mean the percentage interest for each Member set forth below unless and until adjusted by agreement of all of the Members then entitled to vote or, in respect of any Member, reduced or increased by reason of any Transfer permitted under this Agreement:

| Member | Percentage Interest |
|---|---|
| PPM Energy, Inc. | 100% |

**"Person"** shall mean any natural person or Entity, and the heirs, executors, administrators, legal representatives, successors and assigns of each such Person where the context so permits.

**"Property"** shall mean any property, real or personal, tangible or intangible, including cash and any legal or equitable interest in such property.

**"Substitute Member"** shall mean an owner of Economic Rights admitted to all rights of membership in the Company and thereby the holder of Management Rights of a Member.

**"Transfer"** shall mean with respect to any interest in the Company, as a noun, any voluntary or involuntary assignment, sale or other transfer or disposition of such interest (but shall not include a pledge, or the granting of a security interest, lien or other encumbrance in or against, any interest in the Company) and, as a verb, voluntarily or involuntarily to assign, sell or otherwise transfer or dispose of such interest.

# EXHIBIT B

# GENERAL INFORMATION ABOUT THE PROPOSED FACILITY

OAR 345-021-0010(1)(b)

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**Page**



**TABLES**

**FIGURES**

## B.1 DESCRIPTION OF THE PROPOSED FACILITY

**OAR 345-021-0010(1)(b)** *Information about the proposed facility, construction schedule and temporary disturbances of the site, including:*

**OAR 345-021-0010(1)(b)(A)** *A description of the proposed energy facility, including as applicable:*

*(i) Major components, structures and systems, including a description of the size, type and configuration of equipment used to generate electricity and useful thermal energy;*

Response:

### B.1.1 General Description of the Facility

Leaning Juniper Wind Power II, LLC (the Applicant) proposes to construct a wind generation facility in Gilliam County, Oregon, with generating capacity of up to approximately 279 megawatts (MW). The Leaning Juniper II Wind Power Facility (the Facility) consists of two main components: (1) Leaning Juniper II North (the north portion of the Facility with up to 93 MW), and (2) Leaning Juniper II South (the south portion of the Facility with up to 186 MW). Up to 133 turbines will be located at the Facility site, depending on the final turbine size and vendor as further described in Section B.1.3. The Facility is expected to provide up to 279 MW and 93 average megawatts (aMW) of energy. Please refer to Exhibit C, Figures C-1, C-2, and C-3 (a and b), for maps of the site vicinity, Facility location, and Facility components, respectively.

The Facility will be connected to the Federal Columbia River Transmission System (the regional transmission grid) at Bonneville Power Administration's (BPA) Jones Canyon Switching Station. The connection into BPA's 230-kilovolt (kV) McNary-Santiam transmission line is currently under construction and is designed to serve several wind projects, including the adjacent Leaning Juniper I project. The proposed Leaning Juniper II Facility Collector Substation (LJ II Substation) will be located immediately adjacent to the Jones Canyon Switching Station; the 230-kV overhead connection between the two substations is estimated to be less than 400 feet in length.

All Facility components will be located on private land on which the Applicant has negotiated long-term wind energy leases with the landowners. The turbines for Leaning Juniper II South will be located on land owned by Waste Management Disposal Services of Oregon, Inc., which surrounds the existing Arlington Landfill on three sides. This land functions as a buffer around the landfill and as a source of soils and rock for covering landfill cells as they are filled and closed. Portions of the land are used for cultivation of winter wheat. Other portions are used for cattle grazing. The turbines for Leaning Juniper II North will be located on land owned by a private landowner, J.R. Krebs. This land currently is used for farming and cattle grazing. Easements have also been negotiated with adjacent landowners for road and collector cable access.

The wind energy leases allow for the Applicant to permit, construct, and operate wind energy facilities for a defined period. In exchange, the landowners receive compensation

from the Applicant. The terms of the wind energy leases allow landowners to continue their farming operations in and around the wind turbine generators and other facilities where the farming activities do not affect the operation and maintenance of the wind generation equipment.

### B.1.2 Treatment of the Facility's Two Components

As described in Section B.1.1, the Facility consists of two primary components: (1) Leaning Juniper II North (the north portion of the Facility with up to 93 MW), and (2) Leaning Juniper II South (the south portion of the Facility with up to 186 MW). The land under lease for Leaning Juniper II North will be addressed in two contemporaneous permitting efforts: this Application for Site Certification (ASC), and a Conditional Use Permit (CUP) Application for the Pebble Springs Wind Project submitted to Gilliam County on July 28, 2006. The purpose of the overlap between the Energy Facility Siting Council (EFSC) and County permit applications is to provide the Applicant with flexibility in the final configuration and ownership of the EFSC-jurisdictional Leaning Juniper II Wind Power Facility and the County-jurisdictional Pebble Springs Wind Project.[1] Facility components designated as Leaning Juniper II North in this ASC would be constructed as described in this ASC and under an EFSC site certificate for the Leaning Juniper II Wind Power Facility. Alternatively, if Facility components are constructed as part of the Pebble Springs Wind Project, those facilities would be constructed as described in, and under the authority of, the Gilliam County CUP for the Pebble Springs Wind Project. Facilities would not be constructed under both permits.

The Applicant will contact Gilliam County and the Council before construction to identify the authority under which Leaning Juniper II North will be built. If the Leaning Juniper II North facilities are built under the authority of a Gilliam County CUP, the Applicant will request an amendment to the EFSC site certificate to remove those facilities from the Leaning Juniper II site certificate. To facilitate this potential amendment, the Applicant requests in the ASC issuance of a site certificate that covers the Facility as a whole but also considers the separate impacts of the two Facility components (Leaning Juniper II North and South). For purposes of future corporate strategy and financing, as well as to preserve the ability to potentially separate and market power from the Facility components in the future, the Applicant's parent company, PPM Energy, Inc. (PPM), needs to ensure flexibility.

In accordance with the scenario described above, certain exhibits in this ASC describe the two Facility components separately (if the base data sets or data analysis were separately acquired or performed), whereas other exhibits describe them together. Regardless, the ASC demonstrates that each component, as well as the Facility as a whole, complies with all applicable Council standards. PPM will ensure that the Applicant has access to its parent company's resources and expertise in the development, construction management, and operation of the Facility.

[1] By letter dated March 31, 2006, the Oregon Department of Energy agreed that Pebble Springs would be a separate, County-jurisdictional project if developed in a manner proposed in an earlier letter from the Applicant (letter from Thomas Stoops of the Oregon Department of Energy to Andrew Linehan of PPM Energy, Inc., regarding Pebble Springs Wind Energy Project).

### B.1.3 Flexibility Regarding Number of Turbines, Vendor, Size, and Final Layout

Leaning Juniper II North will have between 31 and 40 turbines and up to 93 MW of generating capacity. Leaning Juniper II South will have between 62 and 93 turbines and up to 186 MW of generating capacity. The actual capacity will depend on the turbines selected. The total number of turbines, vendor, size, and layout has not yet been determined. Consequently, this ASC addresses two turbine sizes that define a range of alternative turbine technologies encompassing the scale and impacts of turbines potentially used at the Facility. That range is bracketed by installation of up to 133 GE 1.5-MW turbines and up to 93 Vestas 3.0-MW turbines. Figure C-3a shows a proposed layout for 133 1.5-MW turbines or the "maximum turbine layout." Figure C-3a serves as the base map for the majority of the figures included in the ASC and is used to calculate potential impacts. Figure C-3b shows a proposed layout for 93 3.0-MW turbines or the "minimum turbine layout."

The Applicant seeks micrositing flexibility for the Facility with regard to the final layout for turbines and associated access roads and collector cables. The micrositing area will be within a defined and studied corridor. Exhibit C contains a precise definition and map of these corridors.

To demonstrate that the selection of turbine number, vendor, size, and final layout will be consistent with Council standards in all cases within the requested range of flexibility, the studies and analyses provided in this ASC are based on the "worst case" situation. For instance, for the scenic and aesthetic and noise evaluations, both the 1.5-MW and 3.0-MW turbine scenarios were analyzed to determine the worst case situation, and for the habitat impacts, the larger of the two turbine foundations was analyzed. In this way, the ASC ensures that the Facility will meet all applicable Council standards. This approach is described in more detail in Exhibit C.

### B.1.4 Major Facility Components

#### B.1.4.1 Turbines

The Facility will have up to 133 turbines, depending on final turbine selection. The turbines will be mounted on a concrete pad and spaced approximately 350 to 850 feet apart, depending on the turbine size.

Wind turbines consist of two main structures: a tubular tower and the nacelle, which rests on the tower. The nacelle houses equipment such as the gearbox and supports the turbine blades and hub. The turbines are interconnected with an underground power collection system and linked to the LJ II Substation.

The wind turbines are grouped in linear strings, and some of the turbines will include aviation warning lights required by the Federal Aviation Administration (FAA). The number of turbines with lights and the lighting pattern of the turbines will be determined in consultation with the FAA.

## Wind Turbines—GE 1.5-MW Turbine

The GE 1.5-MW wind turbine is a three-blade, active yaw- and pitch-regulated machine with power and torque control capabilities. The blade diameter is 77 meters (m) (253 feet [ft]) and the height at the hub is expected to be up to 80 m (262 ft). The swept area of the rotor is 4,657 to 5,281 square meters ($m^2$) (5,570 to 6,316 $yards^2$) and the rotor speed is variable, operating between 10 and 18 revolutions per minute (rpm).

## Wind Turbines—Vestas V100 3.0-MW Turbine

The Vestas V-100 wind turbine is a three-blade, active yaw- and pitch-regulated machine with power and torque control capabilities. The blade diameter is 100 m (328 ft) and the height at the hub also is expected to be up to 100 m (328 ft). The swept area of the rotor is 7,850 $m^2$ (9,389 $yards^2$) and the rotor speed is approximately 30 rpm. Figure B-1 shows a schematic drawing of a typical turbine. Table B-1 shows the potential turbine diameter and height dimensions.

Table B-1. Potential Turbine Specifications

| Turbines | 1.5-MW GE Turbine | 3.0-MW Vestas Turbine |
|---|---|---|
| Tower Type | Tubular | Tubular |
| Blade Diameter | 77 m/253 ft | 100 m/328 ft |
| Hub Height | 80 m/262 ft | 100 m/328 ft |
| Total Height | 119 m/389 ft | 150 m/492 ft |
| Tower diameter at base | 15 ft | 16 ft |
| Weight (nacelle, blades and tower) | 220 US tons | 364 US tons |
| Concrete per turbine pad | 275 cubic yards | 707 cubic yards |
| Maximum sound power level | 104 dBA | 110 dBA |

**Notes**

dBA = A-weighted sound level in decibels.
ft = feet.
m = meters.

## Wind Turbine Towers

The tower that supports the wind turbine is expected to be a tapered monopole, ranging in size from approximately 80 m (262 ft) to 100 m (328 ft), depending on the vendor selected. It is supported by a reinforced concrete foundation (pedestal), ranging from 15 to 24 m (48 to 80 ft) in width. The towers will be uniformly painted a neutral gray or white color approved by the FAA for daylight marking. The towers feature a locked entry door at ground level and an internal access ladder with safety platforms for access to the nacelle. A controller cabinet will be located inside each tower at its base. Towers typically are fabricated in three sections that are assembled onsite. The tower is designed to withstand the maximum wind speeds expected at the Facility—typically 43 meters per second (m/s) (100 miles per hour [mph]) at hub height.

Generator Step-Up Transformer and Transformer Foundations

For both turbine types, a Generator Step-Up (GSU) transformer will be installed at the base of each wind turbine to increase the output voltage of the wind turbine to the voltage of the power collection system (typically 34.5 kV). Small concrete slab foundations will be constructed to support the GSU transformers.

The tower for the wind turbine will be set on a spread-foot or caisson-type concrete foundation. The actual foundation design for each turbine will be determined based on site-specific geotechnical information and structural loading requirements of the selected turbine model.

### B.1.4.2 Power Collection System

The Facility electrical system consists of three key elements: (1) a collector system, which collects energy generated at 575 volts from each wind turbine, transforms it to 34.5 kV through a pad-mounted transformer, and delivers the power through a network of electrical conductors to (2) the LJ II Substation, which transforms energy delivered by the collector system from 34.5 kV to 230 kV, and (3) a switching station located adjacent to the BPA transmission line.

A network of power lines will be installed along and between turbine strings to collect power generated by the individual wind turbines and route the power to a collector substation for delivery into the utility power grid. Each wind turbine generates power at 575 volts. A transformer adjacent to each tower transforms the power to 34.5 kV. The power collection system will operate at 34.5 kV.

The majority of the collector system will be buried directly in the soil approximately 3 to 4 feet below the ground surface. However, where site-specific considerations require, the collector system may be aboveground. Using aboveground structures allows the collector cables to "span" canyons and intermittent streams and thus to reduce environmental impacts. The overhead pole structures will generally be about 35 to 80 feet tall, depending on terrain. Based on the preliminary collector cable layout shown in Figure C-3a, 30 miles of collector cables will be placed underground, and less than 1 mile will run on overhead structures.

Examples of specific conditions that will make it environmentally or economically advantageous to run portions of the collection system aboveground are as follows:

- Steep terrain where the use of backhoes and trenching machines infeasible or unsafe
- Stream and wetland crossings where an aboveground line avoids or minimizes environmental impacts
- Soil with low thermal conductivity preventing adequate heat dissipation from the conductor, and rocky conditions that significantly increase trenching costs

Because detailed geotechnical studies have not yet been completed for Leaning Juniper II, it is not possible to determine the precise locations where aboveground collector cables may be necessary. Geotechnical studies may show that more cables are needed

aboveground than originally planned in the preliminary layout. Therefore, in order for the Oregon Department of Energy to evaluate the potential impact for aboveground collector cables, the Applicant proposes that no more than 30 percent of the collector system be aboveground.

### B.1.4.3 Collector Substation

The collector cable system will link each turbine to the next and to the proposed LJ II Substation adjacent to BPA's Jones Canyon Switching Station. The substation site will be surrounded by a graveled, fenced area with transformer and switching equipment and an area to park utility vehicles. Transformers will be non-polychlorinated biphenyl (PCB) oil-filled types. However, any new equipment installed at the substation will be located within the existing fenced area, with no expansion of the substation site or permanent footprint. The additional substation equipment may include circuit breakers, power transformer(s), bus and insulators, disconnect switches, relaying, battery and charger, surge arrestors, AC and DC supplies, control house, metering equipment, supervisory, control and data acquisition (SCADA) provision, grounding, and associated control wiring. The facilities will conform to all applicable Oregon and BPA regulations and standards, as required.

### B.1.4.4 SCADA System

A SCADA system to be installed at the Facility will collect operating and performance data from each wind turbine and the Facility as a whole, and provide remote operation of the wind turbines. The wind turbines will be linked to a central computer via a fiber optic network. Fiber optic cables for the SCADA system will be installed in the collector cable trenches above the power conductors. The SCADA cables will be installed at least 3 feet below ground. The host computer is expected to be located in the Operations and Maintenance (O&M) building(s) at the Facility site. The SCADA software consists of applications developed by the turbine vendor or a third-party SCADA vendor.

### B.1.4.5 Interconnection at Switching Station

BPA's Jones Canyon Switching Station, currently under construction to serve the adjacent Leaning Juniper I project, is located immediately adjacent to the LJ II Substation. The 230-kV overhead connection between the LJ II Substation and BPA's Switching Station is estimated to be less than 400 feet in length, as shown in Figure C-4. BPA designed and constructed the Jones Canyon Switching Station as a BPA system facility with adequate capacity to transmit 100 MW from LJ II, 100 MW from the adjacent Leaning Juniper I wind project, and 200 MW from the proposed Columbia Energy Partners wind project located to the north of the Facility. The Jones Canyon Switching Station will deliver power at 230 kV into BPA's existing McNary-Santiam 230-kV transmission line.

### B.1.4.6 Meteorological Towers

One permanent meteorological (met) tower will be placed in the Facility area for the collection of meteorological data for Leaning Juniper II North. Three permanent met

towers will be constructed to support Leaning Juniper II South. All permanent meteorological towers will be free-standing (unguyed) structures. The tower will be approximately 80 m (262 ft) high with an equilateral triangle base, each side of which will be roughly 8 m (25 ft) long.

*(ii) A site plan and general arrangement of buildings, equipment and structures;*

Response: A site plan is included in Exhibit C, Figure C-3 (a and b).

*(iii) Fuel and chemical storage facilities, including structures and systems for spill containment;*

Response: All production, use, storage, transport, and disposal of hazardous materials associated with the proposed Facility will be in strict accordance with federal, state, and local government regulations and guidelines. No extremely hazardous materials (as defined by 40 *Code of Federal Regulations* 335) are anticipated to be produced, used, stored, transported, or disposed of as a result of this Facility. All lubricants, oils, greases, antifreeze, cleaners, degreasers, and hydraulic fluids used in the operation and maintenance of the Facility will be stored in the O&M building(s), in approved containers aboveground. Similarly, all lubricants, oils, greases, antifreeze, cleaners, degreasers, or hydraulic fluids being held for delivery to a certified recycling transporter will be temporarily stored in the O&M building(s) in approved containers that will be located aboveground.

The Facility site will be accessed by a variety of construction and O&M vehicles and equipment. Construction equipment and O&M trucks will be properly maintained at all times to minimize leaks of motor oils, hydraulic fluids, and fuels. Refueling and maintenance of vehicles that are authorized for highway travel will be performed offsite at an appropriate facility during construction, operation, and maintenance. Construction vehicles that are not highway-authorized will be serviced on the Facility site.

The wind turbines and transformers will likely use the following lubricants, oils, greases, antifreeze, cleaners, degreasers, and hydraulic fluids (or comparable products from other manufacturers):

- Simple Green (cleaner and degreaser)
- Oil-Flo (cleaner and degreaser)
- Mobil SHC 632 (gear oil)
- Mobilux EP 1 (grease)
- Mobil SHC 524 (hydraulic fluid)
- Shell DIALA (R) A oil (mineral oil used as transformer coolant)
- Ethylene glycol (standard commercial antifreeze used in radiators)

None of these products contains any compounds listed as extremely hazardous by the Environmental Protection Agency (EPA). These products will be used in moderate quantities (less than 50 gallons per turbine) and will be contained entirely within the spill trap and nacelle, so that the possibility for accidental leakage is minimal. Lubricants, hydraulic fluids, antifreeze, and oils will be checked quarterly, filled as

needed, and changed every 1 to 2 years, as recommended by the manufacturer. Fluid changes will be performed up-tower, where any accidental spill will be contained by the nacelle. Spent lubricants, oils, greases, antifreeze, cleaners, degreasers, and hydraulic fluids will be recycled by a certified waste contractor.

Transformers will contain cooling oil that does not contain PCBs. Transformers will be regularly inspected.

Towers and other Facility equipment will arrive onsite already painted and will rarely need repainting during the life of the equipment. Should any repainting be necessary, it will be performed by licensed contractors in compliance with applicable laws and regulations.

Herbicides may be used at landowner request to minimize the potential for introduction of weeds into adjacent cultivated areas. Herbicides will be applied either by the landowner or by a licensed contract professional charged with observance of all regulations governing use and selection of herbicides. Herbicides will not be stored onsite or disposed of on the Facility site.

*(iv) Equipment and systems for fire prevention and control;*

Response: Each wind turbine generator and pad-mounted transformer will be constructed with a concrete pad around each base, with a minimum of 10 feet of non-flammable groundcover on all sides. The Gilliam County fire department will be given a copy of the approved site plan indicating the identification number assigned to each turbine, and the location of the substation and accessory structures. The fire department will also receive any gate keys to the Facility.

The proposed turbines have built-in equipment protection features that shut down the turbine automatically to minimize the chance of a mechanical problem causing major damage or a fire. The underground electrical collection system substantially reduces the risk of fire from short circuits caused by wildlife or weather.

All onsite employees will receive annual fire prevention and response training by qualified instructors or members of the local fire department. Employees will also be required to keep all vehicles on roads and off dry grassland during the dry months of the year, unless such activities are required for emergency purposes, in which case fire precautions will be observed.

Service vehicles assigned to regular maintenance or construction at the Facility site and the O&M building(s) will be equipped with a shovel and portable fire extinguisher of a 4A5OBC or equivalent rating.

*(v) Structures, systems, and equipment for waste management and disposal, including, to the extent known, the amount of wastewater the applicant anticipates and the applicant's plans for disposal of wastewater and storm water. If the applicant has submitted any permit applications to the Office, as described in OAR 345-021-0000(4), that contain this information, the applicant may copy relevant sections of those documents into this*

*exhibit or include in this exhibit cross-references to the relevant sections of those documents;*

Response: Waste management activities to be performed during Facility construction and operation are described in the subsections below.

### B.1.5 Construction

Several different nonhazardous construction wastes will be generated during the construction of the Facility. Concrete waste from turbine pad construction, wood waste from wood forms used for concrete pad construction, and scrap steel from turbine tower shipping and construction will be the major solid wastes produced during construction. Some additional construction wastes may include erosion control materials such as straw bales and silt fencing, packaging materials for turbine components, and electrical materials.

During construction, wastewater will be generated. The major source of wastewater will be from washing down concrete trucks once they are emptied. Portable toilets will be placed onsite during construction to provide sewage handling. These toilets will be pumped and cleaned weekly by the construction contractor providing them. No other sources of wastewater should be created during the construction activities.

Stormwater during construction will be managed in compliance with an Erosion Control Plan and Stormwater General Permit 1200-C, which will be issued by the Oregon Department of Environmental Quality (DEQ) (see Exhibit I). The erosion control methods used during construction will consist of best management techniques such as hay bales, silt fences, and revegetation.

Waste generated during construction will be recycled when feasible. Steel scrap will be collected and transported to a recycling facility. Wood will be reused when possible and then recycled. Concrete waste will be used as fill onsite or at another site (as described in Exhibit G) or, if no reuse option is available, removed and disposed of in the adjacent Arlington Landfill. Packaging waste (such as paper and cardboard) will be segregated and recycled as feasible. Any nonrecyclable waste will be collected and disposed of at the Arlington Landfill.

### B.1.6 Operations

During normal operation, very little solid waste will be produced. Office waste, the main solid waste generated, will be generated at the O&M building(s). Other minor and potentially hazardous wastes that may be generated during operations will consist of oily rags or similar waste related to turbine lubrication and other maintenance, as described in Exhibit G. The only other source of waste will be incidental waste from the repair or replacement of electrical or turbine components. No industrial wastewater will be generated during operations.

Because of the area's climate, the Applicant does not anticipate having to wash turbine blades regularly, as is typical in drier areas. However, if washing is needed, the blades

would be cleaned with washwater free of any additives. No potentially hazardous wastes would be generated from blade washing. The amount and nature of blade washing would be below the DEQ threshold and would be considered a deminimis impact (DEQ, 1998).

*(vi)* *For thermal power plants and electric generating facilities producing energy from wind, solar or geothermal energy:*

*(I)* *A discussion of the source, quantity, availability, and energy content of all fuels (Btu, higher heating value) or the wind, solar or geothermal resource used to generate electricity or useful thermal energy. For the purpose of this subparagraph, "source" means the coal field, natural gas pipeline, petroleum distribution terminal or other direct source;*

Response: Figure B-2 shows the frequency and direction of wind in the general Facility area.

*(II)* *Fuel cycle and usage including the maximum hourly fuel use at the net electrical power output at average annual conditions for a base load gas plant and the maximum hourly fuel use at nominal electric generating capacity for a non-base load power plant or a base load gas plant with power augmentation technologies, as applicable;*

Response: Because the Facility will use renewable energy, it does not have a fuel cycle.

*(III)* *The gross capacity as estimated at the generator output terminals for each generating unit. For a base load gas plant, gross capacity is based on the average annual ambient conditions for temperature, barometric pressure and relative humidity. For a non-base load plant, gross capacity is based on the average temperature, barometric pressure and relative humidity at the site during the times of year when the facility is intended to operate. For a baseload gas plant with power augmentation, gross capacity in that mode is based on the average temperature, barometric pressure and relative humidity at the site during the times of year when the facility is intended to operate with power augmentation.*

Response: Because the Facility will use renewable energy that will not consume fossil fuels it is not considered a "base load" or "non-base load" plant.

*(IV)* *A table showing a reasonable estimate of all onsite electrical loads and losses greater than 50 kilowatts, including losses from onsite transformers, plus a factor for incidental loads, that are required for the normal operation of the plant when the plant is at its designed full power operation.*

Response:

Table B-2 provides estimates of onsite electrical loads and losses.

Table B-2. Onsite Electrical Loads and Losses

| Description | Load (kW) |
|---|---|
| Maintenance Facility | Less than 50 kilowatts (kW) |
| Aircraft Warning Lights | Less than 50 kW |
| Collector Substation Facilities | Less than 50 kW |
| Utility Interconnect Transformer (60- to 100-megavolt ampere [MVA] Base) | |
| No Load Losses | 30 to 50 kW |
| Load Losses | 80 to 150 kW |
| Auxiliary Losses | Less than 5 kW |

*(V) Process flow, including power cycle and steam cycle diagrams to describe the energy flows within the system;*

Response: As described earlier in this Exhibit, wind energy will be converted to electricity by turbines generating 1.5 to 3.0 MW, depending on the vendor selected. The proposed turbines will employ an active yaw control (designed to steer the turbine toward the wind), active blade pitch control (designed to regulate wind rotor speed), and a generator/power electronic converter system (designed to produce nominal 60 Hertz, electric power). The rotor spins in a clockwise direction under normal operating conditions when viewed from an upwind location. At speeds exceeding approximately 56 mph, the rotor stops turning. Electricity is generated by the turbines at 575 volts, and then is converted to 34.5 kV by pad-mounted transformers adjacent to each turbine. Power is collected at 34.5 kV, transmitted by underground cables to the LJ II Substation, and converted to 230 kV for transmission over the regional transmission network.

*(VI) Equipment and systems for disposal of waste heat;*

Response: The Facility will generate wind power; no waste heat will be generated.

*(VII) The maximum number of hours per year and energy content (Btu per year, higher heating value) of alternate fuel use;*

Response: The Facility will not use any alternate fuels.

*(VIII) The nominal electric generating capacity;*

Response: The nominal electric generating capacity is up to 200 MW.

*(IX) The fuel chargeable to power heat rate;*

Response: Not applicable.

*(vii) For transmission lines, the rated voltage, load carrying capacity, and type of current;*

Response: The Facility will be connected to the existing BPA 230-kV transmission line.

*(viii) For pipelines, the operating pressure and delivery capacity in thousand cubic feet per day;*

Response: There are no pipelines associated with the Facility.

*(ix) For surface facilities related to underground gas storage, estimated daily injection and withdrawal rates, horsepower compression required to operate at design injection or withdrawal rates, operating pressure range and fuel type of compressors; and*

Response: Not applicable.

*(x) For facilities to store liquefied natural gas, the volume, maximum pressure, liquefication and gasification capacity in thousand cubic feet per hour.*

Response: Not applicable.

## B.2 DESCRIPTION OF RELATED OR SUPPORTING FACILITIES

**OAR 345-021-0010(1)(b)(B)** *A description of major components, structures and systems of each related or supporting facility;*

Response:

### B.2.1 Transportation and Access Roads

Transportation to and from the site will follow a route that includes access via Interstate, State, and County roads. A final transportation plan will be developed in consultation with the Gilliam County Public Works Department before construction begins.

Constructing the Facility will require improving some existing roads, and constructing new gravel roads to provide access for construction vehicles. The new construction roads may continue to be used during Facility operation.

Some existing private roads will be improved by widening, grading, and graveling. Typical existing roads are 8 to 12 feet wide, and will need to be widened to up to 20 feet (with an additional 8 feet on either side of the area temporarily disturbed during construction). Where necessary, existing cattle guards will be replaced with wider cattle guards to accommodate the wider roads.

In areas where existing roads do not provide access to wind turbine locations, and along the length of turbine strings, new gravel roads will be constructed. Generally, these new roads will be up to 16 feet wide (with an additional 10 feet on either side of the area temporarily disturbed during construction). Within the Facility, approximately 7 miles of new roads will be constructed for Leaning Juniper II North and approximately 15

miles of new roads will be constructed for Leaning Juniper II South (see Figure C-3a). Roads will be designed under the direction of a licensed engineer and compacted to meet equipment load requirements.

### B.2.2 Laydown Areas

During construction, staging areas will be used to stage construction and store supplies and equipment. Approximately one 2-acre staging area will be located adjacent to each proposed turbine string, with several centrally located, 5-acre staging areas, as shown in Figure C-3a. The staging areas will consist of a crushed gravel surface that will be removed following construction. The disturbed areas will be restored to their preconstruction conditions, using seed mixes and techniques developed in consultation with the Oregon Department of Fish and Wildlife (ODFW) and Gilliam County Weed Control Board.

The Facility will use the LJ II Substation and O&M building(s). These structures are discussed as major components in Section B.1.4.

## B.3 DIMENSIONS OF MAJOR STRUCTURES AND FEATURES

**OAR 345-021-0010(1)(b)(C)** *The approximate dimensions of major facility structures and visible features.*

Response:

### B.3.1 Turbines

The primary visible Facility structures will be the turbines. As discussed in Section B.1.3, the turbine vendor and size have not yet been selected for the Facility. Turbine towers throughout the Facility will be approximately 80 m (262 ft) to 100 m (328 ft) tall at the turbine hub. With the nacelle and blades mounted, the total height of the wind turbine will be approximately 119 to 150 m (389 to 492 ft), from the base of the turbine to the blade tip. The diameter of the circle covered by the turbine rotors will be approximately 77 to 100 m (253 to 328 ft); that is, each blade will be approximately 38 to 50 m (125 to 164 ft) long. The towers will be smooth, hollow steel structures, approximately 15 feet in diameter at the base. Each tower will be mounted on a concrete foundation (pedestal), ranging from 15 to 24 m (48 to 80 ft) in width. Refer to Figure B-1 for a schematic of the typical wind turbine and tower. Refer to Figure B-3 for the shape and layout of a typical spread-foot tower foundation for a 1.5-MW turbine.

The surface area of the concrete tower pad, transformer, and operational area for each tower will be up to 6,400 square feet (excluding the access road), depending on the turbine vendor selected. The majority of the turbine foundation will be underground, and a portion of it will be covered with gravel for fire protection (generally 10 to 15 feet of nonflammable groundcover around the towers on all sides). Refer to Figure B-4 for the typical turbine site.

### B.3.2 Substation and O&M Building(s)

The Facility will use the LJ II Substation adjacent to the existing BPA Jones Canyon Switching Station. The LJ II Substation will be located within a fenced area of approximately 5 acres and will consist of circuit breakers, power transformer(s), bus and insulators, disconnect switches, relaying, battery and charger, surge arrestors, AC and DC supplies, control house, metering equipment, SCADA provision, grounding, and associated control wiring.

The Facility will also use up to two O&M facilities located on approximately 10 acres each. The O&M facility or facilities will consist of up to two new, one-story buildings of approximately 4,000 to 8,000 square feet each. The O&M building(s) will house offices (including office space for several contractors), bathroom and kitchen facilities, a break room, a storage area, a garage for vehicle, turbine, and equipment maintenance, and the SCADA equipment. Approximately 2.5 acres of fenced, graveled area for parking and storage will be provided adjacent to each building. The O&M building(s) will each use a groundwater well to supply less than 5,000 gallons per day for domestic use and a septic system. Power for the O&M building(s) will be provided by Pacific Power and phone service will be provided by Sprint.

## B.4 CORRIDOR EVALUATION AND SELECTION

**OAR 345-021-0010(1)(b)(D)** *If the proposed energy facility is a pipeline or a transmission line or has, as a related or supporting facility, a transmission line or pipeline, that, by itself, is an energy facility under the definition in ORS 469.300, a corridor selection assessment explaining how the applicant selected the corridor(s) for analysis in the application. In the assessment, the applicant shall evaluate the corridor adjustments the Office has described in the project order, if any. The applicant may select any corridor for analysis in the application and may select more than one corridor. However, if the applicant selects a new corridor, then the applicant must explain why the applicant did not present the new corridor for comment at an informational meeting under OAR 345-015-0130. In the assessment, the applicant shall discuss the reasons for selecting the corridor(s), based upon evaluation of the following factors:*

The Facility is not a pipeline or a transmission line, and has no related or supporting transmission line or pipeline. The 34.5-kV collector cable system will connect the Facility to the existing LJ II Substation, located immediately adjacent to the existing BPA 230-kV Jones Canyon Switching Station.

*(i) Least disturbance to streams, rivers and wetlands during construction;*

Response: Not applicable.

*(ii) Least percentage of the total length of the pipeline or transmission line that would be located within areas of Habitat Category 1, as described by the Oregon Department of Fish and Wildlife;*

Response: Not applicable.

*(iii) Greatest percentage of the total length of the pipeline or transmission line that would be located within or adjacent to public roads, as defined in ORS 368.001, and existing pipeline or transmission line rights-of-way;*

Response: Not applicable.

*(iv) Least percentage of the total length of the pipeline or transmission line that would be located within lands that require zone changes, variances or exceptions;*

Response: Not applicable.

*(v) Least percentage of the total length of the pipeline or transmission line that would be located in a protected area as described in OAR 345-022-0040;*

Response: Not applicable.

*(vi) Least disturbance to areas where historical, cultural or archaeological resources are likely to exist; and*

Response: Not applicable.

*(vii) Greatest percentage of the total length of the pipeline or transmission line that would be located to avoid seismic, geological and soils hazards;*

Response: Not applicable.

*(viii) Least percentage of the total length of the pipeline or transmission line that would be located within lands zoned for exclusive farm use;*

Response: Not applicable.

## B.5 PIPELINE AND TRANSMISSION LINE

**OAR 345-021-0010(1)(b)(E)** *For the corridor(s) the applicant selects under paragraph (D) and for any related or supporting facility that is a pipeline or transmission line, regardless of size:*

*(i) The length of the pipeline or transmission line;*

Response: The Facility will include approximately 30 miles of 34.5-kV collector cables.

*(ii) The proposed right-of-way width of the pipeline or transmission line, including to what extent new right-of-way will be required or existing right-of-way will be widened;*

Response: The collector cables will be buried directly in the soil approximately 3 to 4 feet below ground surface, except where overhead lines will be needed to cross streams, wetlands, canyons, or other rugged terrain. The cables will occupy private land pursuant to leases with landowners; the leases will authorize placement of the cables and restrict inconsistent or competing uses of the property, but will not contain any defined right-of-way width.

*(iii)* *The H-frame support structures for the 34.5 kV aboveground collector lines will be buried to a depth of approximately 8 feet 6 inches and will have a total height of approximately 56 feet above grade to the top of the poles. If the proposed corridor follows or includes public right-of-way, a description of where the facility would be located within the public right-of-way, to the extent known. If the applicant might choose to locate all or part of the facility adjacent to but not within the public right-of-way, describe the reasons the applicant would use to justify locating the facility outside the public right-of-way. The application must include a set of clear and objective criteria and a description of the type of evidence that would support locating the facility outside the public right-of-way, based on those criteria;*

Response: No collector cables are proposed to be placed parallel to existing County roads or other public rights-of-way.

*(iv)* *The diameter and location, above or below ground, of each pipeline; and*

Response: Not applicable.

*(v)* *A description of the transmission line structures and their dimensions;*

Response: The location of the underground collector cables is shown in Figure C-3. The collector cable and surrounding insulation jacket will have a total diameter of less than 3 inches, as shown in Table B-3.

Table B-3. Typical Underground Collector Cable Dimensions

| Cable Size | Diameter (inches) | Insulation Wall Thickness (inches) |
|---|---|---|
| 1/0 AWG | 1.10 | 0.35 |
| 4/0 AWG | 2.15 | 0.35 |
| 500 kcmil | 1.56 | 0.35 |
| 1,000 kcmil | 1.91 | 0.35 |

AWG = American wire gauge.
kcmil = thousands of circular mills.

The underground collection system power cable between turbines in a string will be a stranded metal conductor with a size in the 1/0 to 4/0 American wire gauge (AWG) range. The home runs from each string to the collection substation will use a stranded metal conductor with a size generally in the 500 to 1,000 thousands of circular mills (kcmil) range.

The 34.5-kV aboveground collector line will be supported by wood pole H-frame support structures. The structures will be buried to a depth of approximately 8 feet 6 inches and will have a total height of approximately 56 feet above grade to the top of the poles. The dimensions of the structures for single- and double-circuit poles are shown in Figures B-5, B-6, and B-7. Steel and wood monopole support structures may also be used for single and double circuits, as shown in Figures B-8 and B-9.

Overhead collector lines will be constructed in accordance with the recommendations of the Avian Power Line Interaction Committee (APLIC) for raptor protection on power lines (including minimum conductor spacing and the use of anti-perch guards near turbines).

The 230-kV overhead connection between the LJ II Substation and BPA's Switching Station is estimated to be less than 400 feet in length, as shown in Figure C-4. The 230-kV line will be supported by two galvanized, steel, H-frame structures placed on concrete foundations at the site of the LJ II Substation and the BPA Jones Canyon Switching Station. The structures will rise to a height of approximately 60 feet above grade. The dimensions of the structures are shown in Figures B-5 through B-9.

## B.6 CONSTRUCTION SCHEDULE

**OAR 345-021-0010(1)(b)(F)** *A construction schedule including the date by which the applicant proposes to begin construction and the date by which the applicant proposes to complete construction. Construction is identified in OAR 345-001-0010. The applicant shall describe in this exhibit all work on the site that the applicant intends to begin before the Council issues a site certificate. The applicant shall include an estimate of the cost of that work. For the purposes of this exhibit, "work on the site" means any work within a site or corridor, other than surveying, exploration or other activities to define or characterize the site or corridor, that the applicant anticipates or has performed as of the time of submitting the application*;

Response: The Applicant proposes an earliest construction beginning date for Leaning Juniper II of early 2007 and completion of construction by the end of 2007. The Applicant proposes to commence construction no later than 2 years from the issuance of the site certificate. The Applicant requests this "window" for beginning construction to allow some flexibility in response to industry constraints such as turbine availability.

## B.7 MAP OF DISTURBANCE AREAS

**OAR 345-021-0010(1)(b)(G)** *A map showing all areas that may be temporarily disturbed by any activity related to the design, construction and operation of the proposed facility.*

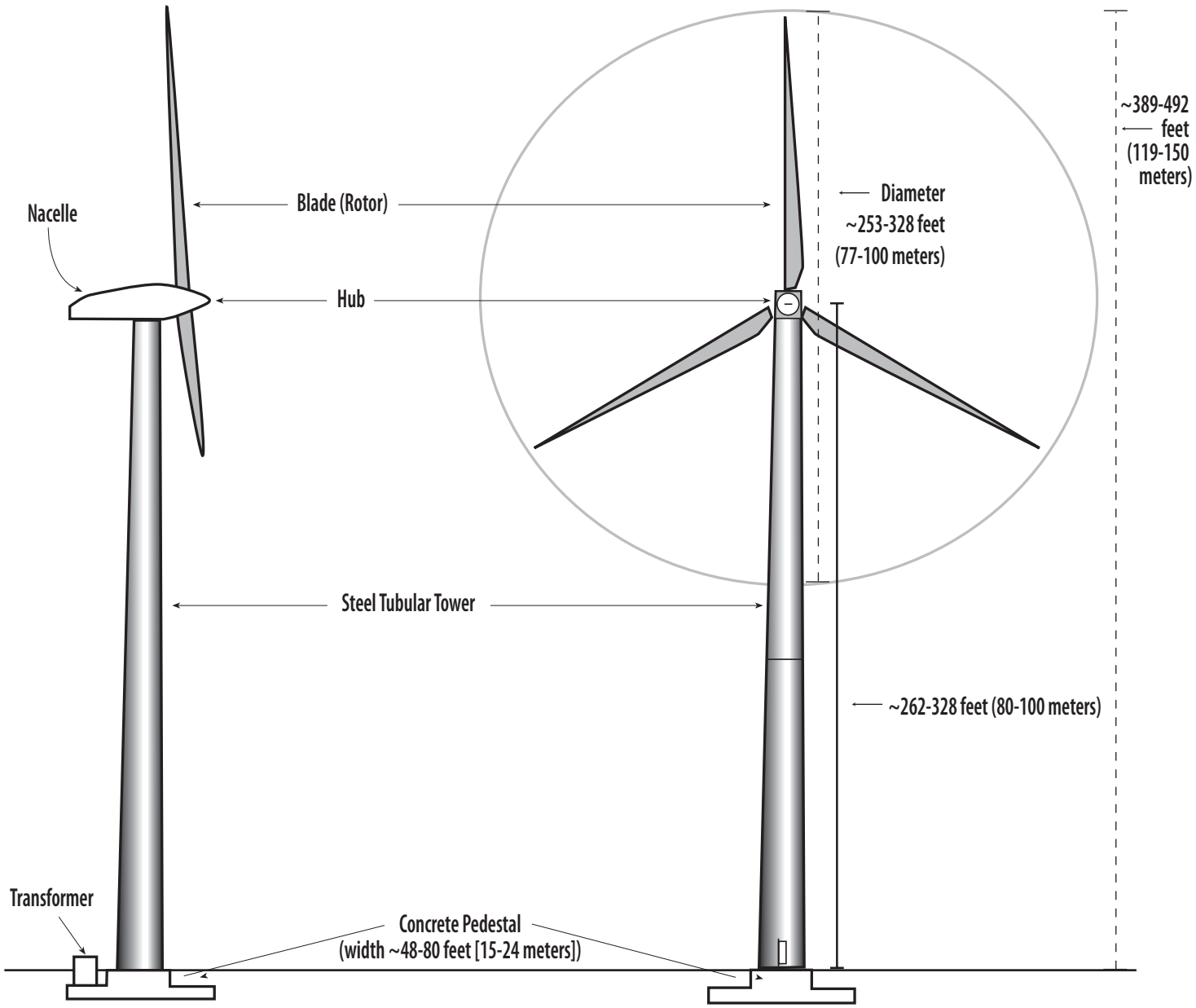
Response: See Figure B-10. Temporary disturbance, such as for staging areas and collector system trenches, will impact 480 acres. Permanent Facility impacts will total approximately 67 acres. Tables C-4 and C-5 in Exhibit C show the anticipated permanent and temporary impacts for the Facility, respectively.

## B.8 REFERENCES

Oregon Department of Energy. 2005. Memorandum titled *Wind Energy Expansion* from John White, Oregon Department of Energy, to the Oregon Energy Facility Siting Council. December 22, 2005.

Oregon Department of Environmental Quality. 1998. *Deminimis Activities Allowed by the Wash Water Permit*. http://www.deq.state.or.us/wq/wqpermit/WashH2ODemin.htm. March 1998.

# Figures

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CH2MHILL

FIGURE B-1
**Typical Wind Turbine and Tower**
LEANING JUNIPER II WIND POWER FACILITY

| DIRECTION | PERCENT OF ANNUAL TURBINE ENERGY |
|---|---|
| 0 | 0.02% |
| 10 | 0.01% |
| 20 | 0.06% |
| 30 | 0.22% |
| 40 | 0.47% |
| 50 | 0.61% |
| 60 | 1.32% |
| 70 | 1.63% |
| 80 | 0.81% |
| 90 | 0.52% |
| 100 | 0.20% |
| 110 | 0.09% |
| 120 | 0.04% |
| 130 | 0.02% |
| 140 | 0.03% |
| 150 | 0.01% |
| 160 | 0.02% |
| 170 | 0.02% |
| 180 | 0.05% |
| 190 | 0.04% |
| 200 | 0.15% |
| 210 | 0.16% |
| 220 | 0.34% |
| 230 | 0.75% |
| 240 | 3.19% |
| 250 | 12.31% |
| 260 | 36.38% |
| 270 | 29.75% |
| 280 | 8.25% |
| 290 | 1.94% |
| 300 | 0.45% |
| 310 | 0.06% |
| 320 | 0.03% |
| 330 | 0.01% |
| 340 | 0.03% |
| 350 | 0.01% |
| 360 | 0.01% |
| 360 | 0.01% |
| **GRAND TOTAL** | **100 %** |

WIND DIRECTION FREQUENCY
07/02/02 to 07/31/05 data period

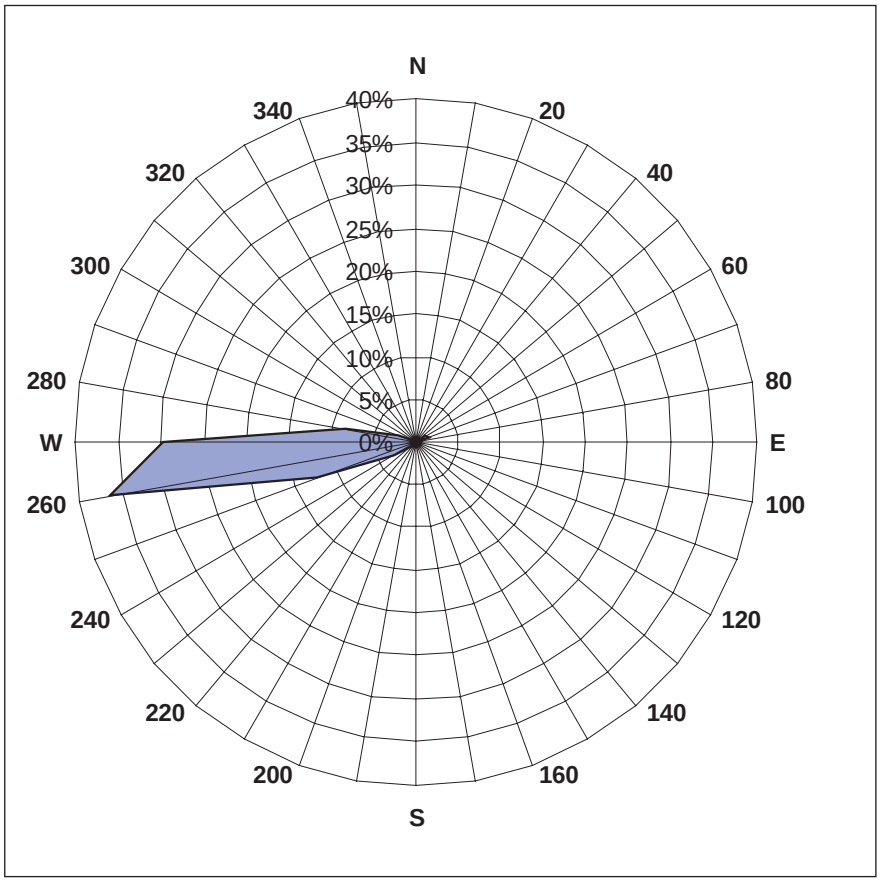


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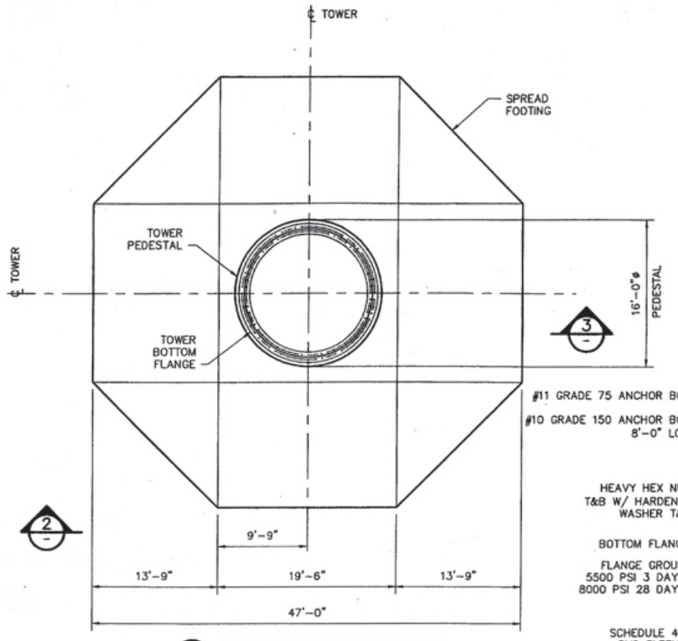
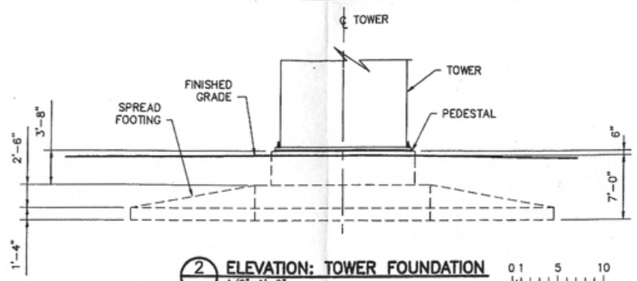
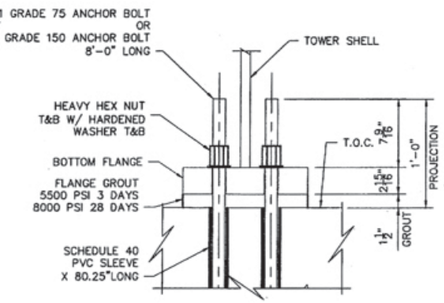
FIGURE B-2
**Frequency and Direction of Wind in the Facility Area**
LEANING JUNIPER II WIND POWER FACILITY



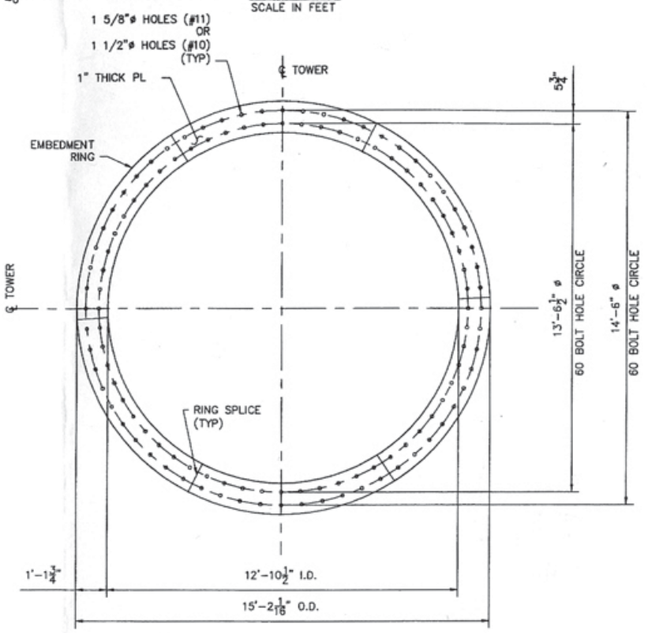

1 PLAN: TOWER FOUNDATION
1/8"=1'-0"
0 1 5 10
SCALE IN FEET



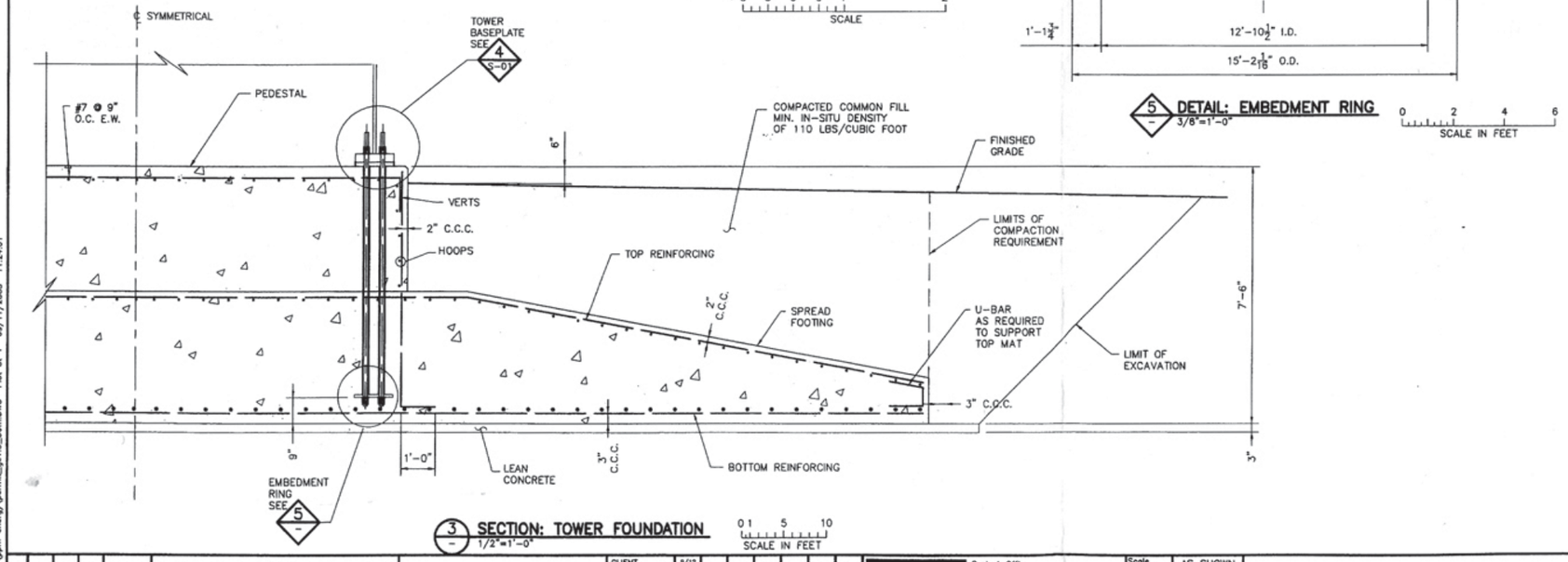

2 ELEVATION: TOWER FOUNDATION
1/8"=1'-0"
0 1 5 10
SCALE IN FEET




4 DETAIL: TOWER BASEPLATE
1 1/2"=1'-0"
0 3" 6" 9" 1' 2'
SCALE




5 DETAIL: EMBEDMENT RING
3/8"=1'-0"
0 2 4 6
SCALE IN FEET




3 SECTION: TOWER FOUNDATION
1/2"=1'-0"
0 1 5 10
SCALE IN FEET

## BUILDING AND DESIGN CODES:

BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318, 1999, AMERICAN CONCRETE INSTITUTE.

## WIND TURBINE AND TOWER:

MANUFACTURER: GENERAL ELECTRIC
MODEL: GE 1.5S
POWER OUTPUT: 1.5 MW
TURBINE HUB HEIGHT: 80m
SITE LOCATION:

## DESIGN SERVICE LOADS:

UNFACTORED SERVICE LOADS DUE TO EXTREME WIND CONDITION CLASS IEC-IIA. (CRITICAL)

OVERTURNING MOMENT, Mxy = 30,433 ft-kips
HORIZONTAL BASE SHEAR, Hxy = 137 kips
VERTICAL TOWER LOAD, Wz = 456 kips

UNFACTORED SERVICES LOADS DUE TO MEAN WIND CONDITION 24 MPH (10m/s) WIND SPEED.

OVERTURNING MOMENT, Mxy = 10,799 FT-KIPS
HORIZONTAL BASE SHEAR, Hxy = 43 kips
VERTICAL TOWER LOAD, Wz = 482 kips

## FOUNDATION DESIGN DATA:

MIN. FACTOR OF SAFETY AGAINST OVERTURNING: 1.5
MIN. FACTOR OF SAFETY AGAINST SLIDING: 1.5
MIN. FACTOR OF SAFETY AGAINST BEARING CAPACITY FAILURE: 3.0

## REFERENCE DOCUMENTS:

MECAL APPLIED MECHANICS BV DOCUMENT,"FOUNDATION DATA FOR THE TOWER OF THE GEWE 1.5S 80/85M WIND TURBINE", DATED AUGUST 2002.

MIN. 28-DAY COMPRESSIVE STRENGTH OF CONCRETE:
**5000 PSI**

MIN. YIELD POINT STRENGTH OF REINFORCING BAR:
**60 KSI**

MIN. TENSILE POINT STRENGTH OF ANCHOR BOLTS:
**125 KSI.** MIN. YIELD STRENGTH OF **109 KSI.**

## ABREVIATIONS:

| | |
|---|---|
| B.O. | BOTTOM OF |
| C.C.C. | CLEAR CONCRETE COVER |
| ℄ | CENTER LINE |
| EL. | ELEVATION |
| E.W. | EACH WAY |
| EX. | EXISTING |
| I.D. | INSIDE DIAMETER |
| MIN. | MINIMUM |
| O.C. | ON CENTER |
| O.D. | OUTSIDE DIAMETER |
| R | RADIUS |
| T&B | TOP AND BOTTOM |
| T.O.C. | TOP OF CONCRETE |
| TYP | TYPICAL |
| W/ | WITH |
| ø | DIAMETER |

FIGURE B-3
**Typical Foundation**
LEANING JUNIPER II WIND POWER FACILITY

**FOR PERMITTING PURPOSES ONLY**
**NOT FOR CONSTRUCTION**
**Not to Scale**

| NO. | BY | CHK | APP. | DATE | REVISION DESCRIPTION |
|---|---|---|---|---|---|

CLIENT 9/12
BID
CONSTRUCTION
RELEASED TO/FOR: A B C 0 1 2 3
DATE RELEASED

BARR
Corporate Headquarters: Minneapolis, Minnesota
Ph: 1-800-632-2277

Project Office:
BARR ENGINEERING CO.
4700 WEST 77TH STREET
MINNEAPOLIS, MN.
55435-4803
Ph: 1-800-632-2277
Fax: (952) 832-2601
www.barr.com

| | |
|---|---|
| Scale | AS SHOWN |
| Date | 12-SEPT-03 |
| Drawn | CAK |
| Checked | |
| Designed | CAK |
| Approved | |

PPM ENERGY
PORTLAND, OREGON

TYPICAL FOUNDATION
FOR 1.5MW TURBINE ON 80M TOWER

SPREAD FOOTING TURBINE FOUNDATION
PLANS, ELEVATION, SECTION, AND DETAILS

BARR PROJECT No.
CLIENT PROJECT No.
DWG. No. S-01
REV. No. A

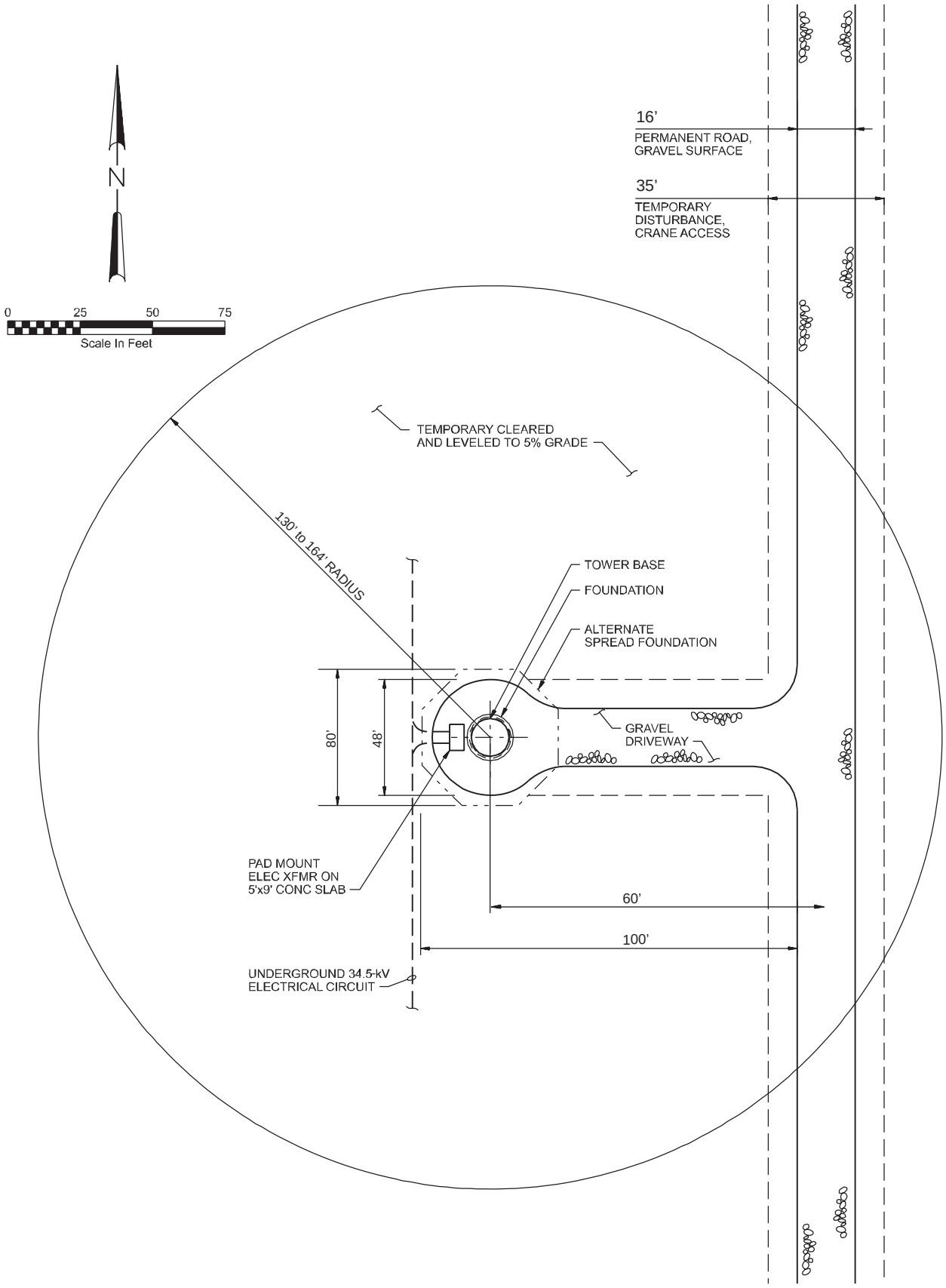



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FIGURE B-4
**Typical Turbine Site**
LEANING JUNIPER II WIND POWER FACILITY

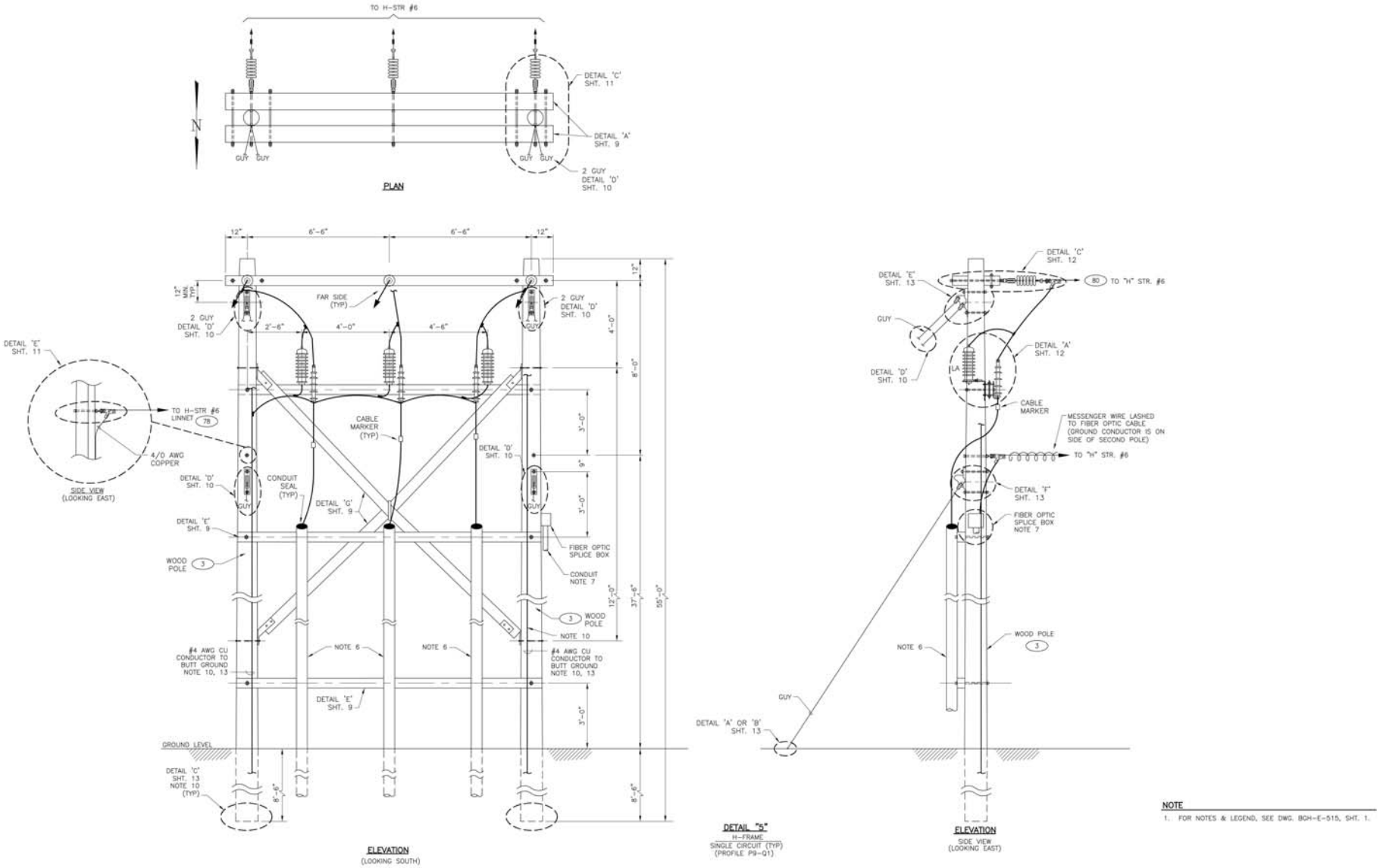


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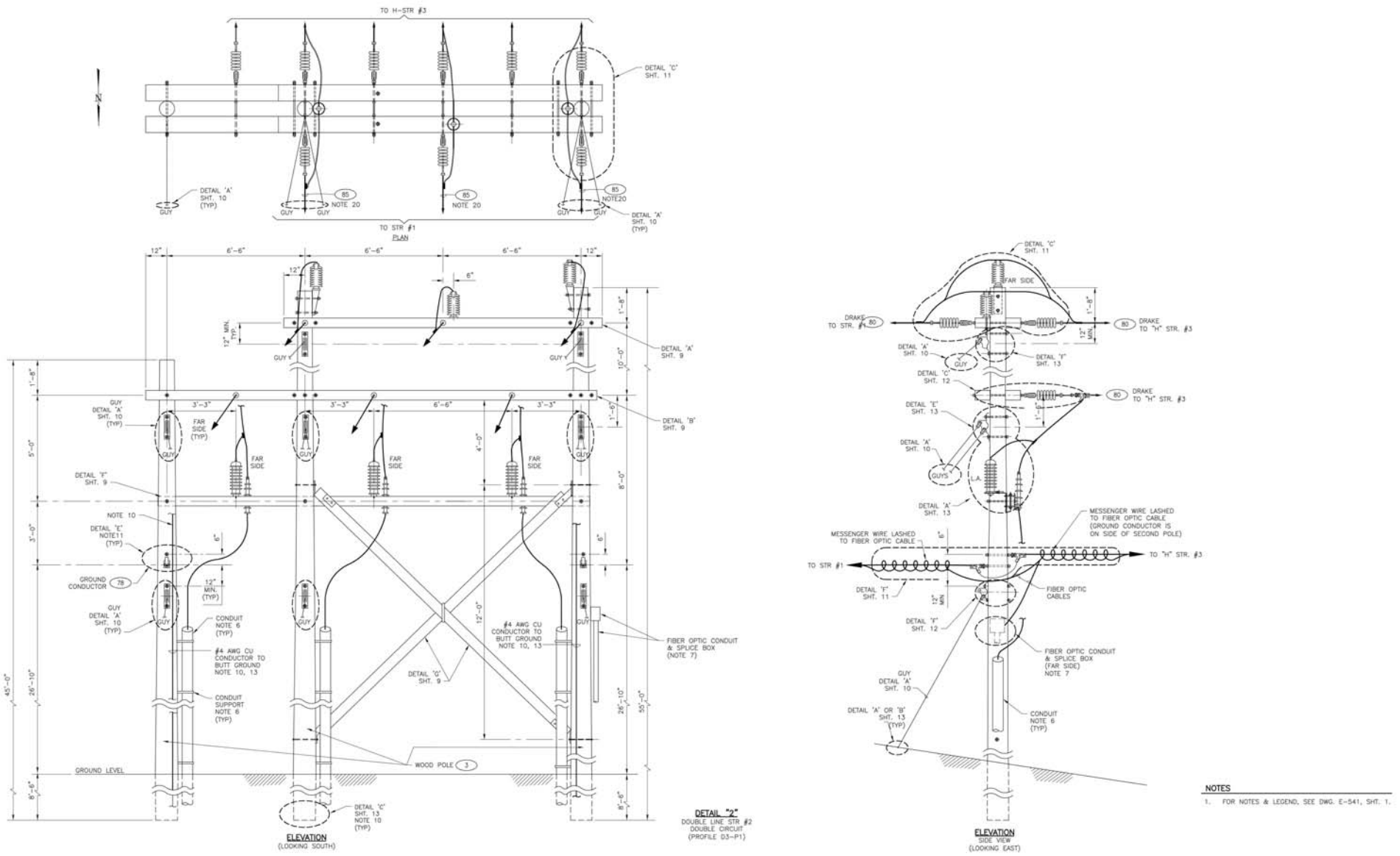
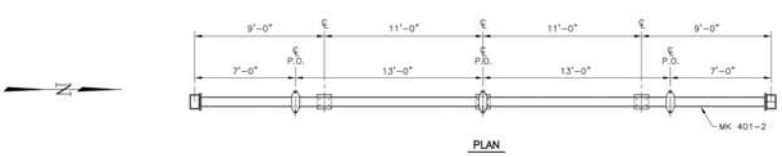
FIGURE B-5
**34.5-kV Single-Circuit, Overhead Line Support Structure**
LEANING JUNIPER II WIND POWER FACILITY

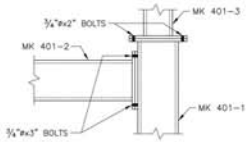



PPM Energy
A ScottishPower Company

FIGURE B-6
**34.5-kV Double-Circuit, Overhead Line Support Structure**
LEANING JUNIPER II WIND POWER FACILITY

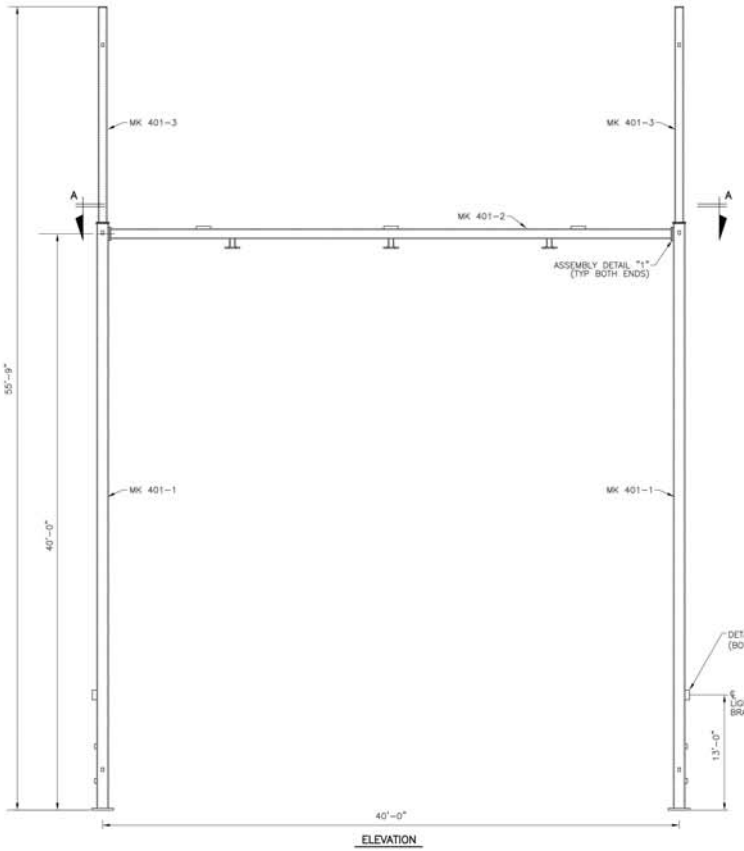



PLAN

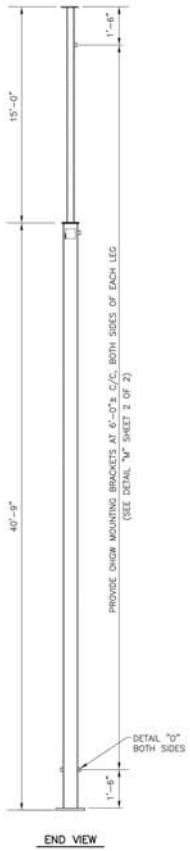



DETAIL 1 – ASSEMBLY

| STRUCTURE REQUIREMENTS | | BILL OF MATERIALS FOR (1) 230 KV LINE DEADEND | | | | | | |
|---|---|---|---|---|---|---|---|---|
| QUANTITY | | NO REQ'D | MARK | DESCRIPTION | LENGTH FT. | LENGTH IN. | REMARKS | TOTAL WT. |
| 1 | | 2 | 401-1 | WELDED ASSEMBLY | 40 | 9 | SEE DETAIL | 6960.0 |
| | | 2 | #01-2 | WELDED ASSEMBLY | 39 | 0 | SEE DETAIL | 1749.5 |
| | | 1 | 401-3 | WELDED ASSEMBLY | -- | -- | SEE DETAIL | 1021.4 |
| | | | | | | | | |
| | | 8 | – | 3/4"ø BOLT | – | 2 | W/HEX NUT | 4.0 |
| | | 8 | – | 3/4"ø BOLT | – | 3 | W/HEX NUT | 5.0 |
| | | 16 | – | 3/4"ø SPRING LOCKWASHER | | | MEDIUM | 1.0 |
| | | | | | | | ESTIMATED WEIGHT | 9732.0 |
| | | | | | | | PLUS 5% FOR GALV. | 487.0 |
| | | | | | | | TOTAL EST. WEIGHT | 10219.0 |




ELEVATION




END VIEW

## MATERIAL AND FABRICATION NOTES

1. ALL STRUCTURAL STEEL SHALL CONFORM TO A.S.T.M. DESIG. A-36, AS REVISED TO DATE, UNLESS OTHERWISE SPECIFIED.
2. ALL ERECTION BOLTS SHALL BE IN ACCORDANCE WITH A.S.T.M. DESIG. A-307-55T, FOR GRADE A BOLTS.
3. ALL HOLES SHALL BE 13/16"ø UNLESS OTHERWISE NOTED.
4. ALL BURRS SHALL BE REMOVED BEFORE GALVANIZING.
5. WELDING OF MEMBERS TO OBTAIN A GIVEN LENGTH WILL NOT BE ACCEPTED, UNLESS NOTED OTHERWISE.
6. HOT DIP GALVANIZE ALL STRUCTURAL STEEL IN ACCORDANCE WITH A.S.T.M. DESIG. A-123, AS REVISED TO DATE. ALL PIECES WARPED OR BENT DURING THE GALVANIZING PROCESS SHALL BE STRAIGHTENED IN THE SHOP BEFORE SHIPMENT. IN NO CASE WILL PIECES BE ACCEPTED WHICH HAVE BEEN BENT TO ACCOMMODATE THE GALVANIZING BATH.
7. ALL ERECTION BOLTS AND NUTS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH A.S.T.M. DESIG. A-153, AS REVISED TO DATE. ALL NUTS SHALL BE TAPPED OUT OVERSIZE PRIOR TO GALVANIZING (1/32" FOR 5/8" AND LARGER, 1/64" FOR 1/2" AND SMALLER).
8. WELDING OF STEEL SHALL BE IN ACCORDANCE WITH THE LATEST "STRUCTURAL WELDING CODE D 1.1" OF THE AMERICAN WELDING SOCIETY.
9. TAPPED HOLES SHALL BE OVERSIZE PER NOTE 7 AND SHALL BE RE-TAPPED AFTER GALVANIZING.
10. ALL TAIL DIMENSIONS ARE FROM END OF PIECE, NOT WELDMENT.
11. EACH PIECE SHALL BE DIE-STAMPED WITH Pc MK BEFORE GALVANIZING AND CIRCLED WITH BLACK INDELIBLE INK AFTER GALVANIZING.
12. STRUCTURAL TUBING SHALL CONFORM TO A.S.T.M. A500, GRADE B.

## DESIGN NOTES

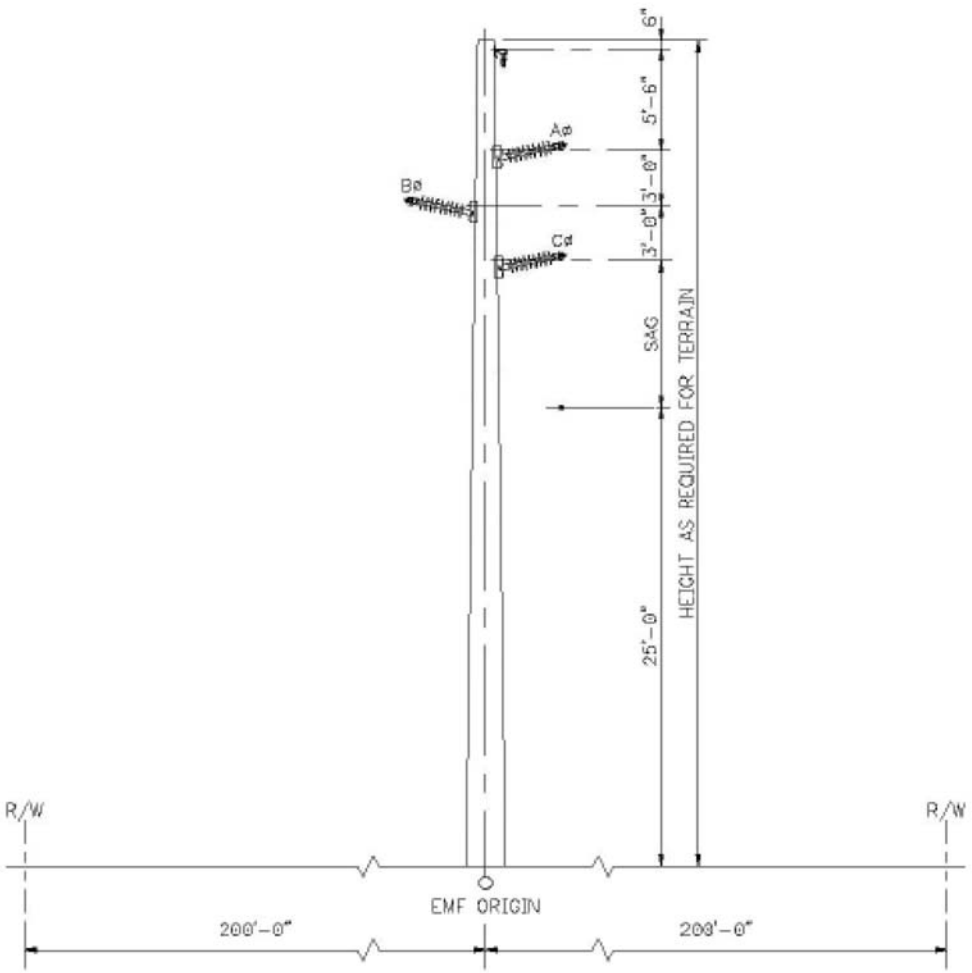
1. WIND SPEED 85 mph
2. SEISMIC: HORIZONTAL ACCELERATION 0.45 G
   VERTICAL ACCELERATION 0.30 G
3. DEFLECTION CRITERIA:
   VERTICAL MEMBERS: L/50
   HORZ. OF HORIZONTAL MEMBERS: L/100
   VERT. OF HORIZONTAL MEMBERS: L/200

## REFERENCE DRAWINGS

| | |
|---|---|
| LGJ-C-110 | FOUNDATION PLAN |
| LGJ-C-113 | FOUNDATION DETAILS |

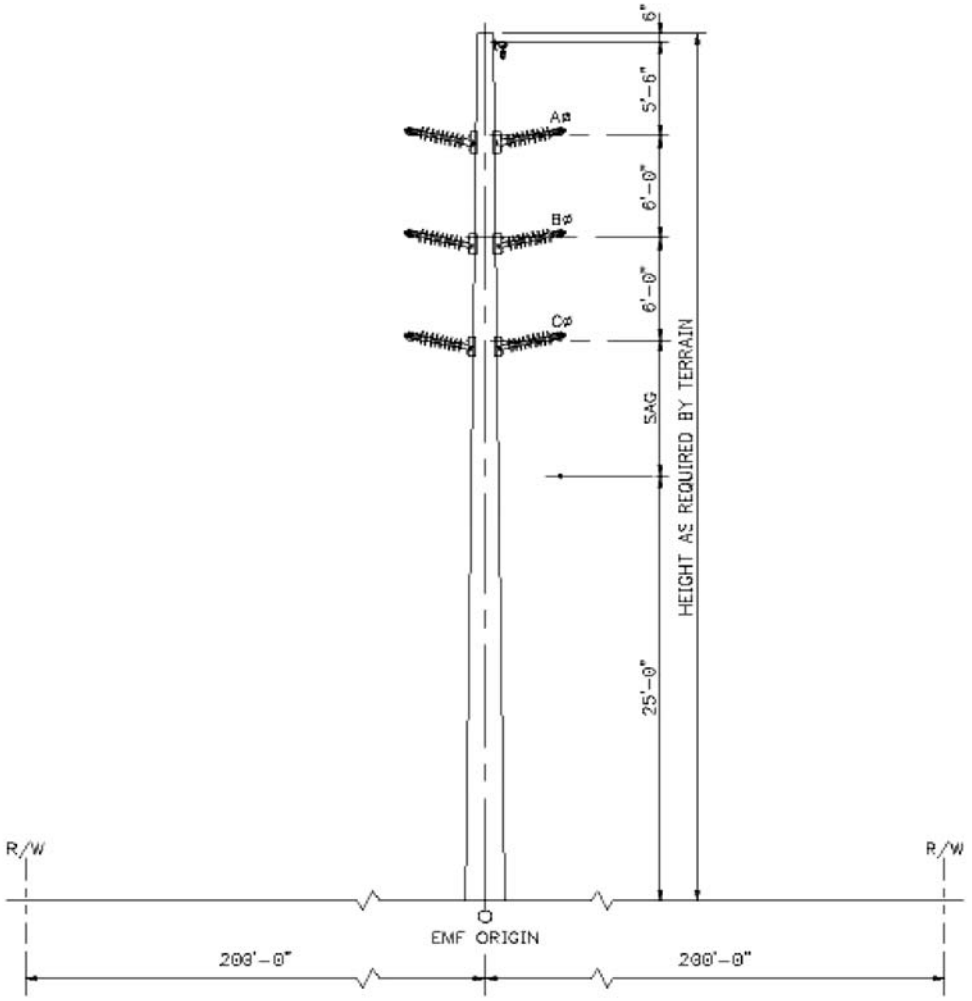
PPM Energy
A ScottishPower Company

FIGURE B-7
**230-kV Overhead Line Support Structure**
LEANING JUNIPER II WIND POWER FACILITY




PPM Energy
A ScottishPower Company

FIGURE B-8
**Typical 34.5-kV Single-Circuit Configuation**
LEANING JUNIPER II WIND POWER FACILITY




250' RULING SPAN, 300' MAX. SPAN

PPM Energy
A ScottishPower Company

FIGURE B-9
**Typical 34.5-kV Double-Circuit Configuation**
LEANING JUNIPER II WIND POWER FACILITY

# Figure B-10
## Temporarily Disturbed Areas

Leaning Juniper II
Wind Power Facility

PPM Energy
A ScottishPower Company

Slatt-John Day No 1 (500 kV)

McNary-Santiam No 2 (230 kV) & Slatt-Buckley No 1 (500 kV) & Ashe-Marion No 2 (500 kV)

Blalock Canyon Rd

Cedar Springs Rd

Rattlesnake Rd

Stone Ln

John Day

19

### Legend

- Temporarily Disturbed Areas
- **Existing Facilities**
- Existing BPA Transmission Line
- Major Roads
- Railroads
- Streams

Lease Boundary

- Leaning Juniper II - North
- Leaning Juniper II - South

N
W E
S

0 2,000 4,000 6,000 8,000
Feet

File Path: Z:\Projects\OR-WA\Leaning Juniper\MapDocuments\Report Figures\EFSC (LJII)\Figure B-10 - Temporarily Disturbed Areas.mxd, Date: August 31, 2006 2:57:53 PM

# EXHIBIT C

# PROPOSED LOCATION AND MAPS

OAR 345-021-0010(1)(c)

**TABLE OF CONTENTS**

## C.1 INTRODUCTION

**OAR 345-021-0010(1)(c)** *Information about the location of the proposed facility*[.]

Leaning Juniper Wind Power II, LLC (the Applicant) proposes to construct a wind generation facility in Gilliam County, Oregon, with generating capacity of up to approximately 279 megawatts (MW). The proposed facility (the Facility) consists of two main components: (1) Leaning Juniper II North (the north portion of the Facility with up to 93 MW), and (2) Leaning Juniper II South (the south portion of the Facility with up to 186 MW).

## C.2 MAPS

**OAR 345-021-0010(1)(c)(A)** *A map or maps, including a 7.5-minute quadrangle map, showing the proposed locations of the energy facility site, and all related or supporting facility sites, in relation to major roads, water bodies, cities and towns, important landmarks and topographic features.*

Response: The proposed location of the Facility site is plotted on a 7.5-minute quadrangle map included as Figure C-1.

## C.3 LOCATION AND LAND AREA OF FACILITY COMPONENTS

**OAR 345-021-0010(1)(c)(B)** *A description of the location of the proposed energy facility site and the proposed site of each related or supporting facility, including the approximate land area of each. If a proposed pipeline or transmission line is to follow an existing road, pipeline, or transmission line, the applicant shall state to which side of the existing road, pipeline, or transmission line the proposed facility will run, to the extent it is known.*

Response: Section C.3.1 describes the location and land area of the Facility site. Sections C.3.2 and C.3.3 describe the location and land area, respectively, of related and supporting facilities. Figure C-2 shows the proposed Facility lease boundary. Figures C-3a and 3-Cb show the Facility components, including related and supporting facilities. The interconnection is shown on Figure C-4.

Figure C-3a shows the potential Facility layout for 133, 1.5-MW turbines (the "maximum turbine layout"). Figure C-3b shows the potential Facility layout for 93, 3.0-MW turbines. The vendor, model, size, and total number of turbines have not yet been selected for the Facility, and the Applicant also would like to retain flexibility in micrositing turbine locations within the turbine corridors (see Section C.3.2.8). The purpose of the "micrositing corridor" concept is to provide flexibility while defining the range of possible Facility impacts and demonstrating that in all potential configurations, the Facility will meet applicable Council standards.

The potential layouts presented in Figures C-3a and C-3b are used to calculate and analyze Facility impacts. Neither figure presents a final turbine layout, in accordance with the micrositing corridor concept discussed above. These figures and all of the relevant Exhibits in this ASC use the potential layout that represents the "worst case

scenario" to determine the most conservative estimate of impact. Table C-1 identifies the worst case scenario for applicable Exhibits. An explanation of the analysis performed to identify the layout providing the most conservative impact estimate is provided in relevant exhibits.

Table C-1. Summary of Worst Case Scenario by Exhibit

| Exhibit with Impact Analysis | Summary of "Worst Case Scenario" |
|---|---|
| C | 133 1.5-MW turbines; highest level of temporary and permanent land impacts |
| I | 133 1.5-MW turbines; highest level of temporary and permanent land impacts |
| J | 133 1.5-MW turbines; highest level of temporary and permanent land impacts |
| K | 133 1.5-MW turbines; highest level of temporary and permanent land impacts |
| L | 133 1.5-MW turbines; more visible from within the 30-mile analysis based on ZVI analysis presented in Exhibit R |
| P | 133 1.5-MW turbines with a footprint equal to 3.0-MW turbine, moved into highest quality habitat; highest level of temporary and permanent land impacts to highest quality habitat |
| Q | 133 1.5-MW turbines; highest number of Facility components in proximity to threatened and endangered species |
| R | 133 1.5-MW turbines; more visible from within the 30-mile analysis based on ZVI analysis |
| S | 133 1.5-MW turbines; highest level of temporary and permanent land impacts |
| X | 93 3-MW turbines; highest predicted noise level |

Figures C-5 and C-6 provide a detailed view of the location of all Leaning Juniper II North and South facilities on a scale of 1 inch to 2,000 feet based on the 1.5-MW layout. These figures show noise-sensitive properties; Category 1 habitat and the habitat study area; the archaeological study area; the proposed locations of the micrositing corridors; related or supporting facilities, including the collector substation and Bonneville Power Administration (BPA) switching station; proposed meteorological (met) tower locations; temporary staging areas; and the lease boundary.

### C.3.1 Location and Land Area of Energy Facility Site

The proposed Facility is located approximately 3 miles southwest of Arlington, Oregon, in Gilliam County. All Facility components will be located on private land on which the Applicant has negotiated long-term wind energy leases with the landowners. The turbines for Leaning Juniper II North will be located on land owned by a private landowner, J.R. Krebs. This land currently is used for farming and cattle grazing. All of the turbines for Leaning Juniper II South will be located on land owned by Waste Management Disposal Services of Oregon, Inc. (Waste Management) that surrounds the existing Arlington Landfill on three sides. This land functions as a buffer around the landfill and as a source of soils and rock for covering landfill cells as they are filled and closed. Portions of the land are used for cultivation of winter wheat. Other portions are used for cattle grazing. The Applicant has an easement with Waste Management and the owner of the adjacent project, Leaning Juniper I, for Facility components that fall outside

the Facility lease boundary and cross over the Leaning Juniper I lease boundary. These components include collector lines, access roads to Leaning Juniper II, and the access road for the R turbine string.

Easements have also been negotiated with adjacent landowners for road and collector cable access. These include (1) the access road connecting the Facility to Blalock Canyon Road on the western border of the Leaning Juniper II South lease boundary, and (2) underground collector cables to the collector substation.

The Facility is located in the Townships 2 and 3 North and Ranges 20 and 21 East sections. The site is accessed by traveling approximately 3 miles south on Oregon Highway 19 from its intersection with Interstate 84. The turbines will occupy approximately 5 acres and the associated utility facilities (collector lines, substation, met towers, and Operations and Maintenance (O&M) building[s]) will occupy approximately 9 acres, for a total of approximately 14 of the 8,565-acre leased area.

## C.3.2 Location of Related or Supporting Facilities

### C.3.2.1 Turbines

Leaning Juniper II will consist of between 93 and 133 turbines, depending on the generating capacity of the turbines selected. The number of turbines in each string and the spacing between turbines may vary depending on which turbine supplier is selected. Therefore, the Applicant requests a micrositing corridor in which to place the final locations, as further described in Section C.3.2.8. The corridor is depicted in Figures C-3a and C-3b.

### C.3.2.2 Electrical System

As described in Exhibit B, a network of underground power cables will be installed along and between turbine strings to collect power generated by the individual wind turbines and route the power to a collector substation for delivery into the utility grid. Energy from the proposed Facility will be collected by the cable system and connected to the Facility Collector Substation (LJ II Substation), located immediately adjacent to the existing BPA Jones Canyon Switching Station, as shown in Figures C-3a and C-3b.

### C.3.2.3 Interconnection

A short span of 230-kilovolt (kV) overhead cable (less than 400 feet) will connect the Facility Collector Substation and BPA Jones Canyon Switching Station, as shown in Figure C-4. The Jones Canyon Switching Station will deliver 230 kV of power into BPA's existing McNary-Santiam 230-kV transmission line.

### C.3.2.4 Meteorological Towers

One permanent met tower will be placed in the Facility area for the collection of meteorological data for Leaning Juniper II North, as shown in Figure C-3a. Three additional met towers will be constructed to support Leaning Juniper II South. All

permanent met towers will be free-standing (unguyed) structures. The towers will be approximately 80 meters (262 feet) high with an equilateral triangle base, each side of which will be roughly 8 meters (26 feet) long.

### C.3.2.5 Operations and Maintenance Facility

The O&M facility will consist of up to two new, one-story buildings of approximately 4,000 to 8,000 square feet each, as discussed in Section B.3 of Exhibit B.

### C.3.2.6 Access Roads

Within the Facility, approximately 7 miles of new roads will be constructed for Leaning Juniper II North and approximately 15 miles of new roads for Leaning Juniper II South, as shown in Figures C-3a and C-3b. Roads will be designed under the direction of a licensed engineer and compacted to meet equipment load requirements. In addition, approximately 2 miles of existing roads will be improved for Leaning Juniper II North and approximately 5 miles will be improved for Leaning Juniper II South.

### C.3.2.7 Laydown Areas

During construction, staging areas will be used to stage construction and store supplies and equipment. There will be approximately one 2-acre staging area adjacent to each proposed turbine string, and several centrally located 5-acre staging areas, as shown in Figures C-3a and C-3b.

### C.3.2.8 Micrositing Corridor

The Applicant requests that the site certificate authorize micrositing of turbines and associated facilities within a defined corridor rather than at specific points, in order to construct turbines at the optimal locations for wind capture (see figures C-5 and C-6). The corridors proposed provide flexibility for both the final orientation of the turbine strings and for selection of turbine vendors and sizes. Rectangular corridors are proposed in most cases (see Table C-2 for a description of the turbine string corridors). Corridors for new roads, collector cables, and crane paths are 500 feet wide (250 feet on both sides of a centerline created by points identified in Table C-3). Improved roads will have 200-foot corridors (100 feet on both sides of centerline of existing roads). No permanent facilities will be placed within Category 1 habitat, as further discussed in Exhibit P. The roads and collector system will be located within the micrositing corridor established by the maximum turbine layout.

Table C-2. Micrositing Corridors for Turbine Strings[1]

| Description | Longitude | Latitude |
|---|---|---|
| A-string—Western Boundary | -120.3210935 | |
| A-string—Eastern Boundary | -120.3107982 | |
| B-D string—Western Boundary | -120.3017389 | |
| B-D string—Eastern Boundary | -120.2686091 | |
| E1-3—Western Boundary | -120.2611474 | |
| E1-3—Eastern Boundary | -120.2500477 | |
| E4-11—Northern Boundary | | 45.64662762 |
| E4-11—Eastern Boundary | -120.2414496 | |
| F1-5—Eastern Boundary | -120.2238475 | |
| F1-5—Western Boundary | -120.2365971 | |
| F6-13—Western Boundary | -120.2344746 | |
| G String—Eastern Boundary | -120.195484 | |
| H1-8—Western Boundary | -120.1922851 | |
| H1-8—Eastern Boundary | -120.1848239 | |
| H1-8—Northern Boundary | | 45.69452023 |
| H1-8—Southern Boundary | | 45.6725221 |
| I String—NW Corner | -120.1818659 | 45.68968116 |
| I String—NE Corner | -120.1747899 | 45.69178413 |
| I String—SW Corner | -120.1735608 | 45.67593476 |
| I String—SE Corner | -120.1664095 | 45.67806005 |
| H9-11—Western Boundary | -120.1859096 | |
| H9-11—Eastern Boundary | -120.178417 | |
| H9-11—Northern Boundary | | 45.67606262 |
| H12-16 and J1-3 Eastern Boundary | -120.1719403 | |
| H12-16 and J1-3 Northern Boundary | | 45.67115987 |
| H12-16 and J1-3 Western Boundary | -120.1790375 | |
| J4-16—Northern Boundary | | 45.66023208 |
| J14-16—Western Boundary | -120.177838 | |
| J-17—Western Boundary | -120.1981621 | |
| J-17—Southern Boundary | | 45.61721147 |
| J17—Eastern Boundary | -120.1902439 | |
| J17—Northern Boundary | | 45.62241712 |

[1] Turbine string corridors are also bounded by the lease boundaries. Legal descriptions for the lease boundaries are available upon request.

Table C-3. Micrositing Corridors for Roads, Collector Cables, and Crane Paths[1, 2]

| Comment | Long | Lat |
|---|---|---|
| Centerline of Alternate Collector Corridor connecting J1-3 turbine string corridor to LJ I Easement | -120.184709 | 45.65764917 |
| Centerline of Alternate Collector Corridor connecting J1-3 turbine string corridor to LJ I Easement | -120.1808053 | 45.65837155 |
| Centerline of Alternate Collector Corridor connecting J1-3 turbine string corridor to LJ I Easement | -120.1791685 | 45.65899633 |
| Centerline of Crane Path Corridor Connecting Access Road to H12 and 13 | -120.1842465 | 45.66270109 |
| Centerline of Crane Path Corridor Connecting Access Road to H12 and 13 | -120.1831584 | 45.66536356 |
| Centerline of Crane Path Corridor Connecting Access Road to H12 and 13 | -120.1823774 | 45.66623826 |
| Centerline of Crane Path Corridor Connecting Access Road to H12 and 13 | -120.1813575 | 45.66710705 |
| Centerline of Crane Path Corridor Connecting Access Road to H12 and 13 | -120.1800045 | 45.6678652 |
| Centerline of Northern-most Road Corridor connecting I-string Turbine Corridor to the H-string Turbine Corridor. | -120.1812674 | 45.68864792 |
| Centerline of Northern-most Road Corridor connecting I-string Turbine Corridor to the H-string Turbine Corridor. | -120.1849758 | 45.68801958 |
| Centerline of Primary Collector Route Connecting F16 to F-17 | -120.1776535 | 45.63127598 |
| Centerline of Primary Collector Route Connecting F16 to F-17 | -120.1822776 | 45.62834378 |
| Centerline of Primary Collector Route Connecting F16 to F-17 | -120.1849442 | 45.62356555 |
| Centerline of Primary Collector Route Connecting F16 to F-17 | -120.1851384 | 45.62345681 |
| Centerline of Road Connecting D and E Strings | -120.2687447 | 45.65477273 |
| Centerline of Road Connecting D and E Strings | -120.2594687 | 45.65377209 |
| Centerline of Road Corridor Connecting Access Road to F-1 | -120.236452 | 45.65767811 |
| Centerline of Road Corridor Connecting Access Road to F-1 | -120.2389854 | 45.65468786 |
| Centerline of southern-most Collector Corridor Connecting I-string turbine corridor to H-string turbine corridor | -120.1848819 | 45.67967068 |
| Centerline of southern-most Collector Corridor Connecting I-string turbine corridor to H-string turbine corridor | -120.1778171 | 45.6824096 |
| Collector connecting E1-3 to E4-11 - North Eastern Edge of Corridor | -120.2494657 | 45.64916724 |
| Collector connecting E1-3 to E4-11 - North Eastern Edge of Corridor | -120.2488339 | 45.64863259 |
| Collector connecting E1-3 to E4-11 - North Eastern Edge of Corridor | -120.2484093 | 45.64800059 |
| Collector connecting E1-3 to E4-11 - North Eastern Edge of Corridor | -120.2482161 | 45.64724968 |
| Collector connecting E1-3 to E4-11 - North Eastern Edge of Corridor | -120.2481099 | 45.64669198 |
| Collector connecting E1-3 to E4-11 - North Eastern Edge of Corridor | -120.2500738 | 45.64960668 |
| Crane Path Corridor Connecting G-string to H-string - Northern Boundary | -120.1939453 | 45.69461058 |
| Crane Path Corridor Connecting G-string to H-string - Southern Boundary | -120.1940296 | 45.69323968 |
| Expanded Corridor North of F-6-13 Corridor - Eastern Edge | -120.2261001 | |
| Expanded Corridor North of F-6-13 Corridor - Northern Edge | | 45.64893734 |
| Expanded Corridor North of F-6-13 Corridor - Southern Edge | | 45.64597072 |
| Expanded Corridor North of F-6-13 Corridor - Western Edge | -120.2317406 | |

Table C-3. Micrositing Corridors for Roads, Collector Cables, and Crane Paths[1, 2]

| Comment | Long | Lat |
|---|---|---|
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Northern Edge of Corridor | -120.1797365 | 45.66473767 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Northern Edge of Corridor | -120.1805243 | 45.66452299 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Northern Edge of Corridor | -120.1811134 | 45.66425543 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Northern Edge of Corridor | -120.1816086 | 45.66394674 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Northern Edge of Corridor | -120.1818477 | 45.66372868 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Northern Edge of Corridor | -120.1824493 | 45.66361072 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Northern Edge of Corridor | -120.1830791 | 45.6635676 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Northern Edge of Corridor | -120.1847009 | 45.66312206 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Northern Edge of Corridor | -120.178906 | 45.6648038 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Southern Edge of Corridor | -120.1847212 | 45.66167623 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Southern Edge of Corridor | -120.1830097 | 45.66212187 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Southern Edge of Corridor | -120.1825718 | 45.66223863 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Southern Edge of Corridor | -120.1821746 | 45.66224965 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Southern Edge of Corridor | -120.1807351 | 45.66256684 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Southern Edge of Corridor | -120.1801263 | 45.66304937 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at West Side of J1-3 Corridor ending at Lease Boundary) - Southern Edge of Corridor | -120.179769 | 45.66325572 |
| Primary Access Road From East Entrance and Collector Corridor (Starting at | -120.178977 | 45.66339075 |

Table C-3. Micrositing Corridors for Roads, Collector Cables, and Crane Paths[1, 2]

| Comment | Long | Lat |
|---|---|---|
| West Side of J1-3 Corridor ending at Lease Boundary) - Southern Edge of Corridor | | |
| Road and Collector Corridor connecting E string to F string - Northern edge of Corridor | -120.2472878 | 45.65470859 |
| Road and Collector Corridor connecting E string to F string - Northern edge of Corridor | -120.2453707 | 45.65408307 |
| Road and Collector Corridor connecting E string to F string - Northern edge of Corridor | -120.244955 | 45.65406739 |
| Road and Collector Corridor connecting E string to F string - Northern edge of Corridor | -120.2446455 | 45.65401453 |
| Road and Collector Corridor connecting E string to F string - Northern edge of Corridor | -120.2417272 | 45.65493285 |
| Road and Collector Corridor connecting E string to F string - Northern edge of Corridor | -120.2410678 | 45.65496912 |
| Road and Collector Corridor connecting E string to F string - Northern edge of Corridor | -120.2399986 | 45.65483272 |
| Road and Collector Corridor connecting E string to F string - Northern edge of Corridor | -120.2379173 | 45.65460837 |
| Road and Collector Corridor connecting E string to F string - Northern edge of Corridor | -120.2373501 | 45.65458134 |
| Road and Collector Corridor connecting E string to F string - Northern edge of Corridor | -120.2368371 | 45.65446946 |
| Road and Collector Corridor connecting E string to F string - Northern edge of Corridor | -120.2498032 | 45.65515673 |
| Road and Collector Corridor connecting E string to F string - Northern edge of Corridor | -120.2490195 | 45.6546751 |
| Road and Collector Corridor connecting E string to F string - Southern Edge of Corridor | -120.2498255 | 45.65322436 |
| Road and Collector Corridor connecting E string to F string - Southern Edge of Corridor | -120.247641 | 45.6533354 |
| Road and Collector Corridor connecting E string to F string - Southern Edge of Corridor | -120.2464726 | 45.65293484 |
| Road and Collector Corridor connecting E string to F string - Southern Edge of Corridor | -120.2460019 | 45.65260547 |
| Road and Collector Corridor connecting E string to F string - Southern Edge of Corridor | -120.2454318 | 45.6524296 |
| Road and Collector Corridor connecting E string to F string - Southern Edge of Corridor | -120.2447198 | 45.65241419 |
| Road and Collector Corridor connecting E string to F string - Southern Edge of Corridor | -120.2438702 | 45.65257356 |
| Road and Collector Corridor connecting E string to F string - Southern Edge of Corridor | -120.2415855 | 45.65340061 |
| Road and Collector Corridor connecting E string to F string - Southern Edge of Corridor | -120.241182 | 45.65348998 |
| Road and Collector Corridor connecting E string to F string - Southern Edge of | -120.2407061 | 45.65343975 |

Table C-3. Micrositing Corridors for Roads, Collector Cables, and Crane Paths[1, 2]

| Comment | Long | Lat |
|---|---|---|
| Corridor | | |
| Road and Collector Corridor connecting E string to F string - Southern Edge of Corridor | -120.2389199 | 45.65317065 |
| Road and Collector Corridor connecting E string to F string - Southern Edge of Corridor | -120.2382143 | 45.65306437 |
| Road and Collector Corridor connecting E string to F string - Southern Edge of Corridor | -120.2377119 | 45.65285768 |
| Road and Collector Corridor connecting E string to F string - Southern Edge of Corridor | -120.2371752 | 45.65274244 |
| Road and Collector Corridor Connecting E4-11 to F6-13 strings - Northern Boundary | -120.2416616 | 45.63521851 |
| Road and Collector Corridor Connecting E4-11 to F6-13 strings - Northern Boundary | -120.2411365 | 45.63529252 |
| Road and Collector Corridor Connecting E4-11 to F6-13 strings - Northern Boundary | -120.2385929 | 45.63659708 |
| Road and Collector Corridor Connecting E4-11 to F6-13 strings - Northern Boundary | -120.2365057 | 45.63809273 |
| Road and Collector Corridor Connecting E4-11 to F6-13 strings - Northern Boundary | -120.2345442 | 45.63931883 |
| Road and Collector Corridor Connecting E4-11 to F6-13 strings - Southern Boundary | -120.2400196 | 45.63393405 |
| Road and Collector Corridor Connecting E4-11 to F6-13 strings - Southern Boundary | -120.239619 | 45.63411434 |
| Road and Collector Corridor Connecting E4-11 to F6-13 strings - Southern Boundary | -120.2393667 | 45.63447353 |
| Road and Collector Corridor Connecting E4-11 to F6-13 strings - Southern Boundary | -120.2362216 | 45.63628215 |
| Road and Collector Corridor Connecting E4-11 to F6-13 strings - Southern Boundary | -120.2347305 | 45.63553383 |
| Road and Collector Corridor Connecting E4-11 to F6-13 strings - Southern Boundary | -120.2348054 | 45.63401158 |
| Road and Collector Corridor Connecting H8 to H9 - Northeastern Boundary | -120.179524 | 45.67608998 |
| Road and Collector Corridor Connecting H8 to H9 - Northeastern Boundary | -120.1798506 | 45.67657683 |
| Road and Collector Corridor Connecting H8 to H9 - Northeastern Boundary | -120.184257 | 45.67910159 |
| Road and Collector Corridor Connecting H-String to G-String - Northern Edge | -120.1946997 | 45.68135637 |
| Road and Collector Corridor Connecting H-String to G-String - Southern Edge | -120.1950336 | 45.6741315 |
| Road and Collector Corridor Connecting I-string turbine corridor to H-string turbine corridor - Northern Boundary | -120.1851604 | 45.68552972 |
| Road and Collector Corridor Connecting I-string turbine corridor to H-string turbine corridor - Northern Boundary | -120.1789809 | 45.68491344 |
| Road and Collector Corridor Connecting I-string turbine corridor to H-string turbine corridor -Southern Boundary | -120.1851621 | 45.68414517 |
| Road and Collector Corridor Connecting I-string turbine corridor to H-string turbine corridor -Southern Boundary | -120.1803791 | 45.68366819 |

Table C-3. Micrositing Corridors for Roads, Collector Cables, and Crane Paths[1, 2]

| Comment | Long | Lat |
|---|---|---|
| Road and Collector Corridor Connecting I-string turbine corridor to H-string turbine corridor -Southern Boundary | -120.1788328 | 45.68282221 |
| Road and Collector Corridor Connecting LJ II North to LJ II Substation - Northern Border | -120.2127925 | 45.67484208 |
| Road and Collector Corridor Connecting LJ II North to LJ II Substation - Northern Border | -120.2122355 | 45.67491891 |
| Road and Collector Corridor Connecting LJ II North to LJ II Substation - Northern Border | -120.2117114 | 45.67476584 |
| Road and Collector Corridor Connecting LJ II North to LJ II Substation - Northern Border | -120.2095789 | 45.67463177 |
| Road and Collector Corridor Connecting LJ II North to LJ II Substation - Northern Border | -120.205686 | 45.67513745 |
| Road and Collector Corridor Connecting LJ II North to LJ II Substation - Northern Border | -120.2040863 | 45.675961 |
| Road and Collector Corridor Connecting LJ II North to LJ II Substation - Southern Border | -120.212634 | 45.67211845 |
| Road and Collector Corridor Connecting LJ II North to LJ II Substation - Southern Border | -120.2120636 | 45.6726361 |
| Road and Collector Corridor Connecting LJ II North to LJ II Substation - Southern Border | -120.2114765 | 45.67285234 |
| Road and Collector Corridor Connecting LJ II North to LJ II Substation - Southern Border | -120.2102406 | 45.67329244 |
| Road and Collector Corridor Connecting LJ II North to LJ II Substation - Southern Border | -120.2094326 | 45.67325915 |
| Road and Collector Corridor Connecting LJ II North to LJ II Substation - Southern Border | -120.2056757 | 45.67374452 |
| Road and Collector Corridor Connecting LJ II North to LJ II Substation - Southern Border | -120.2045957 | 45.6739979 |
| Road and Collector Corridor Connecting LJ II North to LJ II Substation - Southern Border | -120.2029948 | 45.67482203 |
| Road Connecting E string (At Lease Boundary) to Access Road to the north - Northern Boundary (Access Road) | -120.2547931 | 45.65351704 |
| Road Connecting E string (At Lease Boundary) to Access Road to the north - Southern Boundary (Lease Boundary) | -120.2543991 | 45.65280956 |
| Western Access Road from Blalock Canyon Rd. to B string - Northern Boundary | -120.3297983 | 45.63711534 |
| Western Access Road from Blalock Canyon Rd. to B string - Northern Boundary | -120.3280113 | 45.63630636 |
| Western Access Road from Blalock Canyon Rd. to B string - Northern Boundary | -120.3264266 | 45.63517001 |
| Western Access Road from Blalock Canyon Rd. to B string - Northern Boundary | -120.3247266 | 45.63395561 |
| Western Access Road from Blalock Canyon Rd. to B string - Northern Boundary | -120.3232179 | 45.63262578 |
| Western Access Road from Blalock Canyon Rd. to B string - Northern Boundary | -120.3212997 | 45.63201347 |
| Western Access Road from Blalock Canyon Rd. to B string - Northern Boundary | -120.311029 | 45.6311251 |
| Western Access Road from Blalock Canyon Rd. to B string - Northern Boundary | -120.3094919 | 45.63124782 |
| Western Access Road from Blalock Canyon Rd. to B string - Northern Boundary | -120.3082258 | 45.63114983 |

Table C-3. Micrositing Corridors for Roads, Collector Cables, and Crane Paths[1, 2]

| Comment | Long | Lat |
|---|---|---|
| Western Access Road from Blalock Canyon Rd. to B string - Northern Boundary | -120.3071075 | 45.63092978 |
| Western Access Road from Blalock Canyon Rd. to B string - Northern Boundary | -120.3019835 | 45.63108705 |
| Western Access Road from Blalock Canyon Rd. to B string - Northern Boundary | -120.3315946 | 45.63736069 |
| Western Access Road from Blalock Canyon Rd. to B string - Southern Boundary (outside lease boundary) | | 45.63309464 |
| Western Access Road from Blalock Canyon Rd. to B string -Western Boundary | -120.3345327 | |

[1] The corridors for easements across nonleased land and improvements to existing roads are 200 feet wide. The corridors for new roads, collector cables, and crane paths are 500 feet wide.

[2] Legal descriptions for the easements and lease boundaries can be provided before construction begins.

## Surveys Conducted

The Applicant has conducted detailed, on-the-ground biological and cultural surveys for Leaning Juniper II, as shown in Figures Q-2 and S-1. For Leaning Juniper II North, all habitats suitable for threatened and endangered wildlife or sensitive status wildlife within the entire leased area were surveyed by spring season walking transects in 2006, except where limited because of lack of access. Wide cultural resource corridors measuring from 430 to 1,640 feet (130 to 500 meters) in width were also walked. For Leaning Juniper II South, habitat areas suitable for threatened and endangered wildlife were surveyed within 1,000 feet of the Facility components based on the 2005 layout, for a total width of 2,000 feet, which covers the majority of native habitat within the Leaning Juniper II South lease boundary. Surveys were not conducted in disturbed areas lacking suitable habitat, such as plowed wheat fields or residential areas, where the majority of the Leaning Juniper II South facilities are located. Cultural surveys were also conducted using 200-foot survey corridors (100 feet from centerline described by the original string endpoints).

## Turbine Locations

The Applicant proposes that the Facility turbines be authorized anywhere within the corridors identified, provided that these areas are surveyed prior to construction. Before beginning construction and after considering all micrositing factors, the Applicant will provide the Oregon Department of Energy (ODOE) a detailed map of the proposed Facility, showing the final locations where Facility components are proposed to be built in relation to both (1) the areas that have been surveyed for sensitive resources, and (2) the micrositing corridors. The Applicant also will submit to ODOE a description of Facility component locations by reference to a map and geographic data that clearly and specifically identify the physical location of all parts of the Facility. Before beginning Facility operation, the Applicant will submit to ODOE a legal description for those parts of the Facility constructed within micrositing corridors. The final Facility site will include the final turbine site corridors and other Facility components.

## Habitat Impacts

Because micrositing corridors, for ease of description and depiction, are generally regularly shaped polygons, certain micrositing corridors overlap with patches of

Category 1 habitat, including occupied Washington ground squirrel (WGS) colonies and raptor nest trees. However, the Applicant will site all permanent facilities outside Category 1 habitat when finalizing the layout, as described in Exhibits P and Q. No permanent facilities will be located within WGS colonies or other Category 1 habitat such as historical raptor nest sites. In no instance will the facilities be moved into woodland or result in the clearing of nest trees or other mature trees.

Impacts to wetlands, vegetation, habitat, and target species, as well as mitigation for these impacts, are described in the appropriate Exhibits of this ASC. To estimate the maximum impact to habitat categories 2, 3, and 4, the Applicant reviewed the habitat map from Exhibit P, and directed the geographic information system (GIS) staff to remap the turbines in the direction that would increase impacts (i.e., toward areas of greater habitat or higher value habitat).

For instance, for turbines G-7 and G-8, the turbines and roads were moved west away from Category 4 to Category 3 habitat to show a maximum impact to native habitat. For turbines near WGS-occupied habitat, such as the E and F strings, the facilities were not moved into Category 1 habitat because the facilities purposefully will be sited outside of these areas during final micrositing. For several of the turbine strings in the wheat fields, movement of turbines in any direction results in the same impact to habitat categories. In accordance with this analysis, Exhibit P describes the maximum theoretical impact to categorized habitats. Habitat mitigation will be developed to accommodate mitigation for these maximum theoretical habitat impacts, regardless of the actual impacts, which are expected to be smaller.

### Cultural Resource Surveys

A significant portion of the corridors identified have been surveyed for cultural resources. If micrositing indicates that certain turbines would optimally be located outside of the surveyed areas, the Applicant proposes to conduct cultural resource surveys and submit that information to ODOE before construction begins, as further described in Exhibit S. If these surveys indicate, and ODOE agrees, that no impact would occur to these resources, then no additional mitigation will be proposed. The Applicant requests that approval of turbine siting in this expanded corridor be allowed based on administrative review of the information submitted. It should be noted that, based on the field work and database review conducted to date, the potential for either cultural resources or wetlands impacts is low throughout the general Facility area.

### Compliance with Noise Standards

Compliance with the noise standard is being evaluated in the following manner: the Applicant has prepared an analysis of a potential layout for two potential turbine types. After the precise turbine types and locations have been selected and before Facility construction, the Applicant will submit for ODOE's review an acoustical analysis of the Facility, along with evidence that confirms compliance with OAR-340-35-035. The Applicant will not construct the Facility until ODOE confirms that the Facility complies with OAR-340-35-035. Please see Exhibit X for additional detail.

#### C.3.2.9 Gas Pipeline Corridor

There is no gas pipeline associated with this Facility.

#### C.3.2.10 Water Pipeline Corridor

There is no water supply pipeline associated with this Facility.

### C.3.3 Land Area of Related or Supporting Facilities

Table C-4 identities permanently disturbed areas and anticipated permanent acreage impacts. Table C-5 identifies temporarily disturbed areas and anticipated temporary acreage impacts.

Table C-4. Permanently Disturbed Areas

| Facilities | Notes | Units of Measurement | LJ II—North | | | | LJ II—South | | | | North and South |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Dimensions per Unit | Number of Units | Acres | Other Unit | Dimensions per Unit | Number of Units | Acres | Other Unit | |
| **Turbine Pads/Towers** | 1 | Square feet per tower | 1,660 | 40 | **1.52** | | 1,660 | 93 | 3.54 | | 5.07 |
| **Substation/O&M Building(s)** | | | | | | | | | | | |
| LJ II Collector Substation | 2 | Acres | 3.6 | 1 | **3.60** | | 3.6 | 1 | 3.60 | | 3.60 |
| O&M Facility | 3 | Acres | 2.5 | 1 | **2.50** | | 2.5 | 1 | 2.50 | | 5.00 |
| **Meteorological Towers (self-supporting)** | 4 | Square feet per tower | 900 | 1 | **0.02** | | 900 | 3 | 0.06 | | 0.08 |
| **Electrical System Structures** | | | | | | | | | | | |
| Overhead 34.5-kV Collector Line Structures | 5 | Square feet per pole | 12 | 5 | **0.00** | 60 square feet | 12 | 5 | 0.00 | 60 square feet | 0.00 |
| Overhead 230-kV Collector Line Structures | 6 | Square feet per pole | 20 | 2 | **0.00** | 40 square feet | 20 | 2 | 0.00 | 40 square feet | 0.00 |
| **Access Roads and Turnarounds** | | | | | | | | | | | |
| Improved Existing Roads to 20 feet | 7 | Square feet disturbed area per linear foot of road | 10 | 13,005 | **2.99** | 2.46 miles | 10 | 24,176 | 5.55 | 4.58 miles | 8.54 |
| New 16-foot turbine string roads and road to met tower(s) | 8 | Square feet disturbed area per linear foot of road | 16 | 38,308 | **14.07** | 7.26 miles | 16 | 74,859 | 27.50 | 14.18 miles | 41.57 |
| New 16-foot spur roads to each turbine | 9 | Square feet disturbed area per linear foot of road | 35 | 1,120 | **0.90** | 0.21 miles | 35 | 2,604 | 2.09 | 0.49 miles | 2.99 |
| **Total Permanently Disturbed Area** | | | | | | | | | | | |
| **490.625 acres** | | | **25.60 acres** | | | | **44.85 acres** | | | | **66.85 acres** |

Notes:

1. Graveled area of pad, transformer, and disturbed area for each tower, excluding access road. The dimensions are based on a circular area of disturbance with a radius of 23 feet (includes a turbine tower with a radius of up to 8 feet and surrounding gravel area with a radius of up to 15 feet). This represents the 3.0-MW tower diameter and maximum graveled area.
2. Includes substation and surrounding gravel within the fenced property. No temporary disturbance would occur outside the fenced area. Total acreage for LJ II Collector Substation reflects construction of one substation only, with two transformers.
3. Includes building and graveled parking and storage areas.
4. Includes met tower measuring approximately 23 feet wide and surrounding gravel area.
5. Assumes poles are spaced an average of 350 feet apart. Disturbance area is also presented in square feet.
6. There will be a short transmission line from the Facility Collector Substation to the BPA Switching Station. The connection may require one support structure. However this pole would be placed within the graveled, fenced substation area. (Transmission line poles are spaced an average of 700 feet apart.) Disturbance area is also presented in square feet.
7. Assumes maximum of 20 feet of travel lanes or 10 feet of improvements to existing 10 foot road. For roads that are already 20 feet in width, such as Stone Lane, there will be no permanent impacts beyond this width. These roads will only be temporarily widened for construction. Therefore, the length of existing roads needing improvements is greater for temporary impacts than permanent impacts.
8. Assumes maximum of 16 feet of travel lanes.
9. Assumes 35-foot spur road from the access road to each turbine that would be 60 feet long when measured from center of tower to center of sting road, which is equal to 60 feet - 8 feet (1/2 of access road width) - 24 feet (distance from center of turbine to beginning of road).

Table C-5. Temporarily Disturbed Areas

| Facilities | Notes | Units of Measurement | LJ II—North | | | | LJ II—South | | | | North and South |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Dimensions per Unit | Number of Units | Acres | Miles | Dimensions per Unit | Number of Units | Acres | Miles | |
| **Substation/O&M Building(s)** | | | | | | | | | | | |
| LJ II Collector Substation | 1 | Acres | 0.0 | 1 | **0.00** | | 0.0 | 1 | 0.00 | | 0.00 |
| O&M Facility | 2 | Acres | 1.0 | 1 | **1.00** | | 1.0 | 1 | 1.00 | | 2.00 |
| **Meteorological Towers (self-supporting)** | 3 | Square feet per tower | 0 | 1 | **0.00** | | 0 | 3 | 0.00 | | 0.00 |
| **Tower Construction/Laydown Areas** | | | | | | | | | | | |
| Central laydown and storage areas for collector lines and other equipment | | Acres | 5 | 1 | **5.00** | | 5 | 3 | 15.00 | | 20.00 |
| Laydown areas (usually 1 per string) | | Acres | 2 | 4 | **8.00** | | 2 | 5 | 10.00 | | 18.00 |
| Laydown areas at each tower site | 4 | Square feet per tower site | 84,545 | 40 | **77.64** | | 84,545 | 93 | 180.50 | | 258.14 |
| **Collector Lines** | | | | | | | | | | | |
| ***Temporary access for collector line*** | | | | | | | | | | | |
| 1 Collector | 5 | Feet of width per linear foot | 24 | 39493 | **21.76** | 7.48 | 24 | 82096 | 45.23 | 15.55 | 66.99 |
| 2 Collectors | 5 | Feet of width per linear foot | 32 | 0 | **0.00** | 0 | 32 | 14313 | 10.51 | 2.711 | 10.51 |
| 3 Collectors | 5 | Feet of width per linear foot | 40 | 3058 | **2.81** | 0.579 | 40 | 10489 | 9.63 | 1.987 | 12.44 |
| 4 Collectors | 5 | Feet of width per linear foot | 48 | 0 | **0.00** | 0 | 48 | 7631 | 8.41 | 1.445 | 8.41 |
| 5 Collectors | 5 | Feet of width per linear foot | 56 | 0 | **0.00** | 0 | 56 | 1866 | 2.40 | 0.353 | 2.40 |
| **Roads** | | | | | | | | | | | |
| ***Temporarily disturbed area during road construction*** | | | | | | | | | | | |
| Existing Road Improvements (temporarily widened to 35 feet) | 6 | Feet of width per linear foot | 15 | 13,005 | **4.48** | | 15 | 80,220 | 27.62 | | 32.10 |
| New 16-foot Turbine String Roads and road to met tower(s) (temporarily widened to 35 feet) | 7 | Feet of width per linear foot | 19 | 38,308 | **16.71** | | 19 | 74,859 | 32.65 | | 49.36 |
| **Total Temporarily Disturbed Area** | | | | | **137.39** | **acres** | | | **342.96** | **acres** | **480.35 acres** |
| | | | | | | | | | | | |

Notes:

1. Assumes contractor will permanently impact entire substation area. Therefore, no temporary impacts will occur.
2. Assumes contractor will temporarily impact a small area surrounding the permanent footprint of the Operations and Maintenance building(s) and parking area. This impact would be less than 1 acre.
3. Assumes contractor will gravel entire area used during construction. Therefore, no temporary impacts will occur.
4. Assumes a worst-case area of disturbance around towers for staging turbine blades based on the 3.0-MW turbine with a circular impact area of an approximate 164-foot radius for 328-foot-diameter (100-meter-diameter) rotors.
5. Assumes 12 feet on either side of the collector line trench for spoil and travel paths. Trenches are separated by 8 feet for heat dissipation. This includes the width of the actual collector line trenches.
6. Assumes the 10-foot existing road would be temporarily widened to 35 feet. The temporary disturbance would be equal to 35-foot total width during construction minus the 20-foot permanent width.
7. The temporary disturbance would be equal to 35-foot total width during construction minus the 16-foot permanent width.

# Figures

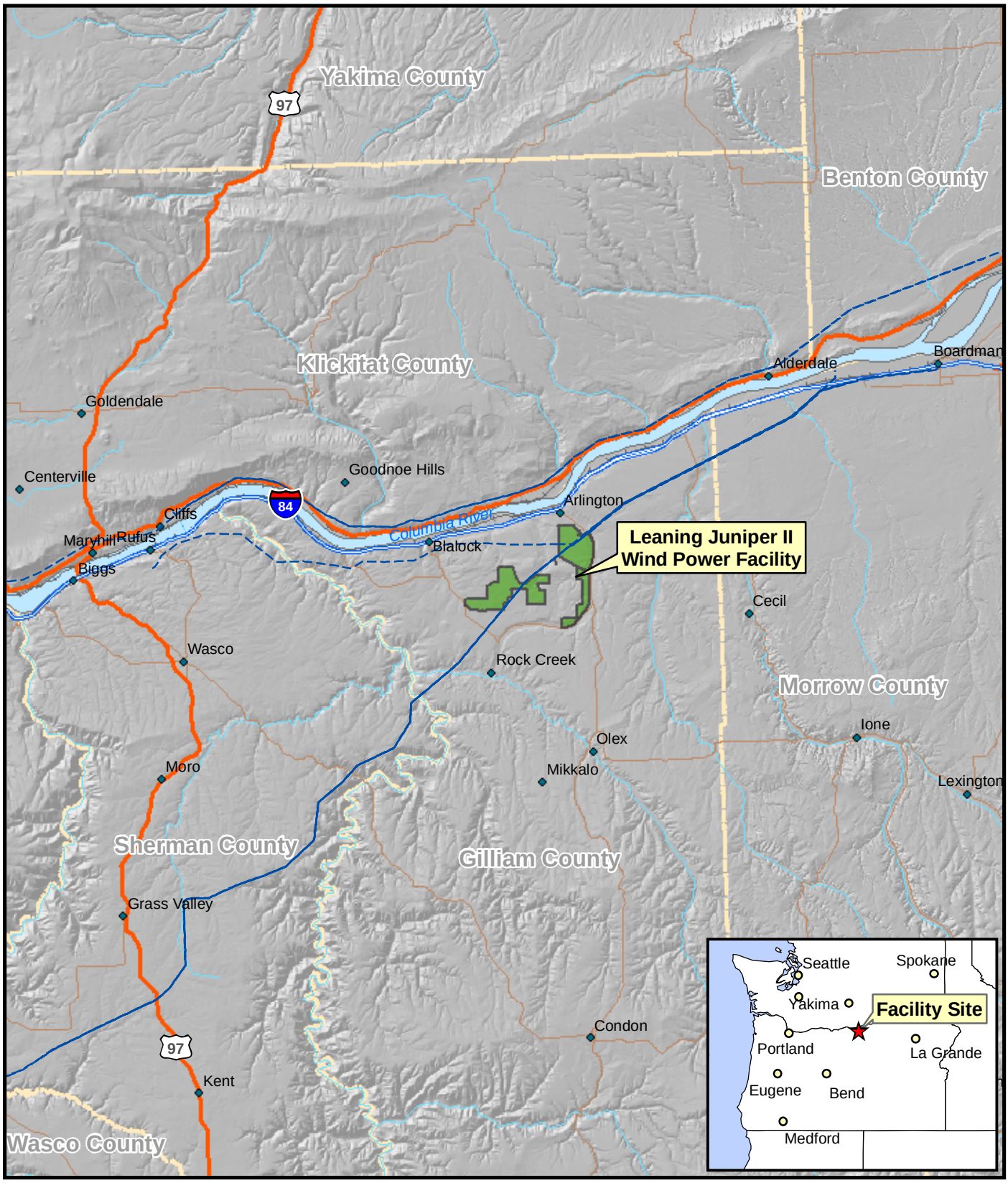



**Figure C-1**

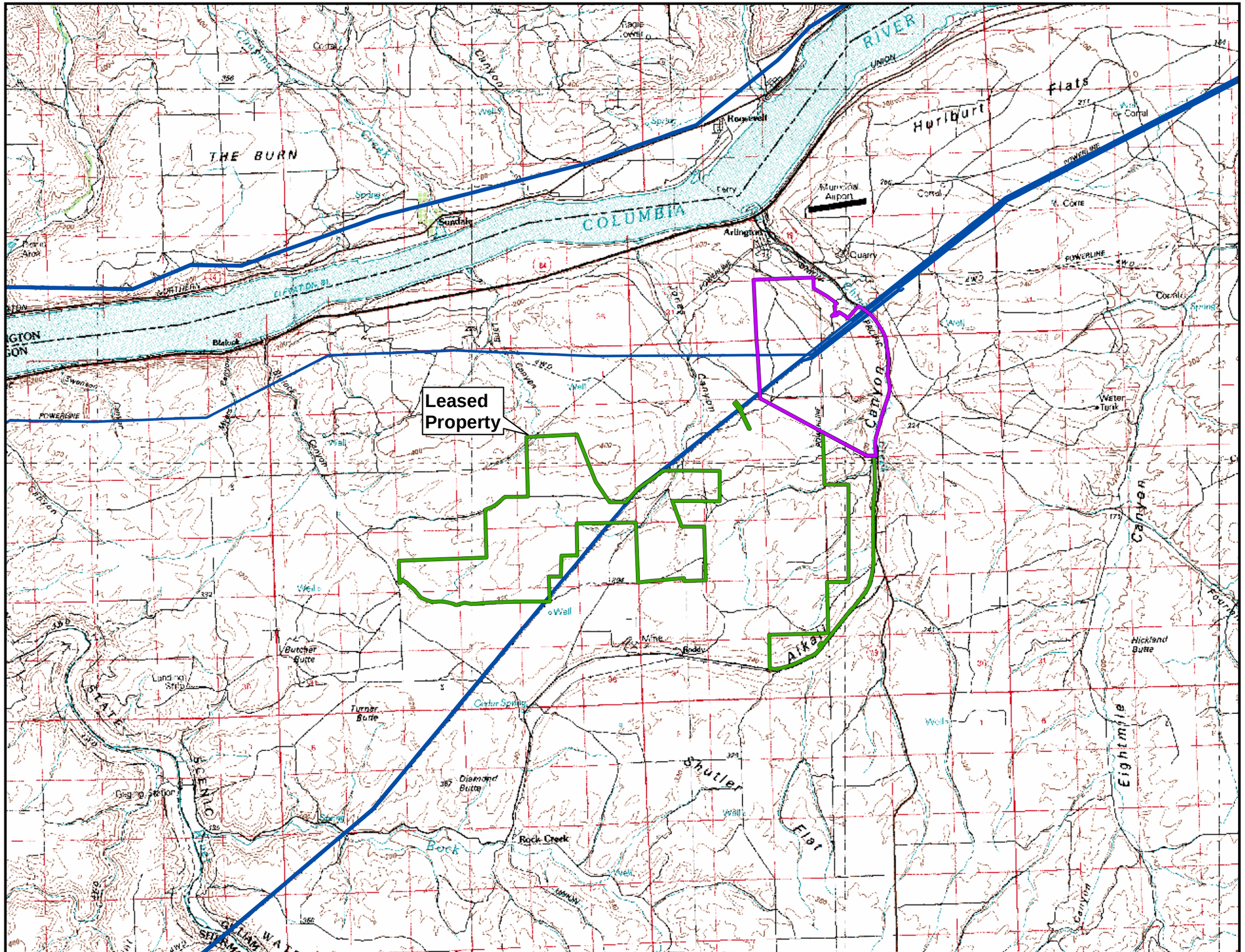
**Site Map**

Leaning Juniper II
Wind Power Facility

PPM Energy
A ScottishPower Company

ES092006004PDX

File Path: Z:\Projects\OR-WA\Leaning Juniper\MapDocuments\Report Figures\EFSC (LJII)\Figure C-1 Site Vicinity Map.mxd, Date: August 2, 2006 11:31:32 AM




File Path: Z:\Projects\OR-WA\Leaning Juniper\MapDocuments\Report Figures\EFSC (LJII)\Figure C-2 - Location Map of Energy Facility Site.mxd, Date: September 6, 2006 2:05:37 PM

**Figure C-2**

**Facility Location Map**

Leaning Juniper II
Wind Power Facility

PPM Energy
A ScottishPower Company

**Legend**

- Existing BPA Transmission Line
- Leaning Juniper II - North
- Leaning Juniper II - South

# Figure C-3a

## Facility Components (1.5-MW Layout)

Leaning Juniper II
Wind Power Facility

PPM Energy
A ScottishPower Company

**Legend**

- Leaning Juniper II Facility Corridor

**Proposed Permanent Facilities**

- Proposed Turbine - Leaning Juniper II North
- Proposed Turbine - Leaning Juniper II South
- Proposed Permanent Met Tower

Proposed Roads - Leaning Juniper II

- New Road
- Existing Road - Improvements Needed

Alternate Routes - Leaning Juniper II

- Existing Road - Improvements Needed
- New Road

Preferred Collector Routes

- Underground 34.5-kV Line
- Overhead 34.5-kV Line

Alternate Collector Routes

- Underground 34.5-kV Line
- Overhead 34.5-kV Line
- Proposed Substation
- Proposed O&M Facility and Laydown Area
- Alternate O&M Facility and Laydown Area
- BPA Jones Canyon Switching Station

**Proposed Temporary Facilities**

- Proposed Crane Path
- Proposed 2-Acre Temporary Staging Area
- Proposed 5-Acre Temporary Staging Area

**Existing Facilities**

- Existing BPA Transmission Line
- Existing LJ I Roads
- Major Roads
- Railroads
- Streams

Lease Boundary

- Leaning Juniper II - North
- Leaning Juniper II - South

N
W E
S

0 2,000 4,000 6,000
Feet

File Path: Z:\Projects\OR-WA\Leaning Juniper\MapDocuments\Report Figures\EFSC (LJII)\Figure C-3a - Facility Components (15MW Layout).mxd, Date: September 15, 2006 12:53:35 PM

# Figure C-3b

## Facility Components (3.0-MW Layout)

Leaning Juniper II
Wind Power Facility

PPM Energy
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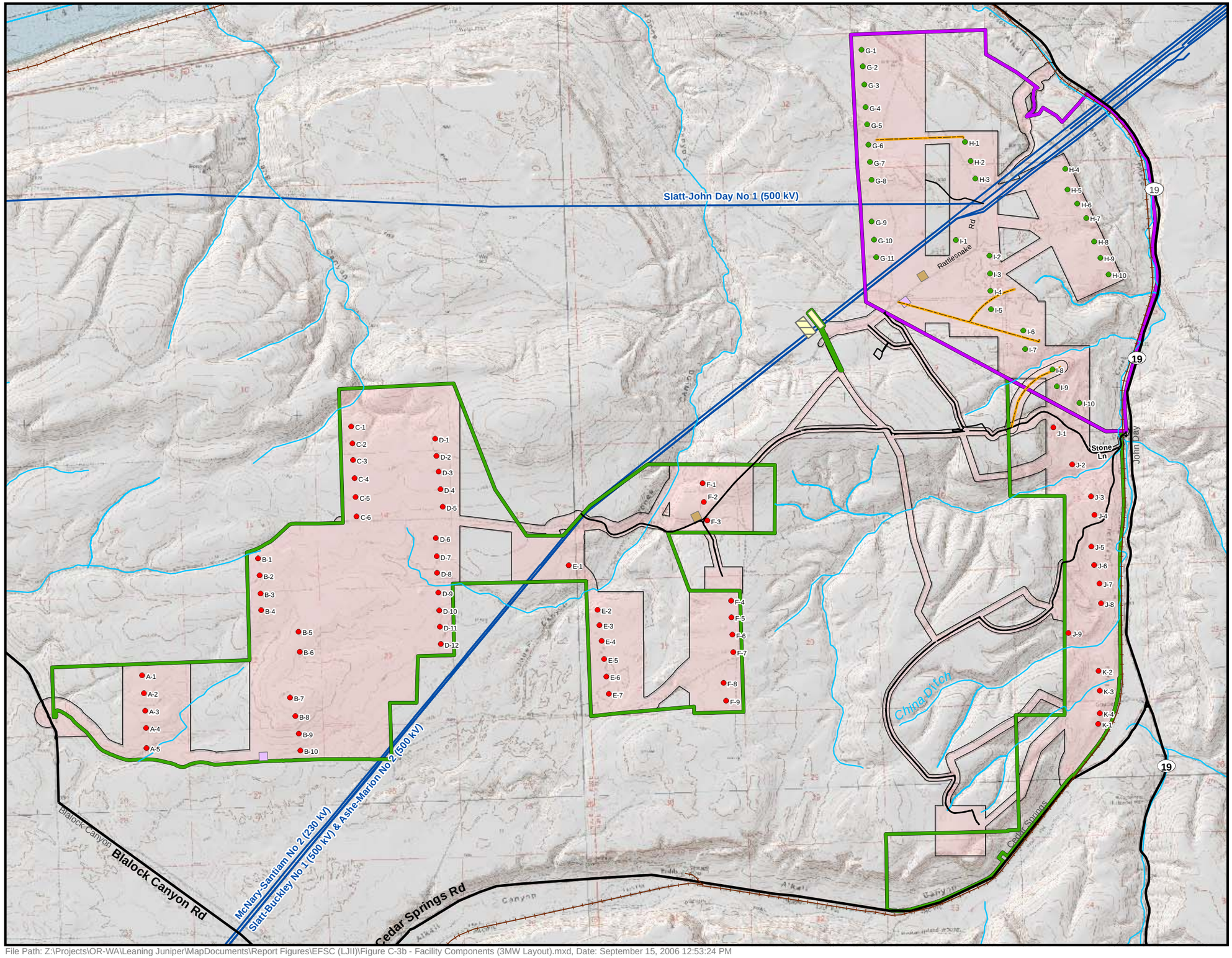



## Legend

- Leaning Juniper II Facility Corridor

**Proposed Permanent Facilities**

- Proposed Turbine - Leaning Juniper II North
- Proposed Turbine - Leaning Juniper II South
- Proposed Substation
- Proposed O&M Facility and Laydown Area
- Alternate O&M Facility and Laydown Area
- BPA Jones Canyon Switching Station

**Proposed Temporary Facilities**

- Proposed Crane Path

**Existing Facilities**

- Existing BPA Transmission Line
- Existing LJ I Roads
- Major Roads
- Railroads
- Streams

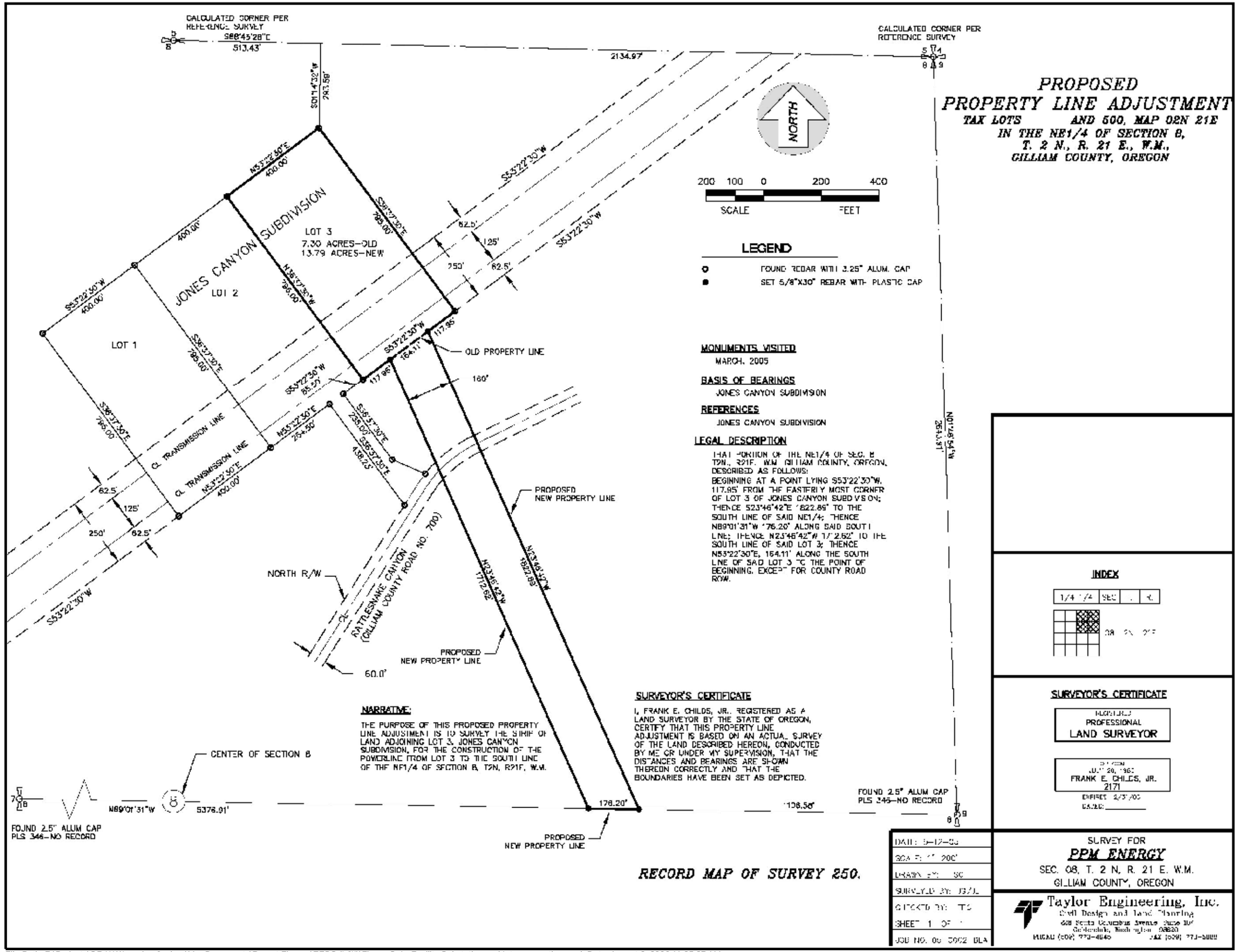
Lease Boundary

- Leaning Juniper II - North
- Leaning Juniper II - South

N
W E
S

0 2,000 4,000 6,000
Feet

File Path: Z:\Projects\OR-WA\Leaning Juniper\MapDocuments\Report Figures\EFSC (LJII)\Figure C-3b - Facility Components (3MW Layout).mxd, Date: September 15, 2006 12:53:24 PM




# Figure C-4

## Facility Substation and Interconnection

Leaning Juniper II
Wind Power Facility

PPM Energy
A ScottishPower Company

Legend

Lot 1 - Columbia Energy Partners Collector Substation

Lot 2 - BPA Jones Canyon Switching Station

Lot 3 - Facility Collector Substation

File Path: Z:\Projects\OR-WA\Leaning Juniper\MapDocuments\Report Figures\EFSC (LJII)\Figure C-4 - Facility Substation and Interconnection.mxd, Date: August 2, 2006 11:35:27 AM

# Figure C-5
# Facility Components - Detailed View
# (Leaning Juniper II North)

Leaning Juniper II
Wind Power Facility

**Legend**

- Noise-Sensitive Properties
- Category 1 Habitat
- Habitat Study Area
- Archaeological Study Area
- Leaning Juniper II Facility Corridor

**Proposed Permanent Facilities**

- Proposed Turbine - Leaning Juniper II North
- Proposed Turbine - Leaning Juniper II South
- Proposed Permanent Met Tower

Proposed Roads - Leaning Juniper II

- New Road
- Existing Road - Improvements Needed

Alternate Routes - Leaning Juniper II

- Existing Road - Improvements Needed
- New Road

Preferred Collector Routes

- Underground 34.5-kV Line
- Overhead 34.5-kV Line

Alternate Collector Routes

- Underground 34.5-kV Line
- Overhead 34.5-kV Line
- Proposed Substation
- Proposed O&M Facility and Laydown Area
- Alternate O&M Facility and Laydown Area
- BPA Jones Canyon Switching Station

**Proposed Temporary Facilities**

- Proposed Crane Paths
- Proposed 2-Acre Temporary Staging Area
- Proposed 5-Acre Temporary Staging Area

**Existing Facilities**

- Existing BPA Transmission Line
- Major Roads
- Existing LJ I Roads
- Railroads
- Streams
- Leaning Juniper II - North
- Leaning Juniper II - South

N
W E
S

PPM Energy
A ScottishPower Company

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# Figure C-6a
# Facility Components - Detailed View
# (Leaning Juniper II South)

Leaning Juniper II
Wind Power Facility

**Legend**

- Noise-Sensitive Properties
- Category 1 Habitat
- Habitat Study Area
- Archaeological Study Area
- Leaning Juniper II Facility Corridor

**Proposed Permanent Facilities**

- Proposed Turbine - Leaning Juniper II North
- Proposed Turbine - Leaning Juniper II South
- Proposed Permanent Met Tower

Proposed Roads - Leaning Juniper II

- New Road
- Existing Road - Improvements Needed

Alternate Routes - Leaning Juniper II

- Existing Road - Improvements Needed
- New Road

Preferred Collector Routes

- Underground 34.5-kV Line
- Overhead 34.5-kV Line

Alternate Collector Routes

- Underground 34.5-kV Line
- Overhead 34.5-kV Line
- Proposed Substation
- Proposed O&M Facility and Laydown Area
- Alternate O&M Facility and Laydown Area
- BPA Jones Canyon Switching Station

**Proposed Temporary Facilities**

- Proposed Crane Paths
- Proposed 2-Acre Temporary Staging Area
- Proposed 5-Acre Temporary Staging Area

**Existing Facilities**

- Existing BPA Transmission Line
- Major Roads
- Existing LJ I Roads
- Railroads
- Streams
- Leaning Juniper II - North
- Leaning Juniper II - South

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Leaning Juniper II South

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# Figure C-6b
# Facility Components - Detailed View
# (Leaning Juniper II South)

Leaning Juniper II
Wind Power Facility

**Legend**

- Noise-Sensitive Properties
- Category 1 Habitat
- Habitat Study Area
- Archaeological Study Area
- Leaning Juniper II Facility Corridor

**Proposed Permanent Facilities**

- Proposed Turbine - Leaning Juniper II North
- Proposed Turbine - Leaning Juniper II South
- Proposed Permanent Met Tower

Proposed Roads - Leaning Juniper II

- New Road
- Existing Road - Improvements Needed

Alternate Routes - Leaning Juniper II

- Existing Road - Improvements Needed
- New Road

Preferred Collector Routes

- Underground 34.5-kV Line
- Overhead 34.5-kV Line

Alternate Collector Routes

- Underground 34.5-kV Line
- Overhead 34.5-kV Line
- Proposed Substation
- Proposed O&M Facility and Laydown Area
- Alternate O&M Facility and Laydown Area
- BPA Jones Canyon Switching Station

**Proposed Temporary Facilities**

- Proposed Crane Paths
- Proposed 2-Acre Temporary Staging Area
- Proposed 5-Acre Temporary Staging Area

**Existing Facilities**

- Existing BPA Transmission Line
- Major Roads
- Existing LJ I Roads
- Railroads
- Streams
- Leaning Juniper II - North
- Leaning Juniper II - South

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Leaning Juniper II South

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# Figure C-6c
# Facility Components - Detailed View
# (Leaning Juniper II South)

Leaning Juniper II
Wind Power Facility

**Legend**

- Noise-Sensitive Properties
- Category 1 Habitat
- Habitat Study Area
- Archaeological Study Area
- Leaning Juniper II Facility Corridor

**Proposed Permanent Facilities**

- Proposed Turbine - Leaning Juniper II North
- Proposed Turbine - Leaning Juniper II South
- Proposed Permanent Met Tower

Proposed Roads - Leaning Juniper II

- New Road
- Existing Road - Improvements Needed

Alternate Routes - Leaning Juniper II

- Existing Road - Improvements Needed
- New Road

Preferred Collector Routes

- Underground 34.5-kV Line
- Overhead 34.5-kV Line

Alternate Collector Routes

- Underground 34.5-kV Line
- Overhead 34.5-kV Line
- Proposed Substation
- Proposed O&M Facility and Laydown Area
- Alternate O&M Facility and Laydown Area
- BPA Jones Canyon Switching Station

**Proposed Temporary Facilities**

- Proposed Crane Paths
- Proposed 2-Acre Temporary Staging Area
- Proposed 5-Acre Temporary Staging Area

**Existing Facilities**

- Existing BPA Transmission Line
- Major Roads
- Existing LJ I Roads
- Railroads
- Streams
- Leaning Juniper II - North
- Leaning Juniper II - South

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# EXHIBIT D

# APPLICANT'S ORGANIZATIONAL, MANAGERIAL, AND TECHNICAL EXPERTISE

OAR 345-021-0010(1)(d)

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## D.1 INTRODUCTION

**OAR 345-021-0010(1)(d)** *Information about the organizational expertise of the applicant to construct and operate the proposed facility, providing evidence to support a finding by the Council as required by OAR 345-022-0010, including:*

Response: PPM Energy, Inc. (PPM), as parent of Leaning Juniper Wind Power II, LLC (the Applicant), will provide the organizational, managerial, and technical expertise to construct and operate the proposed Leaning Juniper II Wind Power Facility (the Facility). PPM is an integrated, nonutility energy company that owns, controls, manages, or operates independent power generation facilities in the United States, 1,605 megawatts (MW) of which are generated by wind energy. PPM will directly provide its expertise to the Applicant.

## D.2 APPLICANT'S PREVIOUS EXPERIENCE

**OAR 345-021-0010(1)(d)(A)** *The applicant's previous experience, if any, in constructing and operating similar facilities;*

Response: Table D-1 summarizes the wind power generation facilities in which PPM or one of its direct subsidiaries is involved and the nature of that involvement:

Table D-1. Wind Power Generation Facilities

| Facility | Location (County, State) | Capacity | Commercial Operation | PPM Role |
|---|---|---|---|---|
| Klondike I Wind Project | Sherman, OR | 24 MW | 2001 | Owner/Operator |
| Stateline Wind Energy Center | Walla Walla, WA and Umatilla, OR | 300 MW | 2001 | Power Purchaser/ Marketer |
| Colorado Green Wind Project | Prowers, CO | 50% of 162 MW | 2003 | Owner/Operator |
| High Winds Energy Center | Solano, CA | 162 MW | 2003 | Power Purchaser/ Marketer |
| Moraine Wind Project | Pipestone and Murray, MN | 51 MW | 2003 | Owner/Operator |
| Flying Cloud Wind Project | Dickinson, IA | 44 MW | 2003 | Owner/Operator |
| Wyoming Wind Energy Center | Uinta, WY | 144 MW | 2003 | Power Purchaser/ Marketer |
| Mountain View III and Phoenix Wind Projects | Riverside, CA | 25 MW | 2003 | Owner/Operator |
| Maple Ridge Wind Farm | Lewis, NY | 50% of 198 MW | 2005 | Owner/Operator (joint venture with Zilkha) |

Table D-1. Wind Power Generation Facilities

| Facility | Location (County, State) | Capacity | Commercial Operation | PPM Role |
|---|---|---|---|---|
| Elk River Wind Power | Butler, KS | 150 MW | 2005 | Owner/Operator |
| Trimont Wind Farm | Martin, MN | 100 MW | 2005 | Owner/Operator |
| Klondike II Wind Project | Sherman, OR | 75 MW | 2005 | Owner/Operator |
| Shiloh Wind Project | Solano, CA | 150 MW | 2005 | Owner/Operator |
| Big Horn Wind Project | Bickleton, WA | 200 MW | 2006 | Owner/Operator |
| | **TOTAL** | **1,605 MW** | | |

PPM, through its direct subsidiaries, also developed and owns or manages the output of three natural gas-fired generation facilities, including the Klamath Cogeneration and Klamath Expansion projects in Oregon and the West Valley project in Utah. PPM's total gas-fired generation portfolio is 784 MW of capacity.

## D.3 QUALIFICATION OF APPLICANT'S PERSONNEL

**OAR 345-021-0010(l)(d)(B)** *The qualifications of the applicant's personnel who will be responsible for constructing and operating the facility, to the extent that the identities of such personnel are known when the application is submitted*;

Response: Below are brief resumes of each of the key personnel assigned to the Leaning Juniper II Wind Power team:

**Ty Daul** is the Regional Managing Director for the West and is responsible for business development activities at PPM, including new power project development and wholesale power marketing. Ty has played a major role in developing the following energy projects:

- 200-MW Big Horn wind generation facility in Bickleton, Washington
- 51-MW Moraine wind generation facility along the Buffalo Ridge in southwest Minnesota
- 320-MW simple cycle Crete Project just outside Chicago, Illinois
- 500-MW RS Cogen Plant in Lake Charles, Louisiana
- 70-MW combined heat and power Derby Project in England

Ty has more than 12 years experience in the energy industry. He holds a Bachelor's degree from the University of Washington and an MBA from Texas A&M. Before joining PPM, Ty was responsible for developing regional power opportunities on behalf of several independent power producers.

**Andrew O'Connell** is the lead developer for Leaning Juniper II. Andrew joined PPM in 2001. For his first 3 years, as part of the finance team, Andrew helped the Chief Financial Officer plan and finance PPM's wind growth. Now a project developer, he is helping PPM's development group execute that growth. Before joining PPM, Andrew spent 2 years facilitating project financing and equity sales for a leading Spanish wind developer (Eurovento). He has an MBA in finance from the University of Oregon.

**Andy Linehan** is the Director of Permitting for wind energy projects at PPM. He has been involved in the environmental studies for Leaning Juniper II both at PPM (where he has been since October 2004) and in his previous position at the consulting firm CH2M HILL. In that position, he was the consultant project manager for the Stateline Wind Project EFSC application (and two amendments) as well as for the Klondike Wind Project and several other wind projects in Washington and other states. In his current role, he supports permitting and environmental analysis of PPM's projects throughout the country. Andy has a Bachelor's degree from Reed College and a Master's Degree in Public Affairs from the Woodrow Wilson School at Princeton University.

**Sara McMahon** assists Andy in the permitting group, with a focus on wind energy projects in the western U.S. Before joining PPM in 2005, Sara worked as a biologist and project manager for 5 years at Ecology and Environment, Inc., an environmental consulting firm. She has a Bachelor's degree in Environmental Science from Wesleyan University.

**Jean Wilson** is Vice President of Business Development, a position in which she is responsible for PPM's wind energy development activities. Jean has been involved in all aspects of PacifiCorp and PPM new wind developments, spanning more than 800 MW of wind transactions, including the following:

- 50 percent investment in the 162-MW Colorado Green Project
- 100 percent investment in the 22-MW Mountain View 3 Project
- 100 percent acquisition of the 24-MW Klondike Project
- 100 percent investment in the 50-MW Rock River, Wyoming wind plant
- Securing the 162-MW High Winds Project Power Purchase Agreement (PPA)
- Securing the 144-MW Pleasant Valley Project PPA
- Establishing PacifiCorp's Green Power Marketing business (in conjunction with Barrett Stambler)
- Developing the 2.1-MW PacWest wind plant in San Gorgonio, California

Jean has more than 8 years experience in the wind energy business, and 10 years experience in real estate development, finance, and banking. She holds a Bachelor's degree in finance from the University of Southern California, and an MBA from Stanford University.

**Robert W. Baker** is the Manager of Wind Energy Assessment and Evaluation. Bob is a senior meteorologist and has worked in the wind industry both in the university and private sector for nearly 30 years. He has been a pioneer in the development of wind resource assessment prospecting techniques and he has applied his expertise in aerial surveillance and ground evaluation to quickly locate good wind areas, many of which have been or are currently being developed into wind farms in the 50- to 300-MW scale. He has authored or co-authored more than 50 publications in technical journals and project reports. Bob has a Master's degree in Atmospheric Sciences from Oregon State University and is a Certified Consulting Meteorologist (CCM), the professional certification granted by the American Meteorological Society.

**Barrett Stambler** is the Managing Director of Renewable Origination, responsible for PPM's sales and marketing activities. Barrett has played a major role in developing and managing PPM's wind energy business, including:

- Execution of the power purchase agreement for the 300-MW Stateline Wind Project located in eastern Oregon and Washington
- Sale of 175 MW of wind generation to Seattle City Light
- Sale of 120 MW of green tags to the Sacramento Municipal Utility District
- Sale of 30 MW of wind generation to five Southern California municipals
- Sale of 90 MW of wind generation to Bonneville Power Administration
- Sale of 22.5 MW of wind generation to a Southern California investor-owned utility (IOU)
- Sale of 25 MW of wind generation to Eugene Water Electric Board
- Sale of merchant wind generation to Green Mountain

Barrett has more than 18 years of experience in the renewable energy business with U.S. Windpower, Calpine, and the Department of Energy. He holds a Bachelor's degree from Pomona College and an MBA from Yale University.

**Rob Goodman** currently manages a team of 15 power traders who collectively possess more than 150 years of experience on the Western System Coordinating Council (WECC). Responsibilities include control area operations, generation and transmission dispatching and scheduling, and trading throughout the WECC. Rob manages more than 200 MW of wind generation and 744 MW of gas-fired generation within PacifiCorp and Bonneville Power Administration control areas. The trading team will be adding additional talent to the group to enhance its presence in the Midwest.

**Allan Query** is Vice President of Technical Services and Operations for PPM. He joined Pacific Generation Company (PGC), an earlier, unregulated affiliate, in 1991 as Director of Project Engineering. He currently is managing the design and construction of PPM's wind projects, including approximately 100 MWs in the Midwest and 185 MWs in the western U.S. Past responsibilities include managing the design, construction, and startup of the 240-MW Crockett Cogeneration Project and the 484-MW Klamath

Cogeneration Project, and providing engineering oversight for PGC's interest in 13 other generation projects powered by gas, coal, refuse-derived fuel, hydro, and wind. In his current capacity, he manages the engineering, construction, and operation of PPM projects. Allan graduated cum laude from Seattle University in mechanical engineering and is a registered Professional Engineer. While with GE from 1973 to 1991 as a field engineer, startup engineer, service manager, and project manager, he gained recognized expertise in the design, construction, startup, and management of unique gas turbine, combined-cycle, and biomass-fired power and cogeneration plants throughout the western U.S. and Alaska. He has had direct experience with more than 30 such projects, including regenerative cycle marine propulsion systems and several of the earliest large combined-cycle generation projects. His group is responsible for the following activities:

- Project Design, Engineering, and Construction Specifications
- Interconnection and Substation Design
- Project Environmental Assessments
- Permits and Related Approvals
- Project Construction and Commissioning
- Project Operations
- Project Maintenance

**Jim Gilbert** is Director of Project Engineering, a position in which he is responsible for PPM's technical support for new development activities. Since joining PPM in November 2002, he has directed and managed the technical resources associated with PPM's development activities, including technical oversight and contract administration provided for the Klondike acquisition, the Flying Cloud and Mountain View III development projects, and most recently, the Colorado Green acquisition. Jim holds a Construction Management degree from Washington State University with graduate level studies in business finance from the University of California at Berkeley and Golden Gate University. He has more than 21 years in the power industry and structured origination, including strategic acquisitions and investments, marketing, construction management, and power plant development. Jim has held various management level positions in the independent power industry and has directed commercial and technical teams associated with business investments, including a diverse mix of resource and power plant technologies. Before joining PPM, Jim was Director of Business Development for Enron North America's West Power Origination division located in Portland, Oregon.

## D.4 QUALIFICATIONS OF KNOWN CONTRACTORS

**OAR 345-021-0010(1)(d)(C)** *The qualifications of any architect, engineer, major component vendor, or prime contractor upon whom the applicant will rely in constructing and operating the facility, to the extent that the identities of such persons are known when the application is submitted*;

Response: The Applicant has not selected a prime contractor to construct the Facility. Selection criteria will center on qualified engineers, manufacturers, and contractors who are experienced in the wind industry.

## D.5 APPLICANT'S PAST PERFORMANCE

**OAR 345-021-0010(1)(d)(D)** *The past performance of the applicant, including but not limited to the number and severity of any regulatory citations in constructing or operating a facility, type of equipment, or process similar to the proposed facility;*

Response: PPM has successfully developed, managed construction of, and operated the wind energy projects described in previous sections. Neither PPM nor the Applicant has received any regulatory citations in connection with the construction or operation of similar facilities.

## D.6 APPLICANT WITH NO PREVIOUS EXPERIENCE

**OAR 345-021-0010(1)(d)(E)** *If the applicant has no previous experience in constructing or operating similar facilities and has not identified a prime contractor for construction or operation of the proposed facility, other evidence that the applicant can successfully construct and operate the proposed facility. The applicant may include, as evidence, a warranty that it will, through contracts, secure the necessary expertise; and*

Response: Not applicable.

## D.7 ISO CERTIFIED PROGRAM

**OAR 345-021-0010(1)(d)(F)** *If the applicant has an ISO 9000 or ISO 14000 certified program and proposes to design, construct and operate the facility according to that program, a description of the program;*

Response: PPM does not have an ISO 9000 or 14000 certified program.

## D.8 MITIGATION

**OAR 345-021-0010(1)(d)(G)** *If the applicant relies on mitigation to demonstrate compliance with any standards of Division 22 or 24 of this chapter, evidence that the applicant can successfully complete such proposed mitigation, including past experience with other projects and the qualifications and experience of personnel upon whom the applicant will rely, to the extent that the identities of such persons are known at the date of submittal.*

Response: Mitigation for the Facility may be required for impacts to wildlife resources and other resources. PPM has developed and implemented mitigation projects at multiple sites. At the Shiloh Wind Project in Solano County, California, PPM developed a Raptor Mitigation Plan, which provides micrositing and design guidelines for minimizing impacts to raptors. For the same project, PPM is in the process of acquiring a conservation easement on 120 acres near the Facility to mitigate for potential avian mortality impacts. In the state of Washington, for the Big Horn Wind Project, PPM is acquiring an approximately 180-acre conservation easement to mitigate for habitat impacts of the wind project. PPM has also funded basic research on biological impacts of wind energy. For example, the company is now in its third year of funding for the Bat Wind Energy Cooperative, which is evaluating interactions of bats and wind projects at several wind project sites. PPM has made a 4-year commitment to funding research into

the potential displacement impacts of wind energy on grassland nesting avian species such as prairie chickens. In designing and executing these and other mitigation projects, PPM relies on in-house expertise (including Mr. Linehan and Ms. McMahon) and on the selection and management of qualified outside contractors such as Karen Kronner and other biologists from Northwest Wildlife Consultants, Inc., who conducted the wildlife surveys for the Facility.

# EXHIBIT E

## PERMITS NEEDED FOR CONSTRUCTION AND OPERATION
OAR 345-021-0010(1)(e)

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**ATTACHMENT**

## E.1 INTRODUCTION

Leaning Juniper Wind Power II, LLC (the Applicant) proposes to construct a wind generation facility in Gilliam County, Oregon, with generating capacity of up to approximately 279 megawatts (MW). The proposed facility (the Facility) consists of two main components: (1) Leaning Juniper II North (the north portion of the Facility with up to 93 MW), and (2) Leaning Juniper II South (the south portion of the Facility with up to 186 MW).

**OAR 345-021-0010(1)(e)** *Information about permits needed for construction and operation of the facility, including:*

Response: Sections E.2 through E.8 provide information about permits needed for construction and operation of the proposed Facility.

## E.2 IDENTIFICATION OF NECESSARY PERMITS

**OAR 345-021-0010(1)(e)(A)** *Identification of all federal, state and local government permits needed before construction and operation of the proposed facility, legal citation of the statute, rule or ordinance governing each permit, and the name, address and telephone number of the agency or office responsible for each permit.*

Response: Sections E.2.1 through E.2.4 identify necessary federal, state, and local permits.

### E.2.1 Federal Permits

**Permit:** **Record of Decision/National Environmental Policy Act Compliance**
*(For Bonneville Power Administration's decision to interconnect the Facility to BPA's transmission network)*

Agency: Donald L. Rose, Environmental Specialist
Bonneville Power Administration
905 NE 11th Avenue
Portland, OR 97208
(503) 230-3796

Authority: National Environmental Policy Act (NEPA), Section 102 (42 USC § 4332); 40 CFR § 1500 (2005)

**Permit:** **Clean Water Act, Section 404**

Agency: Karla Ellis, Permit Evaluator
U.S. Army Corps of Engineers, Portland District
333 SW First Avenue
Portland, OR 97204
(503) 808-4380

Authority: Clean Water Act, Section 404 (33 USC § 1344); 33 CFR §§ 320, 323, 325-28, and 330 (2005).

**Permit:** **Notice of Proposed Construction or Alteration (Form 7460.1)**

Agency: Federal Aviation Administration
Northwest Mountain Regional Office
Air Traffic Division, ANM-520
1601 Lind Avenue, SW
Renton, WA 98055-4056
425-227-2558

Authority: Federal Aviation Act of 1958 (14 USC § 44718); 14 CFR § 77 (2005)

### E.2.2 State Permits: Not Federally Delegated

The Energy Facility Siting Council (EFSC) determines compliance with Oregon statutes and rules for state agencies. This section lists state permits issued by EFSC.

**Permit:** **Energy Facility Site Certificate**

Agency: Oregon Office of Energy
Energy Facility Siting Council
625 Marion St. NE
Salem, OR 97301
(503) 378-3194

Authority: ORS 469.300 *et seq.*; OAR Chapter 345, Divisions 1, 21-24.

**Permit:** **Removal/Fill Permit**

Agency: Oregon Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97031-1279
(503) 378-3805

Authority: ORS 196; OAR Chapter 141, Division 85

**Permit:** **Onsite Sewage Disposal Construction-Installation Permit**

Agency: Oregon Department of Environmental Quality
Eastern Division
2146 NE 4th
Bend, OR 97701
(541) 388-6146

Authority: ORS 454 and 468B; OAR Chapter 340, Divisions 71 and 73

**Permit:** **Water Right Permit or Water Use Authorization**

Agency: Oregon Water Resources Department
Water Rights Section
158 12th Street NE
Salem, OR 97310
(503) 378-8466

Authority: ORS 537; OAR 690 Divisions 310, 340, 410 and 502

**Permit:** **Oversize Load Movement Permit/Load Registration**

Agency: Oregon Department of Transportation
Motor Carriers Transportation Division
550 Capitol Street NE
Salem, OR 97301
(503) 378-1289

Authority: ORS 818.030; OAR Chapter 734 Division 82

**Permit:** **Permit to Construct a State Highway Approach**

Agency: Oregon Department of Transportation
ODOT District 09
3313 Bret Clodfelter Way
The Dalles, OR 97058
(541) 296-2215

Authority: OAR 734-051-0215

**Permit:** **Archaeological Permit**

Agency: Oregon Parks and Recreation Department, State Historic Preservation Office
725 Summer Street NE, Suite C
Salem, OR 97301
(503) 986-0707

Authority: ORS 97, 197, 358, and 390; OAR Chapter 736, Division 51

### E.2.3 State Permits: Federally Delegated

EFSC does not determine compliance with statutes and rules if the federal government has delegated the decision on compliance to a state agency other than EFSC. This section lists state permits issued by state agencies under federally delegated programs.

**Permit:** **NPDES Stormwater Discharge Permit 1200-C**

Agency: Oregon Department of Environmental Quality

Eastern Region
2146 NE 4th
Bend, OR 97701
(541) 388-6146

Authority: Clean Water Act, Section 402 (33 USC § 1342); 40 CFR § 122 (2005); ORS 468 and 468B; OAR Chapter 340, Division 45

**Permit: Water Quality Certification**

Agency: Oregon Department of Environmental Quality
811 SW 6th Avenue
Portland, OR 97204
(503) 229-5279

Authority: Clean Water Act, Section 401 (33 USC § 1341); OAR Chapter 340, Division 48.

### E.2.4 Local Permits

**Permit: Zoning Permit**

Agency: Susie Anderson, Planning Director
Planning Department & Planning Commission
Gilliam County
221 Oregon Street
P.O. Box 427
Condon, OR 97823
(541) 384-3768

Authority: GCZO Ordinance Article 11—Administrative Provisions

## E.3 DESCRIPTION OF NECESSARY PERMITS

**OAR 345-021-0010(1)(e)(B)** *A description of each permit and the reasons the permit is needed for construction or operation of the facility.*

Response: Sections E.3.1 through E.3.4 describe the necessary permits.

### E.3.1 Federal Permits

**Record of Decision/NEPA Compliance**

42 USC 4332; 40 CFR § 1500 (2005).

Interconnection to BPA's transmission system is subject to review under NEPA.

BPA issued a Record of Decision (ROD) in March 2005 for a 200-megawatt (MW) interconnection of the Facility to the Jones Canyon Switching Station (see Attachment E-1.) BPA concluded that the 200-MW interconnection was within the scope of the

Business Plan Final Environmental Impact Statement (BP EIS). The Facility will utilize 100 MW of the approved 200-MW interconnection.

Any additional interconnection to BPA's transmission system will be subject to additional, BPA-led review under NEPA, the Endangered Species Act, the National Historic Preservation Act, and related cultural resources protection statutes.

### Clean Water Act, Section 404

33 USC § 1344; 33 CFR §§ 320, 323, 325-28, and 330 (2005).

A Clean Water Act Section 404 permit is triggered if there are impacts to waters of the U.S., including wetlands, by construction of the proposed Facility.

The Applicant will submit to the U.S. Army Corps of Engineers appropriate applications for any impacts to jurisdictional waters. Based on the proposed layout and prior experience in this area, and subject to review by U.S. Army Corps of Engineers staff, the Applicant expects construction to be authorized pursuant to the Regional General Permit for Nationwide Permit Replacement Authorization Within the State of Oregon.

### Notice of Proposed Construction or Alteration (Form 7460.1)

14 USC § 44718; 14 CFR §§ 77.13, 77.15, 77.17 (2005).

The Facility's turbine towers will be over 200 feet in height and therefore trigger review by the Federal Aviation Administration (the FAA) pursuant to 14 CFR part 77. Upon review of tower latitude, longitude, and height, the FAA issues a determinative notice if the Facility will interfere with flight paths or will require further conditions of the site certificate, such as minimum lighting requirements. The FAA also identifies when notification of actual construction is required. However, no permit is issued by the FAA.

## E.3.2 State Permits: Not Federally Delegated

### Energy Facility Site Certificate

ORS 469.300 et seq.

OAR Chapter 345, Divisions 1, 21-24

An Energy Facility Site Certificate is required before construction or operation.

### Removal/Fill Permit

ORS 196; OAR Chapter 141, Division 85

A Removal/Fill Permit is required if there are impacts to waters of the United States (Clean Water Act), including wetlands, by construction of the proposed Facility. In addition, a Removal/Fill Permit is required if removal and fill will be greater than the required threshold to obtain a permit (50 cubic yards). Construction of the Facility will

involve replacement of a culvert at stream S27. However, because the culvert replacement will occur entirely within the existing road prism and temporary impacts are anticipated to be less than 50 cubic yards of removal plus fill, no state Removal/Fill Permit is required per ORS 196.800 and OAR chapter 141, division 85. If temporary impacts at this location exceed 50 cubic yards, a state Removal/Fill Permit will be required. The Applicant will obtain the necessary permits from the U.S. Army Corps of Engineers to install a culvert.

**Water Right Permit or Water Use Authorization**
ORS 537; OAR 690 Divisions 310, 340, 410 and 502

The Applicant does not expect a water right to be required because it will provide water for the O&M building(s) from an "exempt" groundwater well appropriating less than 5,000 gallons per day.

### Oversize Load Movement Permit/Load Registration

ORS 818.030; OAR Chapter 734 Division 82

This permit is required for hauling oversized or heavy loads on state highways.

### Construction-Installation Permit for Onsite Sewage Disposal

ORS 454 and 468B; OAR Chapter 340, Divisions 71 and 73

Facilities with an onsite sewage disposal system and a projected daily sewage flow of less than 2,500 gallons must obtain a Construction-Installation Permit before construction.

A Construction-Installation permit will be obtained for the Leaning Juniper II O&M facility.

## E.3.3 State Permits: Federally Delegated

### NPDES Stormwater Discharge Permit 1200-C, Construction General Stormwater Permit

40 CFR § 122 (2005); ORS 468 and 468B; OAR Chapter 340, Division 45

This permit is intended to meet the need for an NPDES permit for stormwater discharges associated with construction activity. The permit is required for construction projects that disturb more than 1 acre of ground.

The Applicant is in the process of preparing a 1200-C permit application for Leaning Juniper II and plans to submit this application to DEQ in the fall of 2006.

### Water Quality Certification

Clean Water Act, Section 401 (33 USC § 1341); OAR Chapter 340, Division 48.

Under Section 401 of the Clean Water Act, a Water Quality Certification is required if there is a federal permit to conduct an activity that may result in a discharge to waters of the State. The Applicant does not anticipate that an individual 401 certification will be required for this project because the U.S. Army Corps of Engineers Nationwide Permit No. 12 and 14 has been precertified by Oregon DEQ.

### E.3.4 Local Permits

#### Gilliam County Zoning Permit

GCZO Ordinance Article 11—Administrative Provisions

This permit is applicable to all facility structures. A zoning permit will be obtained from the Gilliam County Planning Department. Permits are issued by the County Planning Director.

## E.4 NON-FEDERALLY-DELEGATED PERMIT APPLICATION

**OAR 345-021-0010(1)(e)(C)** *For state or local government permits or approvals for which the Council must determine compliance with applicable standards, evidence to support findings by the Council that construction and operation of the proposed facility will comply with all statutes, rules and standards applicable to the permit. The applicant may show this evidence:*

*(i) In Exhibit J for permits related to wetlands;*

Response: See Exhibit J. No state Removal/Fill Permit will be required to construct the Facility.

*(ii) In Exhibit O for permits related to water rights.*

Response: See Exhibit O. Oregon law allows exempt industrial and commercial uses up to 5,000 gallons per day from groundwater wells without a permit (ORS 537.545(1)(f)). Exempt industrial uses include water for drinking, flushing toilets, and using sinks, as well as other industrial uses during construction and operation of the Facility. During Facility operation, a well to be located near the proposed O&M building(s) will provide water and produce less than 5,000 gallons per day.

## E.5 FEDERALLY-DELEGATED PERMIT APPLICATION

**OAR 345-021-0010(1)(e)(D)** *For federally-delegated permit applications, evidence that the responsible agency has received a permit application and the estimated date when the responsible agency will complete its review and issue a permit decision.*

Response: The Applicant is in the process of preparing a 1200-C permit application for Leaning Juniper II and plans to submit this application to DEQ in the fall of 2006.

## E.6 THIRD-PARTY PERMITS

**OAR 345-021-0010(1)(e)(E)** *If the applicant will not itself obtain a state or local government permit or approval for which the Council would ordinarily determine compliance but instead relies on a permit issued to a third party, identification of any such third-party permit and for each:*

*(i) Evidence that the applicant has, or has a reasonable likelihood of entering into, a contract or other agreement with the third party for access to the resource or service to be secured by that permit;*

Response: It is not anticipated that any third-party permits will be required to construct the Facility.

*(ii) Evidence that the third party has, or has a reasonable likelihood of obtaining, the necessary permit; and*

Response: Not applicable.

*(iii) An assessment of the impact of the proposed facility on any permits that a third party has obtained and on which the applicant relies to comply with any applicable Council standard.*

Response: Not applicable.

## E.7 FEDERALLY DELEGATED PERMITS ISSUED TO A THIRD PARTY

**OAR 345-021-0010(1)(e)(F)** *If the applicant relies on a federally-delegated permit issued to a third party, identification of any such third-party permit for each:*

*(i) Evidence that the applicant has, or has a reasonable likelihood of entering into, a contract or other agreement with the third party for access to the resource or service to be secured by that permit;*

Response: No federally-delegated permits will be needed by a third party in order to construct the Facility.

*(ii) Evidence that the responsible agency has received a permit application; and*

Response: Not applicable.

*(iii) The estimated date when the responsible agency will complete its review and issue a permit decision.*

Response: Not applicable.

## E.8 MONITORING PROGRAM

**OAR 345-021-0010(1)(e)(G)** *The applicant's proposed monitoring program, if any, for compliance with permit conditions.*

Response: Monitoring requirements, if any, will be determined by the Council and federal agencies responsible for issuing permits or approvals for the Facility. The monitoring measures proposed by the Applicant for compliance with permit conditions are described in this application, e.g., 1200-C permit requirements for erosion control monitoring and reporting and avian/bat mortality monitoring.

**ATTACHMENT E-1**

# Bonneville Power Administration Record of Decision for Leaning Juniper

# Record of Decision for the Electrical Interconnection of the Leaning Juniper Wind Project

## March 2005

## INTRODUCTION

The Bonneville Power Administration (BPA) has decided to offer contract terms for interconnection of up to 200 megawatts (MW) of wind generation from the PPM Energy, Inc.'s (PPM) proposed Leaning Juniper Wind Project (Wind Project) into the Federal Columbia River Transmission System (FCRTS). The Wind Project will be interconnected at BPA's Jones Canyon Switching Station (Jones Canyon SS), which is under construction three miles southwest of the town of Arlington, Oregon. The Jones Canyon SS will provide transmission access for the Wind Project to BPA's McNary-Santiam #2 230-kilovolt (kV) transmission line. BPA will increase the capacity of the McNary-Santiam #2 to accommodate the Wind Project, which will require increased ground clearance at four locations along the transmission line. These proposed line upgrades will be located in Wasco, Gilliam, Sherman, and Morrow Counties in Oregon.

BPA's decision to offer terms to interconnect the Wind Project is consistent with the Business Plan Final Environmental Impact Statement (BP EIS) (DOE/EIS-0183, June 1995), and the Business Plan Record of Decision (BP ROD, August 15, 1995). Thus, this decision is tiered to the BP ROD.

## BACKGROUND

BPA is a Federal agency that owns and operates a majority of the high-voltage electric transmission system in the Pacific Northwest. This system is known as the FCRTS. BPA has adopted an Open Access Transmission Tariff for the FCRTS, consistent with the Federal Energy Regulatory Commission's (FERC) *pro forma* open access tariff.[1] Under BPA's tariff, BPA offers transmission interconnection to the FCRTS to all eligible customers on a first-come, first-served basis, with this offer subject to an environmental review under the National Environmental Policy Act (NEPA).

In June 2002, PPM submitted a generation interconnection request to BPA for interconnection of up to 200 MW from the proposed Wind Project to BPA's McNary-Santiam #2 transmission line. Consistent with its tariff, BPA needs to respond to this request. In considering this request, BPA reviewed the environmental analysis in the BP EIS and considered whether offering contract terms was consistent with the Market-Driven alternative adopted by the BPA Administrator in the BP ROD. BPA also reviewed and relied on environmental information contained in the Conditional Use Permit (CUP) issued for the Wind Project by Gilliam County, Oregon. Additional information on cultural resources and special status plants and animals in

[1] Although BPA is not subject to FERC's jurisdiction, BPA follows the open access tariff as a matter of national policy. This course of action demonstrates BPA's commitment to non-discriminatory access to its transmission system and ensures that BPA will receive non-discriminatory access to the transmission systems of utilities that are subject to FERC's jurisdiction.

the vicinity of locations where the McNary-Santiam #2 transmission line would be upgraded was collected and analyzed as needed.

For BPA, implementing the proposed action involves offering contract terms to PPM or its successor for interconnecting the Wind Project into the FCRTS. Under this contract, BPA would construct, operate, and maintain the necessary interconnection facilities and integrate power from the Leaning Juniper Wind Project into the FCRTS.

## RELATIONSHIP TO BUSINESS PLAN EIS

In response to a need for a sound policy to guide its business direction under changing market conditions, BPA explored six alternative plans of action in its BP EIS. The six alternatives were: Status Quo (No Action), BPA Influence, Market-Driven, Maximize Financial Returns, Minimal BPA, and Short-Term Marketing. The BP EIS examined each of these six alternatives as they relate to meeting the regional electric energy need in the dynamic West Coast energy market. The analysis focused on the relationships among BPA, the utility market, and the affected environment. The evaluation, which included transmission as well as generation, compared BPA actions and those of other energy suppliers in the region in meeting that need (BP EIS, section 1.7).

In the BP ROD, the BPA Administrator selected the Market-Driven Alternative. Although the Status Quo and the BPA Influence Alternatives were the environmentally preferred alternatives, the differences among alternatives in total environmental impacts were relatively small. Other business aspects, including loads and rates, showed greater variation among the alternatives. BPA's ability to meet its public and financial responsibilities would be weakened under the environmentally preferred alternatives. The Market-Driven Alternative strikes a balance between marketing and environmental concerns, including those for transmission-related actions. It is also designed to help BPA ensure the financial strength necessary to maintain a high level of support for public service benefits, such as energy conservation and fish and wildlife mitigation and recovery activities.

The BP EIS was intended to support a number of decisions (BP EIS, section 1.4.2), including contract terms BPA will offer for generation interconnection services. The BP EIS and ROD documented a strategy for making these subsequent decisions (BP EIS, Figure 1.4-1 and BP ROD, Figure 3, page 15). BPA's decision to offer terms for interconnecting the Wind Project is one of these subsequent decisions and the subject of this ROD. BPA reviewed the BP EIS to ensure that offering contract terms for interconnecting this Wind Project was adequately covered within its scope and that it was appropriate to issue a ROD tiered to the BP ROD. This tiered ROD, which summarizes and incorporates information from the BP EIS, demonstrates this decision is within the scope of the BP EIS and ROD. This ROD describes the specific information applicable to this decision to offer contract terms for generation interconnection of the Wind Project at BPA's Jones Canyon SS, and provides a summary of the environmental impacts associated with the decision with reference to appropriate sections of the BP EIS and BP ROD. This tiered ROD also references information that was incorporated by reference into the BP EIS from BPA's Resource Programs EIS (RP EIS) (DOE/EIS-0162, February 1993). The RP EIS contains an analysis of environmental effects and mitigation for wind projects. Lastly, this ROD summarizes and references information as appropriate from the CUP issued by Gilliam County referenced above to clarify where and how the site-specific environmental consequences described in the BP EIS will occur.

## PROJECT DESCRIPTION

PPM proposes to construct and operate the Leaning Juniper Wind Project, which is a 104-MW wind farm[2] to be located on private property and consisting of up to 69 GE turbines, each capable of generating approximately 1.5 MW. The turbines would be mounted on concrete pads and spaced from 350 to 525 feet apart in strings oriented in a north-south direction on the plateau southwest of the town of Arlington. Each wind turbine tower would be approximately 265 feet tall and the sweep of the nacelle blades may reach up to 380-400 feet above the ground.

The proposed wind farm site is located in Sections 7, 8, 9, 10, 15, 16, 17, 18, 19, 21, 22, 27, 28, and 33, T2N, R21E, WM; Sections 11, 12, 13, 14, 15, 21, 22, 23, 26, 27 and 28, T2N, R20E, WM; Gilliam County, Oregon. The land under lease totals 9,396 acres and is owned by Waste Management Disposal Services of Oregon, Inc. The land has historically been used for dryland wheat farming and cattle grazing.

PPM has stated in their application to the county that each string of wind turbines would require an access road to construct and service the turbines. The developer would make use of existing roads as much as possible, but would build approximately 16 miles of new roads. All roads used by the project would have a gravel all-weather surface. Existing culverts across intermittent streams would be replaced with wider or stronger culverts as necessary, and drainage improvements would be made. After the project is constructed, use of the improved and new access roads on private lands would be limited to the landowner and to project maintenance staff.

PPM estimates there would be 10.7 miles of underground conductor installed, a majority within existing and new road locations buried beneath the roadbed. There would be approximately 3 miles of trenching 5 feet wide and 3 feet deep to install an underground collector conductor system between the wind tower strings that would be outside of road prisms. In addition to the underground collector conductor, there would be overhead collector conductor between wind tower strings to span intermittent streams and canyons. The overhead collector conductor line would be single pole construction with wood poles averaging 30 feet tall strung with 34.5-kV conductor. The poles would be accessed via off-road travel resulting in temporary disturbance to vegetation over approximately 2.3 miles of temporary access. Temporarily disturbed areas would be treated for weed control and planted back to native grasses, shrubs, or agriculture following construction.

The ground would be leveled to 5 percent grade or less and cleared and compacted in an area of approximately 40 x 120 feet at each wind tower site to allow crane access for tower erection and nacelle and blade attachment. The wind turbine tower would be mounted on a concrete foundation with a diameter of approximately 20 feet. The towers would be painted a flat neutral gray color. Some of the towers would be furnished with lights visible to aircraft. This will be determined through consultation with the Federal Aviation Administration.

[2] PPM has requested an interconnection of 200 MW as part of OASIS request GI-95. However, their current proposal for construction would only generate up to 104 MW. It is uncertain when and if additional generation capability would be added.

The Wind Project would deliver electric power to the regional transmission grid at BPA's Jones Canyon SS, located about 3 miles southwest of the town of Arlington. The Jones Canyon SS is located adjacent to the McNary-Santiam #2 230-kV line and would provide transmission access to this line.

PPM would construct, own, operate and maintain a separate collector substation on its own property in the northern part of the Wind Project area in a portion of a 10-acre fenced area. They would also construct, own, operate and maintain a switching station on two acres directly east and adjacent to Jones Canyon SS. The two switching stations would be interconnected using a bus or short transmission line. PPM would construct, operate, and own a separate control house that would be adjacent to their substation. The station would have approximately 3,000 square feet of enclosed space, including office and workshop areas, a kitchen, bathroom shower, and utility sink. It would be constructed of sheet metal, and would be 16 feet tall. Water for the bathroom and kitchen would be acquired from an onsite well constructed according to local and State requirements. The bathroom and kitchen would drain into an onsite septic system. A graveled parking area for employees, visitors, and equipment would be located adjacent to the building.

The following equipment may be installed in the PPM substation:

- power circuit breakers;
- substation dead end structures;
- transmission dead end structures;
- voltage transformers
- surge arrestors
- a disconnect switch; and
- bus tubing and bus pedestals.
- equipment to regulate voltage such as capacitors and transformers.

In order to accommodate interconnection of the Wind Project, BPA would increase the capacity of the McNary-Santiam #2 transmission line, which will require increased ground clearance of four spans along the line to ensure reliability and safety following the interconnection. Three locations would have H-frame wood pole structures installed to lift the sag in the center of the line and provide additional ground clearance. The locations are near McNary-Santiam #2 structure 31/4 in Morrow County, structure 46/3 in Gilliam County, and structure 143/4 in Wasco County on the Confederated Tribes of the Warm Springs Reservation (CTWSR) (see attached map). These structures have two wood poles spaced 20 feet apart inserted into the ground at each location. Temporary access would be necessary to access these locations so a tracked backhoe or truck-mounted drill can drill holes to install the wood poles. Equipment would drive through grass and brush off road for up to 200 feet near structures 31/4 and 46/3. The third location near structure 143/4 would have shoulder high manzanita and snowbrush removed for approximately 50 feet and a width of 20 feet. Ground disturbance approximately 50 feet in diameter would occur at each structure location. The fourth location is in Sherman County and would have insulators removed from conductors on existing structures 66/3 and 66/4 on either end of an existing span to raise the line enough to operate the line at a higher capacity. Current access is good to structure 66/3; however, off-road driving will be necessary to access structure 66/4.

## PUBLIC PROCESS AND CONSIDERATION OF COMMENTS

Consistent with BPA's strategy for tiering appropriate subsequent decisions to the BP ROD, a public process for the generation interconnection and related facilities was conducted. Review processes for PPM's CUP and other permits for the Wind Project generated site-specific environmental information about the Wind Project and provided several opportunities for public comment. Specific impacts and related mitigation actions for the Wind Project were described and comments provided through the following processes.

- On January 22, 2005, Gilliam County conducted a formal public hearing on the proposed order for the Wind Project.
- On February 6, 2005, Gilliam County approved the application for a CUP for the Wind Project, with attached Conditions of Approval.

In addition, BPA provided the following opportunities for public involvement.

- On January 31, 2005, BPA sent written notice to adjacent property owners and interested persons requesting comments by February 20, 2005, on the proposed interconnection to the FCRTS of the Leaning Juniper Wind Project. This written notice of BPA's project and the associated open comment period also was posted on BPA's Internet site and in our monthly information periodical, "BPA Journal." No comments were received from the public regarding BPA's proposed action or the interconnection of the Wind Project.
- On November 19, 2004, BPA initiated consultation with the Tribal Historic Preservation Officer (THPO) of the Confederated Tribes of the Warm Springs Reservation (CTWSR). BPA consulted again with the THPO on January 25 and February 22, 2005. Consultation with the THPO is ongoing.
- BPA met with the CTWSR Resource Management Interdisciplinary Team (RMIDT) on March 1, 2005, concerning project consistency with their Integrated Resource Management Plan. The RMIDT plans to review the proposed action and provide further resource protection guidance and a decision prior to any implementation.
- On November 19, 2004, BPA notified the Confederated Tribes of the Umatilla Reservation and the Yakama Nation of the area of potential effect and sought comment on the proposal. No comments were received.
- On November 19, 2004, BPA requested a list of threatened and endangered species that may occur in the area of the switching station from the U.S. Fish and Wildlife Service. A response with the list was received on December 20, 2004. A determination of No Effect to any listed or candidate species was filed on January 26, 2005.
- On November 22, 2004, BPA initiated Section 106 consultation with the Oregon State Historic Preservation Officer (SHPO). The SHPO concurred with the area of potential effect on December 6, 2004 and concurred with our findings of No Effect for all proposed actions off of the CTWSR.

# ENVIRONMENTAL ANALYSIS

Consistent with the BP ROD, the BP EIS was reviewed to determine whether offering terms to interconnect the Wind Project is adequately covered within its scope. The BP EIS alternatives analyzed a range of marketing actions and response strategies to maintain a market-driven approach. The BP EIS showed that environmental impacts are determined by the responses to BPA's marketing actions, rather than by the actions themselves. These market responses include resource development, resource operation, transmission development and operation, and consumer behavior.

BPA's RP EIS describes generating resource types, their generic environmental effects on a per-average-MW (per-aMW) basis, and potential mitigation. The discussion for wind generation is included in section 3.2.1.3. The RP EIS also describes the environmental effects and potential mitigation associated with the construction or upgrade of transmission facilities to integrate the resources with the existing transmission system (section 3.5). The per-aMW impacts for wind turbines (RP EIS, Table 3-19) were incorporated and updated in the BP EIS (Table 4.3-1); however, there have been additional improvements and efficiencies to wind turbines since the BP EIS was developed. The BP EIS contains an analysis of generic environmental impacts, including resource development and operation (section 4.3.1) and transmission development and operation (section 4.3.2).

The Market-Driven Alternative anticipated unbundling of products and services, constructing transmission facilities for requests for non-federal power transmission, and providing transmission access to wholesale power producers (section 2.2.3). The BP EIS also noted that, under the Market-Driven Alternative, new transmission requests would depend more on customer requests than on new resource development by BPA (section 4.2.3.3).

In light of these analyses contained in the BP EIS and RP EIS, the interconnection of the Wind Project clearly falls within the scope of the BP EIS. Site-specific impacts that would result from the Wind Project are of the type and magnitude reported in the BP EIS and the RP EIS. The following describes the site-specific impacts of the McNary-Santiam #2 line upgrades related to the transmission interconnection as well as the indirect and cumulative impacts of the Wind Project itself and other proposed projects in the vicinity.

## Environmental Impacts

### *Vegetation*

*BPA Action Impacts* - Clearing for access to the wood pole installation on the CTWSR (near structure 143/4 of the McNary-Santiam #2) would include removal of all brush and debris in an area approximately 50 feet long and 20 feet wide and in a radius of 50 feet around the center of the wood pole structure location. This totals approximately 0.2 acres. Manzanita and snowbrush is presently growing in the right-of-way at this location, with the surrounding area being a managed pine forest.

Temporary disturbance due to off road access at each of the other 2 wood pole installations (near structures 31/4 and 46/3 of the McNary-Santiam #2) could be as much as 0.15 acre each. Vegetation at both locations is low to moderate quality grassland. Species present include cheatgrass, bunchgrass, rabbitbrush, and knapweed. Disturbance of the grassland around the wood pole locations would total 0.15 acres each. Temporary disturbance to shrub-steppe would also occur to access structure 66/4 to remove insulators. There is not a road to access this

structure and a vehicle would need to drive off road up to 500 feet through grasses and sagebrush to access it. However, there is a road that provides access to structure 66/3. Total disturbance to these previously grazed grasslands and shrub-steppe would amount to approximately 0.7 acres.

Existing public and private roads would be used for access during the construction effort. It is anticipated that the county roads would be of sufficient quality to allow equipment and personnel movement to the construction site without significant road improvement. Any damage to county roads due to equipment movement or operation would be repaired to county standards prior to equipment demobilization. Construction at each of these four sites would be of limited duration. Mitigation at these areas includes:

- Temporarily disturbed areas would be re-seeded with an appropriate mix of grasses following construction at an appropriate time of year to ensure success.
- Vehicles accessing these sites would need to be cleaned upon departure to remove noxious weed seeds prior to traveling to other areas.
- A fire watch would be needed if construction is during summer fire season.

*Wind Project Impacts* - The wind farm facilities would be sited in a mixture of shrub-steppe habitat dominated by dryland grasses and scattered shrubs and occasional juniper trees or in dryland wheat cropland. The shrub steppe and grassland areas have been exposed to seasonal grazing pressure for years. There is a mixture of native grasses such as blue-bunch wheatgrass, with non-native grasses bulbous bluegrass and cheatgrass. Shallow soils may contain desert parsley and buckwheat. Deeper soils may have sagebrush, rabbitbrush, and occasional juniper trees. Estimated impacts due to wind farm construction would be spread equally between shrub-steppe habitat and dryland wheat cropland.

The Wind Project would have a net impact of 49 acres of permanent vegetation clearance through a net construction of 16 miles of road to access wind turbines and providing turnarounds on each string. The developer would make use of existing roads, build some new roads predominantly along the strings where wind towers are sited, and return some existing roads to agriculture use. Siting of the base pads for each turbine and required clearing around each pad would result in 8 acres of permanent vegetation removal. Siting of the substation would require permanent removal of vegetation on 10 acres.

Temporary disturbance to vegetation would occur during construction. Loss of vegetation due to improvements to existing roads (widen to 20 feet) and temporary widening of new roads during construction to a width of 35 feet to allow haul of turbine materials, would total approximately 79 acres. Approximately 10.7 miles of collector conductor would be buried beneath roadbeds and between the wind tower strings causing approximately 13 acres of temporary vegetation removal. There would be 2.3 miles of overhead collector conductor between wind tower strings. This single pole line construction would be accessed via off-road travel, resulting in temporary disturbance to an additional 6 acres of vegetation. Additional temporary vegetation disturbance would occur for laydown areas around each of the wind turbine locations and for laydown areas at the end of each string. Laydown areas may impact a total of 51 acres of temporary disturbance. All of these areas of temporary disturbance would be treated for weed control by PPM and planted back to native grasses, shrubs, or agriculture following construction.

The effects of the Wind Project on vegetation would be mitigated by the following:

- The Wind Project would comply with a Weed Management Control and Response Plan in consultation with the Gilliam County Weed Control Board.
- Each wind turbine generator and pad-mounted transformer shall be constructed with a cleared pad around each base with a minimum of 15 feet of non-flammable ground cover. Vehicles and buildings will be equipped with fire extinguishers.

### *Land Use*

*BPA Action Impacts* - Project components outside of the CTWSR are in an area zoned for Exclusive Farm Use. Land use in this area is predominantly either dryland wheat cropland or cattle grazing. BPA's action would not affect use for agriculture. None of the areas that would be disturbed are currently used as farmland.

The single wood pole structure installation on the CTWSR is in an area generally designated as a forest area covered by the Integrated Resource Management Plan (IRMP) for lands managed by the CTWSR. BPA has consulted with tribal staff on the installation of the wood pole structure for project consistency with the IRMP and documentation of consistency will be completed prior to implementation.

*Wind Project Impacts* - Construction of the wind farm would permanently remove 66 acres of land from agriculture use and temporarily impact approximately 148 acres of agricultural use. Gilliam County found that the Wind Project is consistent with their land use classification. Parcels adjacent to the Wind Project facilities are also used for farming and grazing. There would be no impact to these adjacent parcels' use for these purposes.

### *Fish and Wildlife*

*BPA Action Impacts* – There would be a minor temporary impact to low-quality shrub-steppe habitat and grassland from construction of the line upgrades that would have a local temporary effect on wildlife and bird species that utilize that habitat. No impacts to fish species would be expected from these upgrades since there are no fish-bearing waters in the vicinity.

*Wind Project Impacts* – Avian surveys were conducted in the fall of 2004 and winter of 2004/2005. Additional surveys will be conducted in the spring of 2005. Raptor nest surveys were conducted in the fall of 2004 and mapped. The number of species of birds observed was 25 in the fall and 12 in the winter; however, there were more birds observed at each plot in the winter than the fall. Most common species observed were horned lark, common raven, European starling, western meadowlark, Canada goose, American goldfinch, and white-crowned sparrow.

Based on the 12-month avian study conducted during the project design phase, the per turbine mortality rate for birds for the proposed Wind Project is expected to be between approximately 0.5 and 2.5 birds per turbine per year. Actual levels of mortality that would result from the proposed Wind Project are unknown and could be higher or lower depending on patterns of

avian movements through the area. The species most likely to be affected due to abundance, height of flight, and percent of time spent in flight, include common raven, Canada goose, horned lark, European starling, and rough-legged hawk. Raptor nests are located in the few juniper trees on the plateau and along basalt cliffs. No construction activities or disturbance would occur within a 0.5-mile radius of any active raptor nest during nesting season. State-listed sensitive species recorded during the studies included golden eagle, ferruginous hawk, Swainson's hawk, loggerhead shrike, burrowing owl, and white-tailed jackrabbit. Sensitive species with potential for occurrence include peregrine falcon, Washington ground squirrel, long billed curlew, grasshopper sparrow, and sage sparrow. Avian mortality would be monitored for one year following initial operation to determine if actual mortality is within the predicted range.

Mule deer are present in the Wind Project area. During construction, they could potentially be displaced temporarily from the site as a result of human presence and construction-related disturbance. Because of the extent of suitable habitat in the region, temporary loss of habitat in the Wind Project area is a minor effect. Once construction is complete it is expected that deer would become habituated to the wind turbines and reoccupy former habitat.

Five species of bats are likely to be resident in the area of the Wind Project; however, they are unlikely to be affected by the construction and operation of the turbines. A majority of the bat mortality from wind turbines appears to be during migration in the fall. There are two species of bats that have the potential to migrate through the area that would likely experience mortality due to the turbines--hoary bat and silver-haired bat. No Federally listed bats would be affected. Bat mortality would be monitored for one year of operation. Should such monitoring determine a significantly higher impact on bat species compared to other existing wind projects in the region, scientific studies aimed at determining effective methods of reducing bat fatalities would be conducted.

No fish are located in waters within the Wind Project area. Because of the distance from fish-bearing waters, it is highly unlikely that the Wind Project would have any effect on fish in the Columbia River. Sediment and erosion control measures would be installed to prevent any sediment from entering fish-bearing waters.

The loss of low to moderate quality shrub-steppe habitat would have a local effect on species that utilize that habitat.

### *Federally Listed Species*

No Federally listed threatened or endangered species were observed in the Wind Project area during the avian study. Given the lack of presence within the project area, no impacts to bald eagles are expected from either BPA actions or the Wind Project activities. No rare plant species or likely habitat has been found in the project area and therefore no impacts are expected.

### *Wetlands*

*BPA Action Impacts* – No wetlands would be impacted by the project.

*Wind Project Impacts* – Potentially jurisdictional waters were identified at eight locations within the 200-foot wide corridors where turbines, underground conductors, or access roads might be

located. Seven of the locations are ephemeral or intermittent drainages adjacent (within 100 feet) to a proposed component of the project. The eighth location is a shallow intermittent drainage channel where a project access road would cross. There was no water present in any of these channels at the time of identification in November 2004. These areas are identified on project maps and avoidance will be a goal during design and construction. The developer has submitted a Section 404 Nationwide Joint Removal-Fill Permit application to Oregon Division of State Lands and the U.S. Army Corps of Engineers.

### *Public Safety*

*BPA Action Impacts* – Except for fuel and oil used in construction equipment, no combustible materials would be used; therefore, increased risk of fire and explosion would be unlikely. During construction activities, the potential for fires and accidents always exists. Standard construction safety measures would be implemented to reduce the risk of hazards and accidents. Significant risks to public health and safety are not anticipated.

*Wind Project Impacts* - Minimal new toxic substances or hazardous waste (small amounts of lubricants and solvents) would be introduced as a result of the proposed Wind Project. Except for fuel and oil used in construction equipment, no combustible materials would be used; therefore, increased risk of fire and explosion would be unlikely. During construction activities, the potential for fires and accidents always exists. However, the Wind Project would be constructed in accordance with applicable State and local health and safety regulations to prevent such occurrences. Standard construction safety measures would be implemented to reduce the risk of hazards and accidents. Best Management Practices (BMPs) would be employed to reduce or control the potential for environmental health hazards. Significant risks to public health and safety are not anticipated as a result of the proposed Wind Project.

Construction of the proposed Wind Project is expected to take 9 to 12 months. Although construction would temporarily increase traffic on roads in and around the Wind Project access routes, impacts would be minimized by coordinating construction schedules and equipment access with landowners, other Wind Project construction, and local residents. Once the Wind Project is constructed, operations would involve a minor increase in vehicle traffic for project operations staff, since fewer than 30 vehicle trips per day are projected to the Wind Project area.

### *Air Quality*

*BPA Action Impacts* and *Wind Project Impacts* - Temporary emissions would occur during construction of the Wind Project from construction vehicles and equipment. There also would be an increased potential for dust generation during construction, when soil is exposed or excavated. This potential would be greatest during dry, windy weather but would be mitigated by applying water for dust control and by gravelling the access roads. When the Wind Project is operational, minimal emissions from any source are expected.

### *Noise*

*BPA Action Impacts* – Construction activities are expected to take place on BPA facilities during the summer of 2005. Crews would work 8- to 12-hour days, during daylight hours, as needed to meet the schedule. Given the remote location of BPA construction activities and their short-term duration, noise impacts would be expected to be minor and low. During operation, no changes to the existing noise environment are expected.

*Wind Project Impacts* - In general, noise associated with wind energy is greatest during the construction phase, as noise levels from the operation of these types of facilities are low and meet State standards.

### *Hazardous Substances*

Minimal new toxic substances or hazardous waste (small amounts of lubricants and solvents) would be introduced as a result of BPA's proposed action or the proposed Wind Project.

### *Socioeconomics and Public Facilities*

*BPA Action Impacts* and *Wind Project Impacts* – The only community likely to be affected by construction and operation of the proposed switching station and the Wind Project is Arlington. There would be no significant increases in permanent population as a result of construction and operation of the Wind Project because less than 10 people would work full-time once the Wind Project is completed. The Wind Project would not result in a significant increased need for public services, including fire protection. The number of people expected to need temporary lodging or permanent housing within the Wind Project area would be small enough that adequate housing, and other lodging, would be available. The peak onsite work force during construction would be about 120 employees. The Wind Project would have a net economic benefit to the landowners participating in the project because wind lease payments to landowners would provide a supplementary source of income that would help farmers retain their farms when farm prices reduce other sources of farm income. An increase in the Gilliam County tax base would provide benefits to all county residents. Indirect economic benefits would accrue to businesses in the area from construction workers purchasing goods and services.

### *Historic/Archaeological Resources*

*BPA Action Impacts* – An archaeological survey of the four transmission line upgrade sites was conducted by a BPA archaeologist. No significant cultural resources were found at the sites. In addition, background information was gathered from the CTWSR Cultural Resources staff. The SHPO has concurred with these findings for the three sites not on CTWSR land.

One pole installation would be on the CTWSR. BPA worked closely with the Warm Springs Tribe Cultural Resources Department and THPO to determine the potential for impacts. Background information was gathered from the CTWSR Cultural Resources staff and concurrence on findings is pending from the THPO. A tribal monitor from the Warm Springs Tribe will be present during excavation activities for the 3 sites where poles will be installed. Procedures to minimize damage to any cultural artifacts discovered during construction would be followed.

*Wind Project Impacts* – An archaeological survey of the Wind Project site was conducted and a technical report filed with the SHPO in January 2005. Preliminary findings include one historical site containing miscellaneous historic debris discovered in the vicinity of turbine #29. This site can easily be avoided during construction and operation activities and no impacts should result.

A letter and copy of the project layout have been sent to the director of the Cultural Resources program of the CTWSR to inquire about any other cultural resources known to the tribe. No response has been received to date.

### *Visual Aesthetics*

*BPA Action Impacts* – The BPA H-frame structures are being installed in remote locations on an existing transmission line. The visual impact is minor.

*Wind Project impacts* – The Wind Project would potentially be visible from long distances from some scattered residences and the interstate freeway. However, these views are expected to be long-range background views in an area of low visual sensitivity.

The indirect effects of the Wind Project on visual aesthetics would be mitigated by the following conditions in the CUP:

- Color and finish limitations on all externally visible components of the Wind Project.
- Limitations on the placement of signs.
- Setbacks of turbines away from roads, lot boundaries, houses, railroad right-of-way, or electrical substations.
- Hooding or directional lighting requirements of any outdoor lights.
- Requirement to complete construction within 12 months from initiation of construction.
- Decommissioning requirements.

### *Cumulative Impacts*

The BP EIS and RP EIS provide an analysis of potential cumulative impacts resulting from development of generation resources and transmission facilities in the region. The following discussion further describes potential cumulative impacts in the project vicinity.

There are several wind projects in the southern Washington and northern Oregon region that are within approximately 20 air miles of the proposed Leaning Juniper Wind Energy Project. The operating Klondike Wind Project and its approved expansions and the proposed Sherman County Wind Project are in Sherman County, Oregon. Two other wind projects are proposed in Gilliam County, Oregon, the Shephards Flat Wind Project and the Willow Creek Wind Project. Also in Gilliam County and adjacent to the proposed Leaning Juniper project is the Arlington Wind Project, which is currently approved for construction and seeking a purchaser for the energy output. Across the Columbia River in Klickitat County, there is the proposed Roosevelt Wind Project. These projects could have a combined total of up to 2,100 MW of wind energy proposed. The size of these projects has varied considerably, however, and it is difficult to predict the number and size of projects that actually would be constructed.

The Arlington Wind Project is proposing to site the collector substation for their wind generation project directly adjacent to the Jones Canyon SS and interconnecting to the FCRTS at this switching station. The timeframes for construction of this facility would be very similar to the Leaning Juniper Wind Project. Close coordination would be required during construction of the three substations side by side. The Arlington project has already been analyzed in a separate NEPA process and a ROD to interconnect that project to the FCRTS and build the Jones Canyon Substation was published in the Federal Register on January 26, 2005.

These projects, combined with the proposed Leaning Juniper Wind Energy Project, would have relatively minor cumulative impacts to fish, wetlands and water resources, public safety, air quality, noise, socioeconomics and public services, and cultural resources. However, potentially significant cumulative impacts might occur to vegetation, land use, wildlife, and visual resources.

There is a large regional landfill operated by Waste Management Inc., Columbia Ridge, in Gilliam County. Leaning Juniper is leasing the land for their project from Waste Management, Inc. There is not likely to be any conflict with the operation of the landfill.

*Vegetation* – Implementation of all these projects could impact vegetation communities including native shrub-steppe. Because most tillable areas in these counties in private ownership have already been converted to agriculture or are currently grazed, it is unlikely that ongoing agricultural practices would result in the conversion of remaining native vegetation to cropland or pastureland instead of impacts from grazing. Historically, 10.7 million acres of eastern Washington and Oregon were covered in shrub-steppe vegetation, but about 60 percent of that area has been converted to agricultural, industrial, residential, and other uses. The overall additional impact to shrub steppe habitat could be cumulatively significant because so much has already been degraded or lost.

Construction of projects may increase the potential for the spread of weeds into previously undisturbed areas. Because of the awareness of the potential for the spread of weeds, projects include mitigation measures, including the development and implementation of weed control plans that could result in cumulatively insignificant impacts.

*Land Use* – Cumulative impacts on land use for the wind and transmission projects would be low because these projects would take a very small proportion of agricultural land out of production without changing the overall agricultural usefulness of the area. This would be a minor cumulative land use impact.

*Fish and Wildlife* – Implementation of the proposed Wind Project combined with the other proposed or planned projects could result in cumulative impacts to wildlife. Wind and transmission projects in the region could impact avian and bat species through collisions with turbines, meteorological towers, and transmission towers and conductors. Increased bird and bat mortality would occur, and an undetermined number of fatalities would be migrants that could pass through more than one wind project during migration.

Results from studies of other wind projects can be useful in predicting mortality at new wind projects. On average, based on four studies of wind projects in Washington and Oregon, approximately 2.7 bird fatalities occur per MW of wind energy produced. Assuming that there are 2,180 MW of wind energy being produced by the above-mentioned projects after construction and expansion, approximately 5,886 bird deaths may occur per year. The significance of this level of mortality is unknown, and other substantial sources of avian mortality such as communications towers, windows, vehicles, powerlines, domestic/feral cats, pesticides, and farming practices undoubtedly occur in the region. While it is hard to predict numbers of

bird deaths from other sources, it is safe to say that it is substantially higher than 5,886 per year, based on a review of the literature regarding avian mortality (NWCC, 2004)[3].

As with birds, approximately 1.7 bat fatalities occur per MW of wind energy produced in the northwest. Assuming 2,180 MW of wind energy would be produced in the region, approximately 3,706 bat deaths may occur per year. The bat species at highest risk of collision with turbines in Washington and Oregon are hoary bat and silver-haired bat, both tree dwelling migratory species. These bats may come from as far north as Canada and southern Alaska and their range extends across most of Canada and the U.S. Other sources of mortality for hoary and silver-haired bats in Washington and Oregon likely include logging and pesticides. The significance of the cumulative level of mortality is unknown; however, given the extensive range of the species, the expected mortality level is likely a minor portion of the populations.

Other potential impacts to wildlife from wind projects include potential short-term disturbance impacts to big game followed by long-term beneficial effects if the wind project areas become a refuge from hunting for deer. If wind projects do create a refuge effect because they curtail hunting, the long-term cumulative effect may be increased numbers of deer. This may require a change in management strategy or techniques to maintain herd number objectives; however, the cumulative effects to big game species are not considered significant.

Cumulative impacts to fish species would be insignificant due to the lack of direct impacts to fish-bearing waters from these projects. Impacts would mainly be indirect and mitigated for by proactive design and implementation of BMPs at the project level.

*Federally Listed Species* – Results of the baseline wildlife studies conducted in the Wind Project area indicated that bald eagle (Federally threatened) rarely occur in the project area; therefore impacts are not expected. Bald eagle also occur in Sherman County and Umatilla County, Oregon, where the Klondike and Stateline wind projects are located. No bald eagle fatalities have been recorded at these projects. Based on this low level of impact, the cumulative effects from the wind projects in the region to the bald eagle are not expected to be significant.

Because there were no listed plant species documented in the Arlington Wind Project area, no additional cumulative impacts to listed plants are expected. Other projects did not have known significant impacts to listed plants species; therefore the cumulative impacts to rare plant species are not considered significant.

*Visual Resources* – Construction of the proposed Wind Project, combined with the other proposed or planned projects, would contribute to a cumulative change in the existing visual character of the region. However, the overall cumulative visual impact from all projects would likely be low to moderate due to the abundance of open, undeveloped areas in the region.

The wind projects in the area may have unavoidable adverse effects on visual resources. However, visual resources are difficult to assess and opinions vary and are highly subjective.

[3] National Wind Coordinating Committee (NWCC). November 2004. Wind Turbine Interactions with Birds and Bats: A Summary of Research Results and Remaining Questions. NWCC Fact Sheet.

Some viewers regard wind farms as a visual attraction, but if they were to become more commonplace on the landscape, the novelty would likely diminish. Other viewers object to some open vistas becoming changed by the placement of turbines across the landscape.

### Mitigation

The Council on Environmental Quality's Regulations for Implementing NEPA (40 CFR 1505.2 C) require a ROD to "state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not."

Specific resource mitigation conditions to avoid or minimize environmental harm have been identified through the Gilliam County CUP process, and also summarized in site-specific impacts listed above. The Wind Project has adopted all identified feasible mitigation measures to avoid or minimize environmental impacts from the Wind Project.

## PUBLIC AVAILABILITY

This ROD will be distributed to all interested parties and affected persons and agencies. Copies of the BP EIS, BP ROD, and additional copies of this Leaning Juniper Wind Project Interconnection ROD, are available from BPA's Public Information Center, P.O. Box 12999, Portland, Oregon, 97212. Copies of these documents may also be obtained by using BPA's nationwide toll-free document request line: 1-800-622-4520, or by accessing website www.bpa.gov/corporate/pubs/rods/.

## CONCLUSION

BPA has decided to offer contract terms for interconnection of the Leaning Juniper Wind Project into the FCRTS at BPA's Jones Canyon SS in Gilliam County, Oregon. The Standard Large Generator Interconnection Agreement (LGIA) provides for interconnection of the Leaning Juniper Wind Project with the FCRTS, the operation of Leaning Juniper Wind Project in the BPA Control Area (including control area services such as generation imbalance service), and the maintenance of reliability of the FCRTS and interconnected systems. The LGIA also provides for the construction of the interconnection facilities and their operation and maintenance.

As described above, BPA has considered both the economic and environmental consequences of taking action to integrate power from the Wind Project into the FCRTS. This decision is:

- within the scope of environmental consequences examined in the BP EIS;
- in accordance with BPA's transmission access tariff; and
- in accordance with BPA's statutory authority to make available to all utilities any capacity in this system determined in excess to that required by the United States (16 U.S.C. 838d).

BPA will take measures to ensure the continuing safe, reliable operation of the FCRTS. This ROD identifies all practicable means to avoid or minimize environmental harm that might be caused by the integration of the Wind Project into the FCRTS. BPA adopts and will undertake the mitigations identified in this ROD and incorporate any additional requirements for work on the CTWSR.

The Wind Project has or will soon fulfill all Federal, State, and local requirements for environmental compliance such as air emissions, water, wetlands, wildlife species, cultural/historic resources, and land use.

BPA contracts providing for integration of power from the Wind Project into the FCRTS at BPA's Jones Canyon SS shall include terms requiring that all pending permits be approved before the contract is implemented. BPA's contracts will also include appropriate provisions for remediation of oil or other hazardous substances associated with construction and operation of related electrical facilities in a manner consistent with applicable Federal, State, and local laws.

Issued in Portland, Oregon.

*/s/ Stephen J. Wright* *March 11, 2005*
Stephen J. Wright Date
Administrator and
Chief Executive Officer

Attachment:
Project Location Map

# EXHIBIT F

# PROPERTY OWNERSHIP
OAR 345-021-0010(1)(f)

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## F.1 INTRODUCTION

**OAR 345-021-0010(1)(f)** *A list of the names and mailing addresses of all owners of record, as shown on the most recent property tax assessment roll, of property located within or adjacent to the corridor(s) the applicant has selected for analysis as described in subsection (b) and property located within or adjacent to the site of the proposed facility. The applicant shall submit an updated list of property owners as requested by the Office of Energy before the Office issues notice of any public hearing on the application for a site certificate as described in OAR 345-015-0220. In addition to incorporating the list in the application for a site certificate, the applicant shall submit the list to the Office in electronic format suitable to the Office for the production of mailing labels. Property adjacent to the proposed site of the facility or corridor means property that is:*

**OAR 345-021-0010(1)(f)(A)** *Within 100 feet of the site or corridor, where the site or corridor is within an urban growth boundary;*

**OAR 345-021-0010(1)(f)(B)** *Within 250 feet of the site or corridor, where the site or corridor is outside an urban growth boundary and not within a farm or forest zone;*

**OAR 345-021-0010(1)(f)(C)** *Within 500 feet of the site or corridor, where the site or corridor is within a farm or forest zone.*

Response: The Leaning Juniper II Wind Power Facility (the Facility) site, including the collector cables and transmission lines, is within an exclusive farm use zone. Section F.2 of this Exhibit summarizes the methodology used by Leaning Juniper Wind Power II, LLC (the Applicant) to acquire the names and mailing addresses of all owners of record. Table F-1 provides the required list of owners of record within 500 feet of the site boundary.

## F.2 SUMMARY

The Applicant assembled the relevant sections of the current Gilliam County tax maps and reviewed the tax maps to identify tax lots wholly or partially within the areas required by OAR 345-021-0010(1)(f). Table F-1 identifies property owners within 500 feet of the Facility site.

Table F-1. Property Ownership Within 500 Feet of Facility Site

| Tax Lot ID | Owner | Address |
|---|---|---|
| 1602 | Anderson, Steve | PO Box 72, Arlington, OR 97812 |
| 1300 | Arlington Saddle Club | Mailing address not available |
| 2500 | Bureau of Land Management | Prineville District, PO Box 550<br>Prineville, OR 97754 |
| 1205, 2317 | Chemical Security Systems | Mailing address not available |
| 1104 | Gilliam County | PO Box 427, Condon, OR 97823 |
| 1000 | Greiner, Lillian & Louis | Star Route, Arlington, OR 97812 |
| 1300 | Hickerson, William C. & Joyce A. | Star Route, Arlington, OR 97812 |
| 1500,1700, 1701, 2100, 2318 | Holzapfel, Herbert R. & Virginia W. | PO Box 1027, Willows, CA 95988 |
| 100, 102, 500, 600, 900, 1200,1300, 1600, 1601 | Krebs, J. R. | PO Box 8, Arlington, OR 97812 |
| 1101, 2102 | Oregon Waste Systems, Inc. | PO Box 1450<br>Chicago, IL 60690 |
| 1303 | Phillipi Ranchers, Inc. | 68988 Kunzee Lane, Boardman, OR 97818 |
| 200, 1703 | Rietmann, Jerry L. & Lisa G.<br>Holtz, Tim H. & Deborah L. | PO Box 131, Ione, OR 97843 |
| 500 | Tatone Trust/Alice Tatone | c/o Tatone Farms, LLC, PO Box 259<br>Boardman, OR 9781 |
| 300, 400, 503, 1100, 1102, 1203, 1204, 1500, 1800, 1801, 1900, 2300 | Waste Management | c/o CWM of the Northwest, Inc, PO Box 1450<br>Chicago, IL 60690 |

# EXHIBIT G

# MATERIALS ANALYSIS

OAR 345-021-0010(1)(g)

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**TABLES**

## G.1 INTRODUCTION

Leaning Juniper Wind Power II, LLC (the Applicant) proposes to construct a wind generation facility in Gilliam County, Oregon, with generating capacity of up to approximately 279 megawatts (MW). The proposed facility (the Facility) consists of two main components: (1) Leaning Juniper II North (the north portion of the Facility with up to 93 MW), and (2) Leaning Juniper II South (the south portion of the Facility with up to 186 MW).

## G.2 MATERIALS ANALYSIS

**OAR 345-021-0010(1)(g)** *A materials analysis, including:*

Response: The evidence below provides an inventory of industrial materials of substantial quantity moving into and out of the proposed Facility and a description of plans developed by the Applicant to manage hazardous substances and nonhazardous waste materials during construction and operation of the Facility.

## G.3 INVENTORY OF INDUSTRIAL MATERIALS

**OAR 345-021-0010(1)(g)(A)** *An inventory of substantial quantities of industrial materials flowing into and out of the proposed facility during construction and operation*;

Response: Responses are provided in sections G.3.1 and G.3.2.

### G.3.1 Construction

Response: Tables G-1 and G-2 provide an inventory of industrial materials that will be used within the Facility lease boundaries in substantial quantities during Facility construction. The primary construction materials are rock, water, concrete, steel, and assorted electrical equipment.

#### G.3.1.1 Construction Materials for Leaning Juniper II North

Leaning Juniper II will be under construction in early 2007. It is expected that construction of new and improved roads will require an estimated 49,154 tons of rock and gravel, based on an estimated 4,950 tons of virgin rock per linear mile of access road. This estimate is based on approximately 9.93 miles of new road, improved roads, and gravel for the turbine spur roads and foundations. See Table C-4 for additional detail. The rock will be purchased by the construction contractor from existing or new offsite quarry sources. If the rock acquired is recycled rock, then approximately 4,560 tons would be used per mile of access road, for a total of 45,283 tons. An estimated 50,000 to 120,000 gallons of water will be applied daily to roads and construction areas during construction for road compaction and to reduce dust. An additional 330,000 to 657,510 gallons of water will be combined with 11,000 to 21,917 cubic yards of concrete to construct up to 40 concrete turbine foundations (one for each turbine). During construction, water will be trucked in from offsite. See Exhibit O for a more detailed discussion of water needs and sources. The largest turbine model under consideration,

the 3.0-MW V100, has approximately 364 US tons (330 metric tons) of steel per turbine, including the 328-foot (100-meter) tower, nacelle and blades, for a total of approximately 11,284 tons of steel for 31 turbines. The GE 1.5-MW turbine has approximately 220 tons of steel per turbine, for a total of approximately 8,800 tons of steel for 40 GE turbines.

A number of other materials will be brought onsite to construct the turbines and electrical components. Mounted on top of each of the turbine towers is a nacelle—the unit that houses the turbine itself, the rotor, blades, hub, and gearbox. An electrical transformer will be adjacent to each turbine tower. Transformers will contain non-polychlorinated biphenyl (PCB) mineral oil and will be sealed; the oil will not be changed. Underground electrical cable will be used to connect the turbines, except where overhead electrical cable will be used to span canyons, intermittent streams, wetlands, and rugged terrain. Leaning Juniper II North will require a total of approximately 8 miles of underground collector cable, which includes circuits running parallel to each other, and approximately 0.2 mile of overhead cable. An inventory of materials is provided in Table G-1.

Table G-1. Inventory of Materials to be Used During Construction and Operation of Leaning Juniper II North

| Material | Quantity/Units | Ultimate Disposition |
|---|---|---|
| ***CONSTRUCTION*** | | |
| Rock/gravel for road construction | 49,154 tons | Maintained as onsite roadbed |
| Water for dust control and road compaction | 50,000 to 120,000 gallons per day | Absorbed or evaporated |
| Water for concrete mixing | 8,250 to 21,210 gallons of water per foundation | Incorporated into concrete |
| Concrete | 275 to 707 cubic yards per turbine pad | Incorporated into turbine pads |
| Steel | 220 to 364 tons per turbine, depending on vendor | Incorporated into turbine towers |
| Nacelles (include turbine, rotor, blades, hub, and gearbox) | Up to 40 units | Mounted on turbine towers |
| Electrical transformers | Up to 40 units | Mounted on concrete pad adjacent to turbine tower |
| Electrical cable | Approximately 8 miles | Buried underground, except about 1 mile of aboveground collection system |
| Diesel fuel | Approximately 8,000 gallons of diesel fuel | Burned in engine |
| Ranges are provided based on the GE 1.5-MW and Vestas 3.0-MW turbines. | | |
| ***OPERATIONS AND MAINTENANCE*** | | |
| Mineral oils (turbine lubricant and transformer coolant) | 3 gallons per turbine | Stored in existing Leaning Juniper II Operations and Maintenance (O&M) building(s); added to turbine as needed |
| Synthetic oils (turbine lubricant, gear oil) | 10 gallons per turbine | Stored in existing Leaning Juniper II O&M building(s); added to turbine as needed |

Table G-1. Inventory of Materials to be Used During Construction and Operation of Leaning Juniper II North

| Material | Quantity/Units | Ultimate Disposition |
|---|---|---|
| Simple Green (general cleaner) | 3 gallons per turbine | Stored in existing Leaning Juniper II O&M building(s) |
| WD-40; grease (general lubricant) | 5 gallons per turbine | Stored in existing Leaning Juniper II O&M building(s) |
| Ethylene Glycol (anti-freeze) | 3 gallons per turbine | Stored in existing Leaning Juniper II O&M building(s) |
| Round-up and 2,4-D (weed control) | 0—subcontract out for weed control | |

### G.3.1.2 Construction Materials for Leaning Juniper II South

Construction of new and improved roads for Leaning Juniper II South will require an estimated 95,287 tons of rock and gravel, based on an estimated 4,950 tons of virgin rock per linear mile of access road. This estimate encompasses approximately 19.25 miles of new road, improved roads, and gravel for the turbine spur roads and foundations. The rock will be purchased by the construction contractor from existing or new offsite quarry sources. If the rock acquired is recycled rock, then approximately 4,560 tons will be used per mile of access road, for a total of 87,780 tons. An estimated 50,000 to 120,000 gallons of water may be applied daily to roads and construction areas during construction for road compaction and to reduce dust. An additional 767,250 to 1,315,020 gallons of water will be combined with approximately 35,575 to 43,834 cubic yards of concrete to construct up to 93 concrete turbine foundations (one for each turbine); see Exhibit O for further details. The range is based on the smallest to largest turbine foundation that could be used for the Facility, which depends on the turbine vendor selected. Finally, steel will be used in the making of the turbine towers, nacelles, and rotors. The largest turbine model under consideration, the 3.0-MW V100, has approximately 364 tons of steel, including the 328-foot (100-meter) tower, for a total of approximately 22,568 tons of steel for 62 turbines. The GE 1.5-MW turbine has approximately 220 tons of steel per turbine, for a total of approximately 20,460 tons for 93 GE turbines.

As with Leaning Juniper II North, a number of other materials will be brought onsite to construct the turbines and electrical components housed in the nacelle. Electrical transformers located adjacent to each turbine tower will contain non-PCB mineral oil and will be sealed; the oil will not be changed. Underground electrical cable will be used to connect the turbines, except where overhead electrical cable will be used to span canyons, intermittent streams, wetlands, and rugged terrain. Leaning Juniper II South is estimated to require a total of approximately 22 miles of underground cable and 0.1 mile of overhead cable. An inventory of materials is provided in Table G-2.

Table G-2. Inventory of Materials to be Used During Construction and Operation of Leaning Juniper II South

| Material | Quantity/Units | Ultimate Disposition |
|---|---|---|
| ***CONSTRUCTION*** | | |
| Rock/gravel for road construction | 95,287 tons | Maintained as onsite roadbed |
| Water for dust control and road compaction | 50,000 to 120,000 gallons per day | Absorbed or evaporated |
| Water for concrete mixing | 8,250 to 21,210 gallons of water per foundation | Incorporated into concrete |
| Concrete | 275 to 707 cubic yards per turbine pad | Incorporated into turbine pads |
| Steel | 220 to 364 tons per turbine, depending on vendor | Incorporated into turbine towers |
| Nacelles (include turbine, rotor, blades, hub, and gearbox) | Up to 93 units | Mounted on turbine towers |
| Electrical transformers | Up to 93 units | Mounted on concrete pad adjacent to turbine tower |
| Electrical cable | Approximately 22 miles | Buried underground, except about 0.3 mile of aboveground collection system |
| Diesel fuel | Approximately 8,000 gallons of diesel fuel | Burned in engine |
| Ranges are provided based on the GE 1.5-MW and Vestas 3.0-MW turbines. | | |
| ***OPERATIONS AND MAINTENANCE*** | | |
| Mineral oils (turbine lubricant and transformer coolant) | 3 gallons per turbine | Stored in existing Leaning Juniper II Operations and Maintenance (O&M) building(s); added to turbine as needed |
| Synthetic oils (turbine lubricant, gear oil) | 10 gallons per turbine | Stored in existing Leaning Juniper II O&M building(s); added to turbine as needed |
| Simple Green (general cleaner) | 3 gallons per turbine | Stored in existing Leaning Juniper II O&M building(s) |
| WD-40; grease (general lubricant) | 5 gallons per turbine | Stored in existing Leaning Juniper II O&M building(s) |
| Ethylene Glycol (anti-freeze) | 3 gallons per turbine | Stored in existing Leaning Juniper II O&M building(s) |
| Round-up and 2,4-D (weed control) | 0—subcontract out for weed control | |

As indicated in Tables G-1 and G-2, the materials used for construction will remain onsite, with the exception of water, which will be lost through infiltration and evaporation. Handling of construction wastes is discussed in sections G.4 and G.5.

### G.3.2 Operations

Response: No substantial quantities of industrial materials will be brought onto or removed from the Facility site during operations. The only materials that will be brought onto the site will be those related to maintenance or replacement of Facility elements (e.g., nacelle or turbine components, electrical equipment). Some minor and potentially hazardous wastes include oily rags or similar wastes related to turbine lubrication and other maintenance. The only materials that will be removed from the site will be those parts or elements replaced during maintenance activities. Those materials removed or replaced will not constitute significant amounts.

No industrial wastewater will be generated during operations. Blade washing is not anticipated, as blade washing is not recommended by the manufacturer. However, if the manufacturer were to recommend blade washing in the future, the wash water created by blade washing would not be considered industrial wastewater. The nature of blade washing and amount of water would be below the Oregon Department of Environmental Quality (DEQ) threshold. According to the DEQ rules, the following activities are considered to have a deminimis impact on the environment and are allowed without obtaining a permit:

> "Businesses that wash less than 8 vehicles or pieces of equipment per week are permitted provided there is no runoff off-site or discharge to surface waters, storm sewer or dry wells. Cleaning is restricted to the exterior of the vehicle or equipment (no engines, transmissions, or undercarriages)."

If implemented at the Facility, blade washing would have a diminimis impact on the environment because it would involve a small amount of water per turbine (estimated to be approximately 50 gallons per blade) and would require washing of less than 8 turbines per week. In addition, the blade wash water would not contain oil residue or other contaminants found in vehicle wash water, given that all potentially hazardous materials are contained within the turbine nacelle and tower. According to turbine manufacturers, blades would also likely be washed with a biodegradable solution such as Simple Green, rather than with harsh soaps or other cleaners.

Tables G-1 and G-2 list materials and amounts that will be used for operations and maintenance.

## G.4 MANAGEMENT OF HAZARDOUS SUBSTANCES

**OAR 345-021-0010(1)(g)(B)** *The applicant's plans to manage hazardous substances during construction and operation, including measures to prevent and contain spills; and*

Response: Hazardous materials that will be used on the Facility site include lubricating oils, cleaners, and pesticides, as shown in Tables G-1 and G-2. These materials will be

used primarily during operations but potentially during construction as well. These hazardous materials will be stored at the Facility Operations and Maintenance (O&M) building(s). Approximately 8,000 gallons of diesel will be stored onsite during Facility construction to fuel heavy equipment. The diesel will be stored in an aboveground, mobile tank. To address construction contractor needs, the tank will be located within approved temporary or permanent disturbance areas proposed in this ASC and will be provided with secondary containment to prevent any diesel contamination caused by leaks or spills. The small amounts of lubricating oils and greases necessary for equipment maintenance will also be stored in the containment area.

Hazardous materials will be used in a manner that is protective of human health and the environment and will comply with all applicable local, state, and federal environmental laws and regulations. Accidental releases of hazardous materials (e.g., vehicle fuel during construction or lubricating oil for turbines) will be prevented or minimized through proper containment of these substances during use and transportation to the Facility site, and used primarily within the turbines themselves, where any spill will be contained. Any oily waste, rags, or dirty or hazardous solid waste will be collected in sealable drums and removed for recycling or disposal by a licensed contractor.

In the unlikely event of an accidental hazardous materials release, any spill or release will be cleaned up and the contaminated soil or other materials disposed of and treated according to applicable regulations. See Exhibit CC for a listing of applicable regulations. Spill kits containing items such as absorbent pads will be located on equipment and in onsite temporary storage facilities to respond to accidental spills, if any were to occur. Employees handling hazardous materials will be instructed in the proper handling and storage of these materials as well as where spill kits are located.

## G.5 MANAGEMENT OF NONHAZARDOUS WASTE MATERIALS

**OAR 345-021-0010(1)(g)(C)** *The applicant's plans to manage non-hazardous waste materials during construction and operation.*

Response: Solid waste materials, such as excess construction or steel, will be generated during construction. When feasible, these wastes generated during construction will be recycled. Steel scraps from turbine towers will be separated and recycled to the extent feasible. Wood from concrete forms will be reused when possible and then recycled. Excess excavated material will be used to restore ground contours after construction, and to provide fill onsite or at the Arlington Landfill.

Disposal of materials as onsite fill will be conducted in accordance with OAR 340-093-0080 and other applicable regulations. OAR 340-093-0080 provides a variance or permit exemption for disposal of inert wastes. The inert waste must be demonstrated to be substantially the same as "clean fill" as required by OAR 340-093-0080(2). Clean fill is defined as material consisting of soil, rock, concrete, brick, building block, tile, or asphalt paving, which do not contain contaminants that could adversely impact the waters of the State or public health. To meet the clean fill definition, the inert construction debris will be separated from other debris that is not inert. The only clean fill that has the potential to be disposed of onsite will be waste concrete generated during construction.

The construction contractor may (with agreement of the landowner) bury waste concrete (excess cement mix form a construction site; batches of concrete that do not meet specifications) onsite. In such cases, the materials will be placed in an excavated hole, covered with at least 3 feet of topsoil, and regraded to match existing contours. If the concrete waste cannot be used as fill onsite or at another site, it will be removed and disposed of in the adjacent Arlington Landfill.

Packaging wastes (such as paper and cardboard) and refuse will be separated, accumulated in dumpsters, and periodically removed for recycling or disposal at the Arlington Landfill by a licensed waste hauler. Portable toilets will be provided for onsite sewage handling during construction and will be pumped and cleaned regularly by the construction contractor.

Little solid waste will be generated from Facility operations. Office waste generated at the O&M building(s) will be separated and periodically removed for recycling or disposal at the Arlington Landfill. Sewage from the O&M building(s) will be disposed of onsite with a septic system.

## G.6 CONCLUSIONS

Based on the above information, the Applicant has satisfied the requirements of OAR 345-021-0010(1)(g).