

**KLONDIKE III WIND PROJECT POWER PURCHASE**

**ADMINISTRATOR'S RECORD OF DECISION**

**Bonneville Power Administration  
U.S. Department of Energy**

**October 5, 2007**

**Record of Decision**

**Klondike III Wind Project Power Purchase**

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# **Record of Decision For the Klondike III Wind Project Power Purchase**

## **I. Introduction and Background**

This record of decision provides the business analysis and legal rationale supporting the Bonneville Power Administration's ("BPA") decision to enter into a 20-year contract to purchase up to 50 megawatts ("MW") of the output of the Klondike III Wind Project ("Klondike III" or "the Project") from Klondike Wind Power III, LLC ("Seller"). BPA and Seller (sometimes hereinafter referred to together as "the Parties") commenced negotiations regarding the Project in April 2007, and will execute a power purchase and sale agreement ("the PPA") concurrently with the issuance of this record of decision. Under the PPA, as more fully described below, BPA will purchase from Seller approximately 23 percent of the Projects output, up to a maximum of 50 MW, together with the environmental attributes associated with that energy, each hour for a period of 20 years commencing after the Project achieves commercial operation, which is currently expected to be in December 2007. The contract price is flat (not subject to any escalation or reduction) through the term of the PPA. In addition, subject to certain terms and conditions, Seller is obligated to deliver to BPA a guaranteed portion of its output share, or pay BPA its financial equivalent. Seller's obligations under the PPA are secured by a third party credit instrument in an amount approximately equivalent to the one-year nominal value (measured by the contract price) of BPA's expected actual output share (15 aMW) of the Project. Seller is obligated to maintain such credit support for the term of the PPA.<sup>1</sup>

BPA is obligated by statute to meet, when requested, the net firm power loads of Pacific Northwest public and investor owned utilities. Pacific Northwest Electric Power Planning and Conservation Act, 16 U.S.C. §§ 839-839h ("Northwest Power Act"). To meet these and other contractual commitments to serve load, and to assist in meeting its fish and wildlife obligations, BPA is authorized under section 6 of the Northwest Power Act to acquire the output of electric generating resources, through both short and long-term purchases. In general, such resource acquisitions must be consistent with the then current regional conservation and electric power plan developed by the Northwest Power and Conservation Council ("Council Plan" or "Plan"), or otherwise be consistent with the statutory criteria and considerations used to develop the plan, which are contained in sections 4(e)(1) and 4(e)(2) of the Northwest Power Act, all as determined by the BPA Administrator. Among other things, and as discussed in detail below, such resource acquisitions, including the resource acquisition that is the subject of this record of decision, must be "cost-effective."

Mindful of these statutory requirements, BPA is also cognizant of looming power resource deficits forecast in BPA's March 2006 Pacific Northwest Loads & Resources Study, which are described in further detail below. In addition, in July 2007 BPA decided in its Long-Term Regional Dialogue Record of Decision ("Long-Term ROD") that it may, under certain specified circumstances, augment the federal system by up to 550 aMW to meet certain increments of

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<sup>1</sup> Any discrepancies between descriptions or characterizations of the terms and conditions of the PPA in this record of decision, and the terms and conditions as they are contained in the PPA itself, are unintentional.

public utility loads in the period after current contracts expire in September 2011. While BPA has not made any final decisions regarding how much, if any, of the 550 aMW will ultimately be required, BPA believes it is likely that some augmentation will be necessary, and that it is prudent to make some limited, cost-effective acquisitions at this time. Furthermore, BPA has identified a potential increase in demand for renewable resources due to Renewables Portfolio Standards ("RPS") recently put in place by the State of Washington ("Energy Independence Act") and Oregon ("Oregon Renewable Energy Act"). These laws require many of BPA's public and investor owned utility customers to meet a certain percentage of their load using renewable resources. For these reasons, BPA began exploring available renewable resources to identify any potential lost opportunity projects that BPA might acquire now to meet the projected power requirements of these customers.

## **II. The Project and Power Purchase Agreement**

Seller, a limited liability company incorporated in the state of Oregon, is an affiliate of PPM Energy, Inc., which in turn is a subsidiary of Scottish Power, plc. Credit support is being provided to BPA by Scottish Power Finance (US), Inc. The Klondike III Wind Project is located adjacent to the Klondike I and II wind projects near the town of Wasco, Sherman County, Oregon. The Project is currently expected to consist of 125 wind turbines and towers, new roads, new maintenance facilities, and a new substation. Several turbine types are currently expected to be used, with capacities ranging from 1.5 MW to 2.4 MW. Project facilities occupy approximately 74 acres of private agricultural land. The total generating capacity of the Project is expected to be 223.6 MW.

The Project is under construction and expected to be completed and ready for commercial operation by December 31, 2007. Such date may be extended by Seller until June 1, 2009, and for up to an additional 180 days in the event of an uncontrollable force, at which time if commercial operation has not been achieved, Seller (with some preconditions) or BPA (unconditionally) may terminate the PPA.

BPA's contractual percentage share of actual Project output is 22.36 percent, or 49.99 MW of the anticipated generating capacity. However, BPA's share of actual output is capped at 50 MW, even in the event that the generating capacity of the Project as finally constructed exceeds 223.6 MW. The balance of the Project's anticipated generating capacity has been sold to other purchasers. Because wind energy is an inherently intermittent resource, the actual projected annual average output of the Project is well below its nameplate capacity. Based on historical performance of similar wind generation resources in the same area, BPA projects that the Project will have an annual average capacity factor of 30 percent (a conservative assumption), which means BPA expects on a planning basis that its annual average output share of Project generation will not exceed 15 aMW.

Under the PPA, Seller is responsible for providing schedules to the transmission provider before each hour, specifying the amount of energy it will deliver to BPA in such hour. BPA is obligated to pay Seller the contract price for the amount of energy actually generated and metered at the metering point. At the end of each month, the hourly metered amounts will be true-up to the hourly schedules submitted by Seller in such month. Depending on whether Seller

overscheduled or underscheduled (compared to the actual amount of energy generated and metered), it is paid additional amounts or provides credits to BPA. This true-up amount is calculated by multiplying the over or underscheduled amount, if any, by the BPA Incremental Cost charged by the transmission provider. By trueing-up metered output to the schedule submitted by the Seller, and calculating payments or credits based on the transmission provider's BPA Incremental Cost rate, any economic incentive Seller may have to deliberately over or underschedule is greatly reduced or eliminated.<sup>2</sup> In addition, the PPA provides in the event Seller wrongfully schedules BPA's share of Project output to a third party for whatever reason, then Seller will be in default, in which case BPA may terminate the PPA and calculate its damages, if any, based on the cost to cover the remaining value of the PPA, all as provided by the default provisions of the PPA. Alternatively, and at its option, BPA may elect not to terminate the PPA, but have Seller pay it damages for the breach associated with its failure to deliver such energy and associated environmental attributes to BPA. Under most circumstances these contract mechanisms should reduce or eliminate any economic incentive Seller might otherwise have to wrongfully divert BPA's share of Project output and environmental attributes into a higher priced market.

Seller has also provided BPA with a production guarantee, under which Seller guarantees it will provide BPA each year with a minimum amount of generation set at 10% of the full capacity of BPA's purchase<sup>3</sup>. A 50 MW purchase will result in minimum production of 43,800 megawatt-hours ("MWh") of wind energy and associated environmental attributes, or approximately one-third of the average annual output BPA projects it will receive under the PPA. This amount can be adjusted downward to account for certain Project outages beyond the control of Seller. In the event the Seller's obligation to perform under the production guarantee is triggered, Seller will pay BPA for the value of the energy and environmental attributes not provided.

After adjustment for integration costs and the value of the environmental attributes that BPA will market together with the energy from its share of Project output, the final cost of BPA's Klondike III wind acquisition is estimated to be \$63.50/MWh.<sup>4</sup> The difference between the final cost of this wind acquisition and the cost of an equal quantity and quality of conventional energy will be allocated to BPA's renewable fund or similar renewable program budget.

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<sup>2</sup> This is because, in general, the BPA Incremental Cost charged to the Seller (for an underschedule) or paid to the Seller (for an overschedule) by the transmission provider for these failures to match its schedule to the amount of energy its resource actually provides into the transmission grid penalizes the Seller compared to the prevailing market price for energy.

<sup>3</sup> If the Klondike III project does not reach its full planned capacity of 223.6 MW, BPA's purchase and the production guarantee will be adjusted accordingly, based on the percentage of project output which BPA has rights to under the contract, which remains constant at 22.3%.

<sup>4</sup> Seller has designated the contract price in the PPA as confidential information subject to the confidentiality provision in the PPA. BPA may disclose such information to third parties only pursuant to applicable law, or with Seller's prior consent.

### III. Application of Statutory Requirements

As noted above, BPA is authorized and obligated under the provisions of section 6 the Northwest Power Act to acquire sufficient resources to meet its contractual obligations, and to assist in meeting its fish and wildlife obligations. Northwest Power Act, 16 U.S.C. § 839d(a)(2). In addition to forecasting its load-resource balances to determine whether it must acquire additional power to meet its known and projected contractual obligations, BPA must consider whether a proposed acquisition is consistent with the Council's Plan, or is otherwise consistent with certain criteria described in the Act, including whether the resource is "cost-effective." 16 U.S.C. §§ 839b(d)(2) – (e)(2). In addition, the Act specifies the public process, including a hearing on the record, BPA must undertake in the event that the resource is a "major resource."

#### A. BPA's Share of Project Output Is Not a Major Resource.

In the event that BPA proposes to acquire a generating resource with a "planned capability greater than fifty average megawatts" for a period of more than five years (a "major resource"), then BPA must conduct a formal hearing regarding the proposed acquisition under section 6(c) of the Northwest Power Act. Northwest Power Act, 16 U.S.C. §§ 839a(12) ("major resource"), and 839d(c) (procedures for acquiring major resources). The fact that "major resource" is defined in terms of average megawatts is significant, and requires that the acquisition be measured in terms of the amount of average annual energy the resource will produce on a planning basis, as opposed to measuring its rated or nameplate capacity.<sup>5</sup> As noted above, BPA is projecting a capacity factor for the Project of 30 percent, which equals an average annual share of the output of the Project for BPA of 15 aMW. Therefore, BPA's purchase under the PPA is not the acquisition of a "major resource" and the section 6(c) procedures are not applicable.<sup>6</sup>

#### B. BPA Projects a Need to Acquire Resources to Meet Current and Projected Contractual Obligations.

As explained in this section, BPA's load-resource balance is forecast to be deficit in both the near and long-term, resulting in a likely need for additional power resources to meet forecasted load obligations. These deficits are driven both by reductions in available hydro-generation due to river operations designed to enhance fish mitigation efforts, and by anticipated increasing load levels.

The 2006 Pacific Northwest Loads & Resources Study ("White Book") is issued by BPA annually and its projections are used as input into BPA's long-range resource planning process to assist planning for adequate and reliable load service for both the Federal system and the Pacific Northwest region as a whole. The 2006 White Book contains a snapshot, as of March 31, 2006,

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<sup>5</sup> Similarly, section 3(4)(C) of the Act specifies that in determining the amount of power that a resource can be expected to produce, BPA shall take into account "projected realization factors and plant factors, including appropriate historical experience with similar . . . resources." 16 U.S.C. § 839a(4)(C). "Realization factor and "plant factor" essentially measure the ratio of the average load on a generating resource to its capacity rating during a specified period of time (or "capacity factor"), expressed as a percentage.

<sup>6</sup> Even if the size of the this resource acquisition is measured by its rated capacity, BPA is not acquiring a resource "greater than" 50 MW, as BPA's output share on any hour under the PPA is capped at 50 MW.

of Federal system load-resource balances for the period 2007 through 2016. The resource side of the equation is based on the amount of firm power that can be produced by the Federal system and sold by BPA on a “critical water” basis, *i.e.*, a low-water period on record for the Columbia River Basin.<sup>7</sup> Such firm power can be relied on to be available when needed. As shown in Table 1 below, the current White Book indicates BPA is deficit under critical water planning by an average of 123 aMW through at least operating year 2016. However, values of annual deficits mask more substantial monthly deficits. BPA’s winter deficits are a current and growing concern. For example, while BPA’s 2008 annual energy deficit was estimated in the 2006 White Book at approximately 70 aMW, the deficit in the month of January 2008 is currently projected to be approximately 1,800 aMW under critical hydro.

**Table 1**

<b>BPA Load / Resource Balance under Critical Water</b>											
<b>(aMW, Flat)</b>											
<b>Operating Year</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>Avg</b>
<b>Total Firm Surplus/Deficit</b>	-24	-66	-152	-148	-260	-21	-111	-62	-215	-167	-123
<b>Source:</b>		<b>2006 PNW Loads &amp; Resources Study</b>									

In the Long-Term ROD, in which BPA provided the policies and goals shaping its service construct for the contract period following termination of existing contract in September 2011 (fiscal years 2012 through 2028), BPA stated it would augment the Federal system by up to 550 aMW, with the costs of such acquisitions melded into the lowest-cost, or “Tier 1,” rate available to public preference customers. Of this amount, up to 250 aMW could be acquired to meet the load of newly formed public preference utilities, and up to 300 aMW could be acquired to meet the aggregate “High-Water Marks” (“HWM”) of public preference customers.<sup>8</sup> The actual amount of augmentation will be determined at the start of each rate period during the term of the contracts, or approximately every two years.

<sup>7</sup> The White Book estimates Federal hydro-system generation based on 1929 through 1978 historical water conditions. For “critical water” planning the White Book uses one of the lowest water-years, 1937, to represent a period of adverse water conditions during which the hydro-system would produce minimal hydro generation, and estimates the Federal system’s firm hydro-energy capability under such conditions. The White Book is based on BPA’s operating year, which is August 1 through July 31.

<sup>8</sup>The HWM concept is designed to capture the net-requirement load placed on BPA by each of its public preference customers as of a date certain, and to delimit the amount of Federal power that such customer will be entitled to purchase from BPA at the Tier 1 rate. Customers’ HWMs will be established based on the actual retail loads experienced and measured in fiscal year 2010 (which ends September 30, 2010). In addition to this 550 aMW, BPA stated in the Long-Term ROD that it may augment the Federal system by up to an additional 70 aMW to serve Department of Energy loads related to defense materials production and waste processing/disposal at the Hanford Nuclear Reservation.

The key question faced by BPA is how much augmentation will actually be required, within the limits noted above. The starting point of BPA's analysis is the White Book estimate of a 148 aMW deficit in 2010, the year the HWMs will be established. However, to this amount (and every other year through at least 2016) must be added public preference customer resources used to serve their own load that are embedded in the White Book analysis (effectively *decreasing* the amount of the deficits to the level stated in the White Book), but which BPA has agreed in the Long-Term ROD can be removed by these customers for purposes of determining HWMs and net requirements after 2011 (effectively *increasing* the amount of the deficits beyond those stated in the White Book). These resource removal rights are well in excess of 300 aMW, making it very likely that the total augmentation will include all or a substantial portion of the 300 aMW – far in excess of the 15 aMW contribution of the acquisition under this PPA. These augmentation amounts are in addition to the deficits specified in the Table 1 above, and to any augmentation BPA must undertake to meet its preference customer's requests to meet any Tier 2 load they may choose to place on BPA.<sup>9</sup>

Given the high probability that some augmentation will be necessary, combined with the existing resource deficits projected in the current White Book, BPA concluded it would be prudent to begin making some limited longer-term resource acquisitions at this time, and in particular (as described further below) acquisitions that help diversify BPA's portfolio of resources and are otherwise lost-opportunity acquisitions.<sup>10</sup> The acquisition under this PPA is for a delivery period from December 2007 through November 2027, overlapping substantially in time with the new 20-year contracts. The White Book analysis shows deficits in excess of the 15 aMW acquisition under the PPA in all operating years through 2016, and as demonstrated above it is highly likely BPA will need to augment the Federal system by some amount greater than 15 aMW to serve Tier 1 load.

In addition, the Renewable Portfolio Standards (RPS) enacted by Oregon and Washington take effect beginning 2012 for the Energy Independence Act and 2011 for the Oregon Renewable Energy Act. The percentage of utility load that must be met with renewable resources increases periodically every few years, culminating in a requirement for 15% by 2020 in Washington and 25% by 2025 in Oregon. BPA examined forecasted RPS demands of its full-requirement customers for the post-2011 period resulting from these RPS requirements. BPA estimates this

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<sup>9</sup> While the amount of Tier 2 requirements placed on BPA is uncertain, if BPA were to serve all Tier 2 requirements, the annual energy required in 2012 may vary from about 60 aMW to 525 aMW depending on the load forecast. A mid-range of load forecasts yields an estimate of 270 aMW to 370 aMW. By 2020 this range is from about 725 aMW to 2,725 aMW with a mid-range from 1,221 aMW to 1,868.

<sup>10</sup> Deficits predicted in the White Book are those remaining after all cost-effective conservation has been acquired. There is a small probability that the ultimate need for augmentation purchases could be less than the 15 aMW contributed by the acquisition under the PPA. This could come about through a recession or other economic event that drives regional loads down; a combination of a crash in market prices and increase in BPA costs causes customers to take less power from BPA in their post-2011 contracts; or failure of the effort to tier rates, and withdrawal of the tentative BPA agreement to allow removal of existing customer resources, reducing loads on BPA. BPA believes the probability of these contingencies occurring is remote, and that the risks attendant with waiting too long to begin making some limited amount of augmentation purchases outweighs any risk that this acquisition will not be required to meet BPA requirement customer load.



customer group will need at least 11 aMW of renewable purchases, beginning 2012, and that this requirement will increase to 85 aMW by 2020. BPA expects its full requirement customers to look to BPA help fulfill their RPS requirements. Some of BPA's partial requirements customers also have indicated they would like BPA to help them meet their RPS requirements. The acquisition under the PPA will help BPA facilitate these goals.

- C. This Acquisition is Consistent with the Council's Plan and is Otherwise Cost-Effective and Meets the Other Criteria and Considerations in Sections 4(e)(1) and 4(e)(2) of the Act.

In general, the Northwest Power Act requires that the acquisition of resources under section 6 of the Act shall be consistent with the Northwest Power and Conservation Council's Power Plan, as determined by BPA. 16 U.S.C. § 839d(b)(1). However, BPA may acquire a non-major resource that is not consistent with the Plan, but which is determined by BPA to be consistent with the criteria in section 4(e)(1) and considerations in section 4(e)(2) of the Act. 16 U.S.C. § 839d(b)(2). Section 4(e)(1) states that:

The plan shall, as provided in this paragraph, *give priority to resources which the Council determines to be cost-effective*. Priority shall be given: first, to conservation; second, to renewable resources; third, to generating resources utilizing waste heat or generating resources of high fuel conversion efficiency; and fourth, to all other resources.

16 U.S.C § 839b(e)(1) (emphasis added). This provision is the source of the requirement to evaluate resources in terms of their cost-effectiveness, and additionally provides the priority order in which cost-effective resources are to be acquired. Section 4(e)(2) provides that:

The plan shall set forth a general scheme for implementing conservation measures and developing resources pursuant to section 839d of this title to reduce or meet the Administrator's obligations with due consideration by the Council for (A) environmental quality, (B) compatibility with the existing regional power system, (C) protection, mitigation, and enhancement of fish and wildlife and related spawning grounds and habitat, including sufficient quantities and qualities of flows for successful migration, survival, and propagation of anadromous fish, and (D) other criteria which may be set forth in the plan.

16 U.S.C. § 839b(e)(2). The same criteria and considerations apply to both the Council's evaluation in the Plan of the suitability for acquisition of generic resources, and BPA's evaluation, pursuant to section 6(b)(2), of potential specific resource acquisitions that are not consistent with Plan. In material part, the Northwest Power Act defines a "cost-effective" resource as one which is forecast to:

- (1) be reliable and available within the time it is needed;
- (2) meet or reduce the electric power demand of the consumers of BPA's customers; and

(3) meet or reduce such demand at an “estimated incremental system cost” no greater than that of the least-cost similarly reliable and available alternative resource.

16 U.S.C. § 839a(4)(A). In turn, “system cost” means an estimate of all direct costs of a measure or resource over its effective life, including the cost of distribution and transmission to the consumer and, among other factors, waste disposal costs, end-of-cycle costs, and fuel costs, and such quantifiable environmental costs and benefits as the Administrator determines, on the basis of a methodology developed by the Council as part of the plan, or in the absence of the plan by the Administrator, are directly attributable to such resource. 16 U.S.C. § 839a(4)(B).

Notwithstanding the fact that over 25 years have passed since the enactment of the Northwest Power Act, BPA has had only limited opportunities to implement the acquisition provisions in section 6, and BPA had occasion to evaluate an acquisition under the “cost-effective” standard in the Act only one time.<sup>11</sup>

#### 1. This Acquisition is Consistent with the Plan.

The current Plan is “The Fifth Northwest Electric Power and Conservation Plan,” issued by the Council in January 2005. The Plan is a comprehensive evaluation of projected Pacific Northwest electric power loads and corresponding resource development requirements over a twenty-year planning period. The Plan includes a detailed, albeit necessarily generic, analysis of the availability and suitability (including cost-effectiveness) of different generating resource types, including wind resources, in meeting projected loads. The Plan makes recommendations for how the region’s utilities, including BPA, should proceed to meet projected loads.

As a general matter, the Plan concludes that BPA, in addition to facilitating the acquisition of renewable resources by its customers, should directly “acquire new renewable output to meet new or replacement resource needs placed on the agency, provided resources are cost-effective after accounting for any risk reduction or other benefits the resources provide.” Plan at 11-8.<sup>12</sup>

The Plan considers four risk scenarios, each generating its own possible plan; the Council picked one risk scenario (the least risk, highest cost scenario) as the most likely. The Plan forecasts increasing electricity prices in response to increasing natural gas prices and the onset of carbon regulations (Plan, 2-15). Within the Western Electricity Coordination Council (WECC), the Plan forecasts 6,000 MW of renewable development due to renewable portfolio standards and another 23,000 MW of market-driven wind capacity (Plan, 2-15). Within the Pacific Northwest, the base case for the Plan includes 1,100 MW of wind by 2012 due to Oregon and Montana system

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<sup>11</sup> In 1993 BPA evaluated whether its proposed acquisition of 240 aMW from the Tenaska Washington II generation project was cost-effective compared to the cost-effective resources described in the 1991 Council Plan. Each of the wind and geothermal resources acquired by BPA to date have been acquired pursuant to section 6(d) of the Act, which provides for acquisition of “experimental, developmental, demonstration, or pilot” projects with a potential for providing cost-effective service to the region”, but such resources need not meet the criteria of section 4(e)(1) or the considerations of section 4(e)(2). 16 U.S.C. § 839d(d). BPA does not have a formally adopted policy or methodology with respect to applying the cost-effectiveness standard.

<sup>12</sup>See also Plan at 11-6 (“The Council expects Bonneville and the region’s utilities to continue to acquire the cost-effective conservation and renewable resources identified in the Council’s power plans.”)

benefit charge programs (Plan, 7-3) and an additional 5,000 MW of easily developable wind, west of the Rockies (Plan, 5-24).

With respect to wind resources, the Council used a set of cost assumptions, applied to a hypothetical 100 MW wind facility, resulting in a benchmark levelized electricity production cost for wind power plants in the Pacific Northwest over the 20-year period covered by the Plan. The Council defined three blocks of "Reference Central Station Wind Plants". The first block located west of the Rockies (2,500 MW able to be energized by 2010) was assumed to have a delivered cost (including shaping costs) of \$43/MWh and a capacity factor of 30%. The second block, also west of the Rockies, (2,500 MW able to be energized by 2010) was assumed to have a delivered cost of \$50/MWh and a capacity factor of 28%. The third block, not available until transmission is constructed east of the Rockies, was assumed to have a delivered cost of \$82/MWh and a capacity factor of 36% (Plan, I-40) (all costs in 2000 dollars).

In January 2007, the Council updated its resource cost assumptions, but did not revise its forecasts for wind development (The Council's Biennial Monitoring Report on the Fifth Power Plan, dated January 5<sup>th</sup>, 2007) ("2007 Update"). The Council notes that wind project capital costs increased 20-30%/year between 2005 and 2007. The 2007 Update states that shaped and delivered wind energy from Pacific Northwest projects west of the Rockies, energized between 2005 and 2007 range between \$45 and \$90/MWh (compared to the assumed cost of \$43/MWh associated with the Plan's first block of wind). The 2007 Update also noted improvements in wind generation technology, which increased the wind reference plant capacity factor from 30% to 32%.

While the Plan does not envision the need for major resource development prior to 2010 (Plan, 7-19), it acknowledges that there will likely be lost opportunity renewable resources which should be developed sooner (Plan, 7-20). When new bulk power supplies are needed, the Plan predicts wind and gasified coal will be the most attractive resources (Plan, 7-20).

Prior to 2010, the Plan recommends the development of 500 MW of diversely located wind to resolve uncertainties surrounding integration and shaping costs and to prove the capability of undeveloped areas for wind generation (Plan, 7-21). The 2007 Update notes that recent wind development has already surpassed the 500 MW called for by the Plan and predicts that wind project development prior to 2010 is expected to continue to exceed projections in the Plan primarily due to the enactment of Washington, Oregon and California Renewable Portfolio Standards.

The 50 MW Klondike III acquisition is consistent the Plan, as amended by the 2007 Update. As noted, the Plan anticipates that the region's utilities, including BPA, would continue to acquire cost-effective renewable resources, as needed to serve projected loads. As discussed above, BPA believes for a number of reasons that it is prudent at this time to begin acquiring some new resources to address anticipated deficits and projected loads, and the delivered cost of the Klondike III purchase is within the range projected in the 2007 Update. While BPA could make an equivalent long-term market purchase instead, a cost-effective renewable resource purchase is consistent with the higher priority afforded both in the Plan and in the Northwest Power Act to renewable resources. In addition, this purchase will help facilitate the recommendation in the Plan that wind developed prior to 2010 contribute data and experience necessary to resolve

issues regarding the integration of increasing amounts of wind energy into the existing power and transmission systems.

2. This Acquisition is Cost-Effective and is Consistent with the Criteria and Considerations in Sections 4(e)(1) and 4(e)(2).

BPA believes the resource will be reliable and available within the time needed. Wind resources are inherently variable, but that variability is accounted for by conservatively estimating the resource capacity factor at 30%, based on the historical performance of Klondike I, which is located in the same general area. In addition, as wind turbine technology has matured over the past two decades, the reliability of the resource to consistently produce energy when wind conditions permit has improved significantly. Also, it is important to note that BPA is not taking any dry-hole risk with respect to this project – it essentially pays only for what it receives. Therefore, to the extent the Project is not completed, does not operate for the full term of the PPA, or operates at less than anticipated levels, BPA will not suffer any sunk-cost losses.<sup>13</sup> Finally, Seller is an experienced wind project developer and operator, with a proven track record of successfully building, operating, and maintaining wind resources in the Pacific Northwest. Even if Project completion is delayed past the anticipated completion date, it should still be available by early 2009 at the latest, with a term approximately concurrent with the new long-term contracts BPA will be offering its customers in late 2008.

This purchase is also compatible with the existing regional power system. The Northwest Wind Integration Action Plan (WIF 2007-01) states that the cost of integrating wind (cost is a measure of compatibility) is most affected by: 1) the diversity of wind generation, 2) the amount of load in the control area, 3) flexibility of generation within the control area, and 4) access to robust capacity markets. The Project is located in an area relatively unaffected by transmission congestion. BPA's public power load represents roughly 40% of total regional load (peaking at more than 9,000 MW). This large load base helps absorb the swings in wind generation. In this regard, wind is better matched with BPA's system than most systems in the region. Flexibility of the federal hydro-system has been de-rated by operating constraints imposed in connection with fish mitigation measures undertaken by BPA and other responsible federal agencies. This reduced flexibility will be partially mitigated by implementing a generation resource redispatch program, currently being explored in a pilot program run by BPA. The BPA control area does not currently host a robust capacity market. However, such a market will likely emerge in response to growing demand for wind integration services.

With respect to "system cost" element of BPA's cost-effectiveness assessment, BPA conducted two comparative analyses. The cost of this transaction was compared first to other recent wind cost forecasts and wind generation sales in the region, and second to the cost of a non-renewable energy purchase of a similar term. These analytical assessments reflect the elements of the cost effectiveness comparative requirements for timeliness to meet the need, the relative reliability of the resources examined, and the nature of its costs. After adjustment for: 1) costs of integrating

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<sup>13</sup> In addition, as already noted Seller has guaranteed 5 MW or its financial equivalent to BPA under the production guarantee.

the wind generation into the Federal power system; and 2) the market value of the Renewable Energy Credits (REC) embedded in the resource purchase, the final cost to BPA for this resource is estimated to be \$63.50 /MWh. These adjustments to the value of the energy allow for a financial comparison to a non-wind energy purchase. The results of the analysis indicated that the purchase of generation from the Project produced a net present value of about \$4.5 million to BPA relative to a comparable non-wind energy purchase.

BPA reviewed wind energy pricing in the Pacific Northwest and found that while such information is limited due to a limited availability of wind resources, there is an environment of strong competition for these resources. Price information derived from leading energy consultants and the Department of Energy provided a price range of \$70 to \$85/MWh for wind generation assumed to be available in 2010 (levelized 2007 dollars). In the Biennial Assessment of the Fifth Power Plan, the Council updated its estimate of cost for new utility-scale wind power by referencing proposals for shaped and delivered energy from projects entering service in 2006 or 2007 ranging from about \$45 to \$90/MWh. BPA's purchase falls in the middle to lower end of these ranges.

Additionally, many proposed renewable resource projects in the Pacific Northwest are in locations where new transmission facilities must be constructed to transmit the generation from the proposed site to the local transmission provider's network transmission system, or there is insufficient network transmission capacity on all hours to transmit the proposed project's generation to the purchaser's load. For some proposed projects it may require several years to create the firm transmission capacity needed to bring these projects online. Such projects may be delayed and become more expensive if developers are required to pay for transmission related upgrades. For these reasons, opportunities to purchase generation from projects that are already under way and without transmission constraints are limited.

#### **IV. ENVIRONMENTAL COMPLIANCE**

In September, 2006, BPA completed the Klondike III/Biglow Canyon Wind Integration Project EIS (DOE/EIS-0374). The EIS analyzed the potential environmental impacts of the Klondike III wind project as well as the potential environmental impacts of BPA's proposed action and alternatives. BPA's proposed action includes: interconnection of Seller's up to 300 megawatt (MW) wind generation project to the Federal Columbia River Transmission System; construction and operation of a new BPA-owned and operated 12-mile long, 230-kilovolt (kV) double-circuit transmission line; construction and operation of a new 230-kV Substation; and expansion of the existing 500-kV John Day Substation. In October 2006, BPA issued a Record of Decision (ROD) documenting the agency's decision to offer an interconnection agreement and build the necessary transmission facilities.

Subsequent to the EIS and ROD, Seller has filed amendments regarding the project site certificate with Oregon Energy Facility Siting Council (EFSC), and BPA now proposes to purchase up to 50 MW of the output of the Project for 20 years. The following is a summary of the Supplemental Analysis performed by BPA with respect to this new information. The Supplemental Analysis is attached hereto as Exhibit A.

The amendments to Seller's site certificate with EFSC include only changes to the Project, which is already under construction, and will not lead to any changes in BPA's interconnection actions. All BPA facilities remain the same as when studied in the EIS. The amendments to the site certificate do not bear on the proposed action or its impacts because there are no new environmental consequences beyond those discussed in the EIS related to BPA's proposed action and stemming from the changes to Seller's Project.

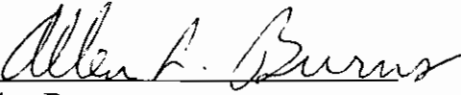
In the EIS and ROD, BPA noted that it would have no jurisdiction over, supervision over, ownership of, or financial involvement in the proposed wind project. However, subsequent to the ROD, BPA has proposed purchasing up to 50 MW of the output of the Project. This purchase constitutes a change in BPA's proposed action. However, this change in the proposed action will not lead to any changes in Project facilities or any changes in potential environmental impacts. This change therefore is not a change in BPA's proposed action that is relevant to environmental concerns.

The changes in the Project and BPA's proposed action do not result in significantly different environmental impacts than those described in the EIS and ROD. The Supplemental Analysis finds that: 1) no substantial changes have been made to the proposed action that are relevant to environmental concerns; and 2) there are no significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. Therefore, no further environmental documentation is required for executing the PPA.

## V. DECISION

For the reasons stated herein, BPA will execute the PPA to acquire up to 50 MW (15 aMW) of the Klondike III Wind Project for a term of 20-years.

Issued in Portland, Oregon

  
Allen Burns  
Vice President, Bulk Marketing<sup>14</sup>

10/5/2007  
Date

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<sup>14</sup> Pursuant to delegated authority of the BPA Administrator through the Senior Vice President, Power Services, dated September 4, 2007.