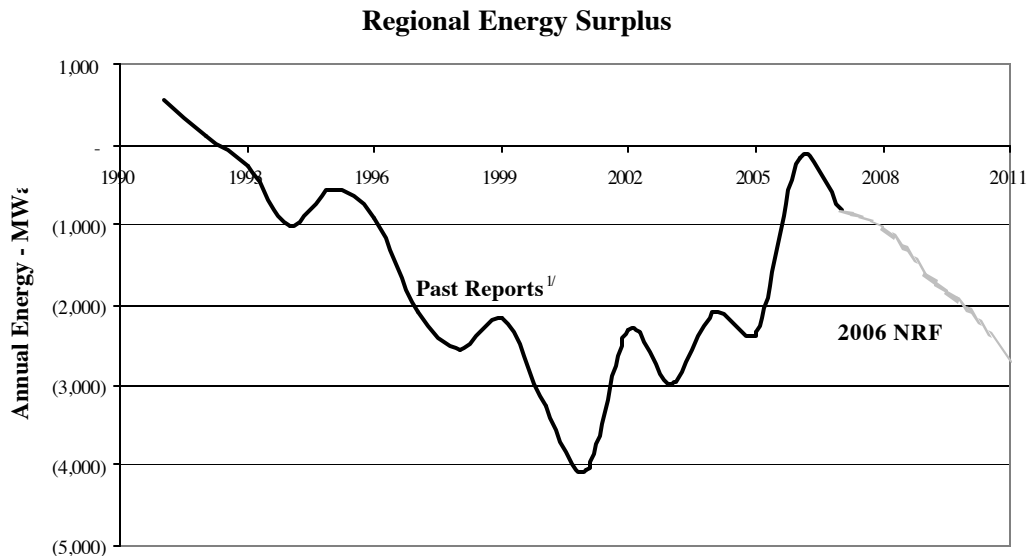


2006 Northwest Regional Forecast Executive Summary

As Northwest utilities take their annual look at demand for electricity and resource supply we see a similar regional picture to what we saw in last year's Northwest Regional Forecast. This report is a snapshot of the sum of individual utilities' projections of electric loads and generating resources for the next five years. It is one of several tools used by electric utility industry planners to ensure generating resources are available to adequately, reliably and economically meet customers' demand.

The Regional Picture

For the first year of the report, 2006-2007, the region is over 800 MWa deficit on a firm basis. The deficit increases through time as the forecast of loads increases and firm imports fade.



^{1/} Data from the first year of each year's forecast

This estimate assumes the region experiences critically low water conditions for fueling the hydropower system and the generating resources that are owned and operated by utilities and/or have been secured through firm contracts. The only future resources included in the regional load/resource balance are those currently being constructed.

The regional load forecast is comparable to last year and is expected to grow by about 290 MWa per year. It is total load including both firm and interruptible loads assuming normal weather conditions. The load forecast reflects utilities' expected savings from conservation efforts in their service territory.

Regional estimates for conservation savings are done by the Northwest Power and Conservation Council and BPA. For 2005 the Council sampled the Northwest's largest utilities' conservation efforts and demonstrated that the Council's regional target of 130 annual average megawatts for 2005 was met. In looking ahead to 2006 they see the utilities coming close to the Council's 2006 target as well.

More Renewables in the Resource Mix

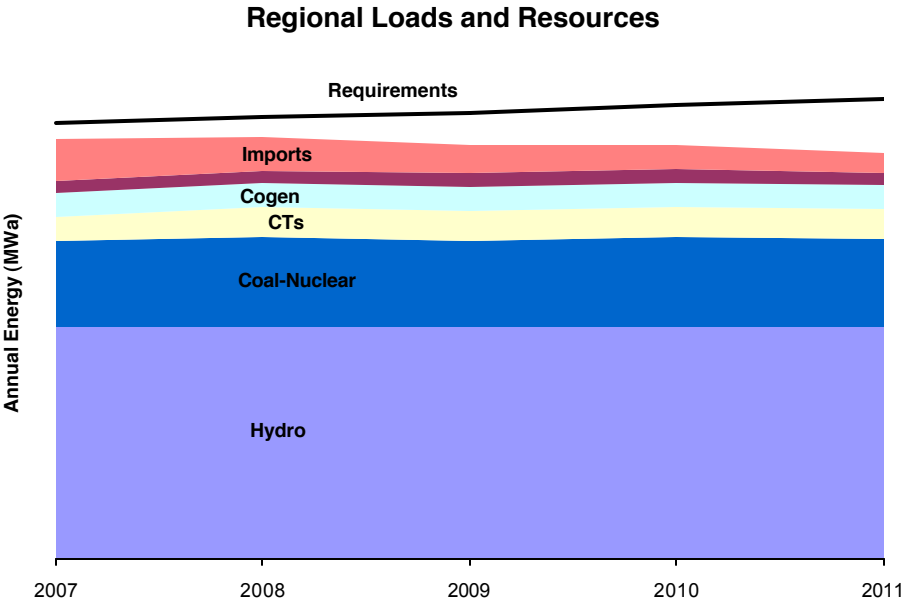
Since 2001 almost 4,800 MW of installed generating capacity has been built in the Northwest. While natural gas fired generation makes up 3,700 MW of this new resource development, a significant share of renewable generation has also been added to the mix of resources. The region has installed over 1,000 MW of renewable generation in the past five years. Of that 965 MW is wind generation. Other renewable projects such as biomass and hydro improvements have also been added.

As for resources that are currently under construction, 55 percent of the almost 1,200 MW of capacity is renewable generation. As in the past five years, the greatest majority of that renewable generation is from wind turbines.

Much of the 4,800 MW of generating capacity is owned and operated by independent power producers. Only a portion of the generation is committed to the region on a firm basis.

Filling the Gap

If no additional resources are acquired or built and the load forecast holds true, the regional need for power will grow to over 2,700 MWa in the next five years.



Water conditions vary greatly from year to year. In this report firm hydropower generation is what can be produced in the lowest water years. When the region experiences average water conditions an additional 3,800 MWa can be generated.

There are also 2,677 MWa of generation available from independent power producers that may be available for utilities to purchase if needed. Another 1,900 MW of capacity have been identified as "Planned Resources" and are in some stage of the site certification process. Construction could be completed in the next two or three years.

Utilities are continuously refining their individual integrated resource plans where new actions are identified for meeting electric demand. These actions are added to this report as they become known.

A Measure of Regional Resource Adequacy

The Northwest Regional Forecast has traditionally been an indicator of resource adequacy. By reporting the sum of individual utilities' estimates of electric demand and supply, readers can get a sense of the regional need for new resources in the next five years.

While, this report has provided decision makers with a sense of the region's long-term electric situation, the region is revisiting the traditional methods for assessing resource adequacy to determine if improvements in the approach can provide a better indication of the picture of Northwest's electric resource adequacy.

REPORT DESCRIPTION

The Northwest Regional Forecast reflects the collective thinking of Northwest electric utilities regarding future electricity demand and potential means for meeting that demand. This is an encyclopedia of information for the Northwest. Readers will find comprehensive information about the capability of existing and new electric generating resources and the components of electric demand in the Northwest. This forecast is the only published summation of individual electric utilities' estimates of expected loads. A comparison of regional loads to regional resources is included. The regional surplus/deficit reported reflects the amount of power from non-firm hydropower and unidentified purchases utilities are expecting to use to serve anticipated loads.

This report is produced annually by PNUCC. The utilities, in most cases, prepared their own projections. Bonneville Power Administration provides much of the information for its smaller customers and the Direct Service Industries based on BPA's power sales contracts that began October 1, 2001. The DSI power sales contracts are reduced by signed DSI load reduction agreements and closures that reduced BPA's obligations to the DSIs through September 30, 2006. Details of electric loads and resources have been submitted by the indicated utility or agency and the first 5 years (2006-2011) are tabulated. Procedures employed in preparing the report are described here. A list of definitions and abbreviations is included at the end of this section.

Tables 1 and 2 summarize requirements and resources for the region, while tables 3 through 5 summarize the federal system, public utilities, and private utilities. This provides a 5-year outlook of the total loads and resources for these groups of utilities in the region. Monthly regional loads and resources are also summarized for operating year 2006-2007. Summaries in the report are derived from details provided by regional utilities.

Table 6 provides a list of all existing generating resources, including nameplate ratings. Table 7 shows generating capacity and energy that is potentially available from independent power producers.

Tables 8 through 12 list information regarding new and future resources in the Northwest. This includes resources actually installed in the last calendar year and potential new resources categorized by level of commitment. This is described in more detail below.

PLANNING AREA

The Northwest Regional Planning Area is that area defined by the Pacific Northwest Electric Power Planning and Conservation Act. It includes the states of Oregon; Washington; Idaho; Montana west of the Continental Divide; portions of Nevada, Utah, and Wyoming that lie within the Columbia River drainage basin; and any rural electric cooperative customer not in the geographic area described above, but served by BPA on the effective date of the Act. Essentially, the region encompasses the operating systems of the Bonneville Power Administration and major public and private utilities. It does not include service areas of these utilities of the Northwest Power Pool (NWPP): B.C. Hydro and Power Authority; Edmonton Power; West Kootenay Power and Light Company, Ltd.; Alberta Interconnected System (AIS); and Sierra Pacific. Firm contractual arrangements between utilities operating in the regional area and utilities outside this area are included.

LOAD ESTIMATES

Regional loads are the sum of loads estimated by the Northwest utilities and BPA for its federal agency customers, certain non-generating public utilities, and direct service industrial customers (DSI). This includes loads within the utilities' service territory regardless of who is serving it. For example, the entire DSI load is included in the regional demand estimate although it is not all served by BPA or other regional utilities.

Estimates are reported for system energy loads. Annual average energy is for August through July of each year. Load projections are adjusted to reflect reductions in demand due to rising electricity prices and savings from appliance efficiency standards and energy codes. Savings from programmatic conservation are treated as demand-side resources. These resources have been subtracted from the load forecasts of individual utilities to reflect the influence of assured programmatic conservation on loads. The net result is firm loads expected to be met by generating resources.

Energy Loads

The Northwest regional firm energy load equals the sum of firm loads for individual utilities, Federal System (BPA) loads, nonfederal DSI load, and BPA firm transmission losses. Northwest regional total load equals the sum of Northwest regional firm load, and all interruptible loads.

Chelan County PUD #1 loads and resources include the loads of Aluminum Company of America (ALCOA) as well as ALCOA's share of Rocky Reach generation. ALCOA's estimated energy load is based on a high load factor and is calculated on the basis of its share of Rocky Reach peak capability. The difference between ALCOA's firm energy resource and its estimated energy load is considered a secondary load.

Federal System (BPA) Loads

Federal System firm loads are the sum of the Industrial Customers (DSI) loads, firm transmission losses, and federal agency loads (e.g., military bases). Federal System loads exclude Grand Coulee and Roza pumping loads and USBR local use at Grand Coulee. These loads are accounted for by reducing Grand Coulee and Roza resources by equivalent amounts.

The Federal System load does not include obligations to public or private utilities under the Pacific Northwest Regional Power Act. Consequently, the Federal System (BPA) loads shown do not represent the BPA Administrator's entire obligation. Federal System requirements summarized in Table 3 do include some public and private utility load.

Losses

Federal System (BPA) transmission losses for both firm loads and contractual obligations are embedded in federal load shown in Table 3. These losses represent the difference between energy generated by the federal system (or delivered to a system interchange point) and the amount of energy sold to customers. System transmission losses are calculated for firm loads by BPA for the load forecasts as submitted for this report.

RESOURCE ESTIMATES

This report considers existing resources and four categories of future resources: Under Construction; Planned; Prospective, and Under Consideration. Only the existing resources and resources under construction are reflected in the regional tabulations.

Hydro

Hydro resource capabilities are estimated from analyses of past hydrologic conditions. The historical record used covers the 70-year period from August 1928 through July 1998. Hydro resources are the sum of all utilities' hydro resources in the Northwest regional area except for NorthWestern Energy and Utah Power & Light Company, a division of PacifiCorp.

The firm energy capability of hydro plants is the amount of energy produced during the operating year with the lowest 12-month average generation. The lowest generation occurred in 1936-37 given today's river operating criteria. The firm energy capability is the average of 12 months, August 1936 to July 1937.

The hydro generation values are the result of a regional analysis. However, some utilities, including Bonneville Power Administration, use different streamflow and study assumptions for their own individual planning purposes. To estimate hydro energy capability during years in which streamflows are greater than those during the critical period, reservoir operation was simulated using a computer model for the 70 years of record for the 2006-7 operating year.

Reservoirs began the first year of the 70-year period at their end of July elevation except for Dworshak, Hungry Horse, Libby, and Grand Coulee. These reservoirs start the first year full as prescribed by NMFS in the Biological Opinion. Reservoirs were operated in accordance with normal requirements for refilling. Other operational data were updated in accordance with the 2003-2004 PNCA Data Submittal. The 70-year model was run in continuous mode.

Energy resources include downstream generation in the United States resulting from storage regulation of three Canadian Treaty reservoirs Duncan, Arrow, and Mica in coordination with Libby reservoir and other power facilities in the region as required by the Pacific Northwest Coordination Agreement and the Columbia River Treaty. Canadian Entitlement to these downstream power benefits is included through 2003 because the energy has been purchased on a long-term basis by utilities in the Pacific Northwest. The entire Entitlement reverted to Canada as of April 1, 2003. This year's report assumes that Canadian rights to divert water from the Kootenai River to the Columbia River upstream of Libby Dam have not been exercised within the planning horizon.

An agreement between B.C. Hydro and BPA in 1990 provides for increased United States-Canadian coordination of the Columbia River system. This agreement cooperatively managed 4.5 MAF of non-treaty storage through June 30, 2003. At this time, this non-treaty storage is used to increase operational flexibility of the hydro system and is not included as a firm resource in the hydro-regulation studies.

Downstream Fish Migration

Another requirement incorporated in the computer simulations is modified river operations to provide for the downstream migration of anadromous fish. These modifications include adhering to specific flow limits at some projects, spilling of several projects, and augmenting flows in the spring and summer on the Columbia, Snake and Kootenai Rivers. Specific requirements that are a part of operation for fish include: observing flow limits as measured at Columbia Falls (downstream of Hungry Horse Dam); and operating the Brownlee project as prescribed by its owner, Idaho Power Company.

During the spring and summer, an amount of water is deliberately spilled at all mid-Columbia projects based on negotiations and/or Federal Energy Regulatory Commission (FERC) orders. The amount of spill used for fish varies by project and generally occurs the second half of April through August.

Similarly, fish passage spill programs during the spring and summer have been negotiated for the Lower Snake River and Lower Columbia River dams operated by the Corps of Engineers. Scheduled spill for fish is in accordance with the Corps of Engineers data submitted for project operations. Spill is capped to limit total dissolved gas levels to below 120 percent which is the maximum total dissolved gas level recommended from the NMFS Biological Opinions. The state water quality standards are 110 percent. This standard can be exceeded as long as it is coordinated with the state water quality agencies in advance.

Augmented flows are simulated according to the National Marine Fisheries Service Biological Opinion for river operations. Augmentation for salmon occurs during the spring and summer months on both the Snake and Columbia rivers. The amount of water provided for flow augmentation varies depending on the water supply forecast for each year. Since low water conditions warrant the maximum amount of augmentation that is what is assumed for determining the firm power generation. For the 70-year analysis, the volumes of water provided vary by water condition.

Flow Augmentation for sturgeon on the Kootenai River and for steelhead on the mid-Columbia occurs according to the Biological Opinion and is the same every year regardless of the water supply.

Restrictions on Hydro Capacity

Peaking capabilities of individual federal projects assume that the pools of run-of-river projects are at or near their optimum levels. Imbalances between installed generating capacities of these projects and operational constraints, however, do not permit projects to achieve these levels of peaking in actual operation. Further, operational usability of peaking capacity is reduced by the inability of projects to sustain peaking levels during extended daily heavy load periods. These heavy load periods are defined as 50 hours per week (Monday through Friday). Therefore, an adjustment amount for the federal system has been determined from studies, simulating daily and weekly operation of the system in hourly time increments, by which the total of peaking capacities of the federal projects must be reduced. Reduced values represent sustained peaking capabilities of the federal system for each January. The sustained peak adjustment is modified for the peak reserve requirement attributed to hydro to prevent double counting and includes peak hydro maintenance and spinning reserves.

New Hydro

New hydro projects included in determining January capabilities are those that have been installed. All federal projects are authorized projects that are under construction or have been funded for construction or pre-construction planning.

Hydro Maintenance

Estimates of capacity and energy losses due to scheduled hydro maintenance are included in the estimates of annual average hydro capability. This maintenance is based on the mean (average) of the maintenance schedules submitted to the Northwest Power Pool. These schedules are published annually in the Pacific Northwest Coordination Agreement Data and Pool Operating Program.

Thermal

All existing thermal plants, regardless of size, are included in amounts submitted by each plant operator. Small fossil-fuel plants and combustion turbines are included as peaking resources and their reported energy capabilities are only the amounts necessary for peaking

operations, some additional capability is considered available for reserves. No additional capability is shown.

New Thermal

New thermal plants are those that are either under construction or have licenses for construction. The energy capabilities of large new thermal plants are computed on annual planning equivalent availability factors submitted by the sponsors of the projects. The factors include allowance for scheduled maintenance (including refueling) and forced outages. Scheduled dates of any new thermal resources are shown in tables 9 through 12 as submitted by project sponsors.

Thermal Maintenance

Maintenance schedules for base-load thermal plants are submitted by plant operators and are used in developing the residual load to which the hydro system is operated. No attempt has been made to reschedule maintenance on a regionally coordinated basis. Annual energy and peak capabilities credited to each of these projects have allowed for scheduled maintenance. Operating year energy capabilities reported for small thermal plants make allowance for energy lost during maintenance outages.

Non-Utility Generation

Non-utility generation is reflected in the tables along with utility-owned generation for each resource type of hydro, cogeneration, and renewables. Non-utility generation is power generated at facilities whose percent of ownership by a sponsoring utility is 50 percent or less. These include PURPA-qualified facilities (QFs) or non-qualified facilities of independent power producers (IPPs).

Resources Under Construction

Resources under construction include those projects not installed as of January 2006, but currently are being built. In this report, these resources are considered when examining future loads and resources as shown in Table 1. Detailed information on resources under construction is shown in Table 9.

Planned Resources (Site Certification Process)

Planned resources include those projects, measures, and transactions not under construction as of January 2006, but for which sponsors have made a firm commitment to develop. For example, they have obtained all licenses for construction or acquisition or are in the process of receiving their site certificate from the state. A schedule of planned resources is shown in Table 10.

Prospective Resources (Initial Siting Process)

Prospective resources include those projects, measures, and transactions the utilities have determined as developable or are considering for construction or acquisition. Planning for these resources has not progressed far enough to allow a potential sponsor to commit itself in terms of funding, size, or sharing of ownership. Known information about these resources is summarized in Table 11.

Resources Under Consideration

Resources under consideration include those projects measures and transactions the utilities have determined as developable or are considering for construction or acquisition. Planning for these resources has not progressed far enough to allow a potential sponsor to commit

itself in terms of funding, size, or sharing of ownership. This information is provided in Table 12.

INTERCHANGES WITH SYSTEMS OUTSIDE THE REGION

Imports and exports include firm arrangements for interchanges with systems outside the region. These arrangements comprise firm contracts with utilities to the East, the Pacific Southwest and Canada.

Contracts to and from the Pacific Southwest are amounts delivered at the California-Oregon border. They include incremental losses associated with deliveries to the border.

"Intra-company transfers" apply to utilities whose service territories extend beyond the regional boundary. These transfers pertain to utilities with loads inside the region that will be served by resources that are outside. Transfers from PacifiCorp's Utah division have accounted for possible transmission bottlenecks. Transfers of other utilities do not consider any transmission bottlenecks that may occur in the future.

The Pacific Northwest Coordination Agreement, which coordinates the operation of the Pacific Northwest power system and that of Canada, was renewed through September 15, 2024.

BPA POWER SALES TO UTILITIES AND INDUSTRIAL CUSTOMERS

Under the provisions of the Regional Power Act, BPA offered each requesting preference customer, investor-owned utility and existing direct service industrial customer within the Pacific Northwest a new long-term power sales contract on August 28, 1981. BPA is obligated to meet the firm power load of all customers in the region with a long-term BPA power sales contract to the extent that such load exceeds: (1) a utility's firm resources used in the year prior to the enactment of the Regional Power Act to serve its load in the region; and (2) other resources as the customer determines will be used to serve such loads. The sum of these resources is shown as Dedicated Resources. Since passage of the Regional Act, some changes in resource ownership have resulted in less than 100 percent ownership of a resource being dedicated to serve regional load. Thus, non-dedicated resources are indicated with a footnote.

BPA signed new power sales contracts with its customers that began October 1, 2001. The following is a description of some of the contractual uncertainties associated with specific customer classes.

In general for non-slice public customers, the power sales contract Purchase from BPA is calculated as the difference between their firm load and dedicated resources. The peak obligation is computed such that it at least equals the energy obligation. For some public utility districts, the peak reserve requirement is included in the calculation.

Slice public customers power sales contract allowed customers to purchase a fixed block of power, termed Slice Block, along with a specified percent of the Federal system resources. The actual amount of the purchase varies by water and other economic conditions. Since the amount of power a slice customer receives under their power sales contract, a slice public customer may have additional power to sell in better than critical water conditions, and may have to purchase power in low water conditions.

The IOU's signed 10-year contracts. As a result of negotiations in 2001, the net amount of BPA's IOU power sales contract obligations is up to 258 aMW from October 1, 2001, through September 30, 2006. For the period October 1, 2006, through September 30, 2011, it is assumed that BPA will exercise its option to pass the IOU customers the Residential Purchase and Sales Agreement settlement in the form of financial benefits and no power will be delivered.

BPA's DSI customers signed 5-year contracts beginning October 1, 2001, through September 30, 2006. Due to economic conditions, the DSI customers' loads have been adjusted downward to reflect load reduction agreements and contract terminations. The actual DSI loads may be lower than those depicted in this study. After September 30, 2006, Federal service to the DSIs is not assumed because the DSIs do not have signed contracts in place for service. This assumption does not represent a decision by BPA on post-September 30, 2006, firm DSI power sales contracts.

DEFINITIONS

Annual Energy

Energy value in megawatts that represents the average of monthly values in a given year.

Average Megawatts

(MWa) Unit of energy for either load or generation that is the ratio of energy (in megawatt-hours) expected to be consumed or generated during a period of time to the number of hours in the period.

Biomass

Any organic matter which is available on a renewable basis, including forest residues, agricultural crops and waste, wood and wood wastes, animal wastes, livestock operation residue, aquatic plants, and municipal wastes.

Canadian Entitlement (CAN)

Canada is entitled to one-half the downstream power benefits resulting from Canadian storage as defined by the Columbia River Treaty. Canadian entitlement returns above contractually stipulated amounts are estimated by Bonneville Power Administration and in no way constitute endorsement or agreement by other utilities.

Capacity Factor

The ratio of the average load on a machine or equipment, for the period of time considered, to the capacity rating of the machine or equipment.

Cogeneration

Cogeneration is the technology of producing electric energy and other forms of useful energy (thermal or mechanical) for industrial and commercial heating or cooling purposes through sequential use of an energy source.

Columbia Storage Power Exchange (CSPE)

A non-profit corporation set up by a group of Northwest utilities to administer the purchase of Canada's rights to downstream power benefits defined by the Columbia River Treaty.

Conservation

Any reduction in electrical power consumption as a result of increases in the efficiency of energy use, production, or distribution.

Critical Period

That portion of the historical streamflow record during which recorded streamflows, combined with all available reservoir storage, produced the least amount of hydroelectric energy. For this report, the critical period is the 8-month period starting September 1936 and ending April 1937.

Dedicated Resources

The actual resources used by a utility in the operating year prior to the signing of the Northwest Electric Power Planning and Conservation Act, and other resources that the utility dedicates to serve load. These resources are declared for a rolling 7-year period in utilities' power sale contracts with BPA.

Demand-side Resources

Peak and energy savings from conservation measures, efficiencies, and load control programs that can be considered a resource in the sense that they serve increased demand without obtaining new supplies.

Direct Service Industries (DSI)

A group of industrial firms which purchase electric power directly from Bonneville Power Administration (BPA).

Encroachment (ENC)

A term used to describe a situation where the operation of a hydroelectric project causes an increase in the level of the tailwater of the project that is directly upstream.

Exports

Firm interchange arrangements where power flows from regional utilities to utilities outside the region.

Federal System (BPA)

The federal system is a combination of BPA's customer loads and contractual obligations, and resources from which BPA acquires the power it sells. The resources include plants operated by the U.S. Army Corps of Engineers (COE), U.S. Bureau of Reclamation (USBR), and hydroelectric projects owned by the city of Idaho Falls and Energy Northwest. BPA markets the thermal generation from Columbia Generating Station, operated by Energy Northwest.

Federal Columbia River Power System (FCRPS)

Thirty federal hydroelectric projects constructed and operated by the Corps of Engineers and the Bureau of Reclamation, and the Bonneville Power Administration transmission facilities.

Firm Capacity

Maximum on-peak electrical energy intended to have assured availability to customers over a defined period.

Firm Energy

Electric energy intended to have assured availability to customers over a defined period.

Firm Energy Load Carrying Capability (FELCC)

The amount of load the hydro system can serve on a firm basis, given a recurrence of critical period streamflows.

Firm Load

The sum of the estimated firm loads of private utility and public agency systems, federal agencies and BPA industrial customers.

Firm Losses

Losses incurred on the transmission system of the Northwest region.

Firm Requirements

Firm loads plus reserves.

Historical Streamflow Record

A database of unregulated streamflows for 70 years (July 1928 to June 1998). Data is modified to take into account adjustments due to irrigation depletions, evaporations, etc. for the particular operating year being studied.

Hydro Maintenance

The amount of energy lost due to the estimated maintenance required during the critical period. Peak hydro maintenance is included in the peak reserve calculations.

Hydroregulation

A study that utilizes a computer model to simulate the operation of the Pacific Northwest hydroelectric power system using the historical streamflows, monthly loads, thermal and other non-hydro resources, and other hydroelectric plant data for each project.

Imports

Firm interchange arrangements where power flows to regional utilities from utilities outside the region.

Independent Power Producers

Non-utility entities who own generation that may be partially contracted to meet regional load.

Industrial Customers

Same as Direct Service Industries (DSI).

Interruptible Load

Loads that can be interrupted in the event of a power deficiency on the part of the supplying system.

Intra-Company Transfer

An interchange category that applies to utilities whose service territories extend beyond the regional boundary.

January Peak

A capacity value in megawatts for the month of January (January 1937 for this report). Used to represent highest estimated 60-minute clock hour average demand for that month under normal weather conditions.

Nameplate Capacity

A measure of the approximate generating capability of a project or unit as designated by the manufacturer.

Non-Utility Generation

Facilities that generate power whose percent of ownership by a sponsoring utility is 50 percent or less. These include PURPA-qualified facilities (QFs) or non-qualified facilities of independent power producers (IPPs).

Operating Year

Twelve-month period beginning on August 1 of any year and ending on July 31 of the following year. For example, operating year 2006 is August 1, 2005 through July 31, 2006.

Other Publics (BPA)

Refers to the smaller, non-generating Public Utility Customers whose load requirements are estimated and served by Bonneville Power Administration.

Planned Resources

Planned resources include those projects, measures, and transactions that utilities have made some commitment to acquire and are in some stage of state site certification process; however, either not all licenses have been obtained, no commercial operation data has been specified, or the specifics of the transaction have not been finalized.

Private Utilities

Same as investor-owned utilities.

Prospective Resources

Projects, measures, and transactions utilities are considering for construction or acquisition and are initiating the state siting process. Planning for these resources may not have progressed far enough to allow a potential sponsor to commit itself in terms of funding, size, or sharing of ownership.

Renewable Resource

A category of resources, besides hydropower, that includes projects that produce power from such fuel sources as wind, solar, geothermal, and biomass (includes wood, municipal solid-waste facilities).

Requirements

For each year, a utility's projected loads, exports, and contracts out.

Reservoir Plant

A hydroelectric plant on a reservoir with storage capacity, installed machine capacity, head characteristics, and flow levels, which will permit seasonal drafts.

Resources Under Consideration

Resources under consideration include those projects, measures and transactions the utilities have determined as developable or are considering for construction or acquisition. Planning for these resources has not progressed far enough to allow a potential sponsor to commit itself in terms of funding, size, or sharing of ownership.

Resources Under Construction

Embedded in the forecast of future resources, these projects are incomplete but under construction at the time of publication.

Restoration

Restoration is the obligation under terms of the Pacific Northwest Coordination Agreement of utilities, which gained generation from the addition of Canadian storage to restore those utilities, which lost generation.

Run of River Plant

A hydroelectric plant with limited storage capacity limiting the operation to daily or weekly shaping.

Secondary Energy Loads

Loads that are served with nonfirm energy when available.

Surplus Firm Energy

The amount of FELCC in excess of the firm energy loads served by the power system.

Sustained Peaking Adjustment

An adjustment to the peaking capability of the federal hydro system that reflects the ability to meet a 10-hour peak load.

System Diversity

The difference between the sum of the individual utility non-coincidental peak loads and the sum of the individual utility peak loads coincidental with the federal system (BPA) peak.

Total Load

The total load is the summation of utilities' firm and interruptible loads and Bonneville Power Administration's loads which consist of Federal agencies, public agencies, and industrial customers. Transmission and distribution losses are also included in the total loads.

Table 1

NORTHWEST REGION
Requirements and Resources

Annual Energy in Average Megawatts	<u>2006-07</u>	<u>2007-08</u>	<u>2008-09</u>	<u>2009-10</u>	<u>2010-11</u>
REQUIREMENTS					
Load	21,312	21,678	21,978	22,279	22,570
Exports	<u>894</u>	<u>807</u>	<u>747</u>	<u>840</u>	<u>800</u>
	22,206	22,486	22,725	23,119	23,370
RESOURCES					
Hydro	11,824	11,824	11,823	11,824	11,825
Small Thermal & Miscellaneous	24	24	24	24	24
Combustion Turbines	1,300	1,513	1,530	1,511	1,522
Renewables	618	656	652	656	655
Cogeneration	1,212	1,212	1,229	1,222	1,218
Imports	2,108	1,685	1,520	1,209	1,004
Large Thermal	<u>4,303</u>	<u>4,540</u>	<u>4,352</u>	<u>4,588</u>	<u>4,421</u>
	21,388	21,455	21,129	21,033	20,668
SURPLUS (DEFICIT)	(818)	(1,031)	(1,596)	(2,085)	(2,702)
POTENTIALLY AVAILABLE RESOURCES					
Independent Power Producer Projects ^{1/}	2,677	2,677	2,677	2,677	2,677
Hydro Generation - Average Water ^{2/}	3,807	3,805	3,805	3,805	3,805

^{1/} Includes generation located within the Northwest that is not otherwise committed to regional load. Potential purchases from outside the region are not incorporated.

^{2/} Additional hydro generation (above critical water) available in average water conditions from main hydro projects.

NORTHWEST REGION
2006-07 Monthly Requirements and Resources

Energy in Average Megawatts	<u>Aug</u>	<u>Sept</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Annual</u>
REQUIREMENTS													
Load	20,923	19,399	19,718	21,606	23,696	24,158	23,265	21,431	20,179	19,654	20,382	21,241	21,312
Exports	1,373	1,339	774	733	748	747	742	735	757	814	932	1,035	894
	<u>22,296</u>	<u>20,738</u>	<u>20,492</u>	<u>22,339</u>	<u>24,444</u>	<u>24,905</u>	<u>24,007</u>	<u>22,166</u>	<u>20,937</u>	<u>20,468</u>	<u>21,314</u>	<u>22,276</u>	<u>22,206</u>
RESOURCES													
Hydro	13,551	9,969	10,404	12,347	12,334	11,122	9,831	10,732	10,994	11,429	15,346	13,795	11,824
Small Thermal & Miscellaneous	24	24	24	24	24	24	24	24	24	24	24	24	24
Combustion Turbine	1,274	1,293	1,311	1,336	1,348	1,345	1,288	1,003	1,023	1,344	1,534	1,509	1,300
Renewables	520	520	526	586	667	675	652	686	652	633	649	649	618
Cogeneration	1,210	1,104	1,222	1,228	1,233	1,233	1,231	1,226	1,222	1,217	1,213	1,209	1,212
Imports	2,154	2,067	1,794	2,416	2,736	2,593	2,504	2,155	1,998	1,589	1,693	1,600	2,108
Large Thermal	4,667	4,536	4,563	4,667	4,667	4,667	4,667	4,667	4,300	2,609	2,952	4,667	4,303
	<u>23,400</u>	<u>19,513</u>	<u>19,844</u>	<u>22,604</u>	<u>23,008</u>	<u>21,659</u>	<u>20,196</u>	<u>20,492</u>	<u>20,212</u>	<u>18,845</u>	<u>23,411</u>	<u>23,452</u>	<u>21,387</u>
SURPLUS (DEFICIT)	1,107	(1,221)	(645)	268	(1,359)	(3,170)	(3,736)	(1,598)	(649)	(1,258)	2,463	1,542	(818)

**FEDERAL SYSTEM (BPA)
Requirements and Resources**

Annual Energy in Average Megawatts	<u>2006-07</u>	<u>2007-08</u>	<u>2008-09</u>	<u>2009-10</u>	<u>2010-11</u>
REQUIREMENTS					
Load	566	522	530	535	533
Exports	697	653	598	691	652
Contracts Out	590	575	583	583	583
Sale to Public Utilities ¹	6,990	7,114	7,139	7,172	7,187
Sale to Private Utilities ¹	<u>64</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
	8,907	8,865	8,850	8,981	8,954
RESOURCES					
System Hydro	6,719	6,719	6,719	6,719	6,719
Canadian Ent. Non-fed (CAN)	<u>134</u>	<u>131</u>	<u>130</u>	<u>131</u>	<u>137</u>
Total Hydro	6,854	6,850	6,849	6,851	6,856
Small Thermal & Miscellaneous	-	-	-	-	-
Combustion Turbines	-	-	-	-	-
Renewables	136	144	144	144	144
Cogeneration	-	-	-	-	-
Imports	225	195	184	183	175
Contracts In	686	447	447	447	447
Large Thermal	<u>877</u>	<u>1,000</u>	<u>877</u>	<u>1,000</u>	<u>877</u>
	8,777	8,637	8,501	8,625	8,500
SURPLUS (DEFICIT)	(129)	(228)	(349)	(356)	(455)

¹ BPA estimate.

PUBLIC UTILITIES
Requirements and Resources

Annual Energy in Average Megawatts	<u>2006-07</u>	<u>2007-08</u>	<u>2008-09</u>	<u>2009-10</u>	<u>2010-11</u>
REQUIREMENTS					
Load	8,838	8,982	9,124	9,245	9,349
Exports	45	22	16	16	16
Contracts Out	<u>702</u>	<u>475</u>	<u>473</u>	<u>460</u>	<u>448</u>
	9,585	9,479	9,613	9,720	9,813
RESOURCES					
Hydro	2,166	2,169	2,168	2,241	2,287
Canadian Ent. Return (CAN)	(83)	(81)	(80)	(84)	(90)
Restoration	<u>(6)</u>	<u>(6)</u>	<u>(6)</u>	<u>(6)</u>	<u>(6)</u>
Total Hydro	2,077	2,082	2,082	2,151	2,190
Small Thermal & Miscellaneous	-	-	-	-	-
Combustion Turbines	262	246	253	239	246
Renewables	124	124	124	124	124
Imports	70	68	70	72	75
Cogeneration	79	79	79	74	70
Contracts In	299	276	274	265	261
BPA Purchase ^{1/}	6,990	7,114	7,139	7,172	7,187
Large Thermal	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
	9,902	9,989	10,021	10,097	10,153
SURPLUS (DEFICIT)	318	510	407	377	341

^{1/} BPA Estimate.

PRIVATE UTILITIES
Requirements and Resources

Annual Energy in Average Megawatts	<u>2006-07</u>	<u>2007-08</u>	<u>2008-09</u>	<u>2009-10</u>	<u>2010-11</u>
REQUIREMENTS					
Load	11,196	11,362	11,512	11,687	11,876
Exports	152	133	133	133	133
Contracts Out	<u>269</u>	<u>257</u>	<u>257</u>	<u>257</u>	<u>255</u>
	11,617	11,752	11,902	12,077	12,265
RESOURCES					
Hydro	2,938	2,936	2,936	2,864	2,819
Canadian Ent. Return (CAN)	(53)	(51)	(51)	(47)	(46)
Restoration	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
Total Hydro	2,910	2,909	2,909	2,841	2,798
Small Thermal & Miscellaneous	24	24	24	24	24
Combustion Turbines	965	977	986	981	985
Renewables	306	313	308	313	311
Imports	1,813	1,421	1,265	954	754
Cogeneration	1,133	1,133	1,150	1,147	1,148
Contracts In	575	584	592	587	578
BPA Purchase ^{1/}	64	-	-	-	-
Large Thermal	<u>3,426</u>	<u>3,540</u>	<u>3,475</u>	<u>3,588</u>	<u>3,544</u>
	11,216	10,901	10,710	10,435	10,141
SURPLUS (DEFICIT)	(401)	(851)	(1,192)	(1,642)	(2,124)

^{1/} BPA Estimate.

NORTHWEST GENERATING RESOURCES

Project	Owner	Notes	NAMEPLATE (Megawatts)
HYDRO			
Albany	City of Albany		1
Albeni Falls	USCE	Federal System - BPA	43
Alder	Tacoma Power		50
American Falls	Idaho Power Company		92
Anderson Ranch	USBR	Federal System - BPA	40
Barber Dam	Non - Utility	Idaho Power Company	4
Bend	PacifiCorp (PPL/UPLC)	Condit, Big F & Minor	1
Big Cliff	USCE	Federal System - BPA	18
Big Creek	Flathead Irrigation Project (FIP)		0
Big Fork	PacifiCorp (PPL/UPLC)	Condit, Big F & Minor	4
Billings Generation, Inc.	Non - Utility	NorthWestern Energy, partially dedicated to region	64
Birch Creek	Non - Utility	PacifiCorp (PPL/UPLC)	3
Black Canyon	USBR	Federal System - BPA	10
Black Creek Hydro	Puget Sound Energy		4
Black Eagle	PP&L - Montana	Missouri River	17
Blind Canyon	Non - Utility	Idaho Power Company	2
Bliss	Idaho Power Company		75
Boise Diversion	USBR	Federal System - BPA	2
Bonneville Dam	USCE	Federal System - BPA	1,101
Bonneville Pacific	Non - Utility	PacifiCorp (PPL/UPLC)	6
Boulder Creek		Federal System - BPA	0
Boundary	Seattle City Light		1,040
Box Canyon	Pend Oreille County PUD #1		60
Broadwater Dam	Non - Utility	NorthWestern Energy	10
Brownlee	Idaho Power Company		585
Bull Run	Portland General Electric Company		21
Burnside Hydro	Non - Utility	Other Publics	0
Bypass	Non - Utility	Idaho Power Company	10
C.J. Strike	Idaho Power Company		83
Cabinet Gorge	Avista Corp.		245
Calispel Creek	Pend Oreille County PUD #2	Minor-Hydro-Others	1
Carmen	Eugene Water & Electric Board		80
Cascade	Idaho Power Company		12

¹ Includes 3 service units, 6 pump-generator units, 6 third powerhouse units rewind of 18.

NORTHWEST GENERATING RESOURCES

Project	Owner	Notes	NAMEPLATE (Megawatts)
CDM Hydro	Non - Utility	PacifiCorp (PPL/UPLC)	-
Cedar Draw Creek	Non - Utility	Idaho Power Company	2
Cedar Falls	Seattle City Light		20
Chandler	USBR	Federal System - BPA	12
Chelan	Chelan County PUD #1	Mid. Columbia	48
Chief Joseph	USCE	Federal System - BPA	2,457
City of Idaho Falls	City of Idaho Falls		8
Clear Lake	Idaho Power Company	Spring Plants	3
Clearwater	Non - Utility	Federal (BPA)	1
Clearwater No. 1	PacifiCorp (PPL/UPLC)	Umpqua River	15
Clearwater No. 2	PacifiCorp (PPL/UPLC)	Umpqua River	26
Cline Falls	PacifiCorp (PPL/UPLC)	Condit, Big F & Minor	1
Cochrane	PP&L - Montana	Missouri River, partially dedicated to region	48
COID	Non - Utility	PacifiCorp (PPL/UPLC)	7
Condit	PacifiCorp (PPL/UPLC)	Condit, Big F & Minor	10
Copco No. 2	PacifiCorp (PPL/UPLC)	Klamath River	27
Copco No.1	PacifiCorp (PPL/UPLC)	Klamath River	20
Cougar	USCE	Federal System - BPA	25
Cove Hydro	Non - Utility	Other Publics	0
Cowlitz Falls	Lewis County PUD		70
Crystal Springs	Non - Utility	Idaho Power Company	2
Cushman 1	Tacoma Power		43
Cushman 2	Tacoma Power		81
Deep Creek	Non - Utility	Avista Corp.	1
Derr Creek	Non - Utility	Avista Corp.	0
Detroit	USCE	Federal System - BPA	100
Dexter	USCE	Federal System - BPA	15
Diablo	Seattle City Light		153
Dietrich Drop	Non - Utility	Idaho Power Company	5
Dworshak	USCE	Federal System - BPA	400
Dworshak/Clearwater Hatchery	Idaho		3
Eagle Point	PacifiCorp (PPL/UPLC)	Condit, Big F & Minor	3
East Side	PacifiCorp (PPL/UPLC)	Klamath River	3
Electron	Puget Sound Energy	Snoqualmie & Minor	26

¹ Includes 3 service units, 6 pump-generator units, 6 third powerhouse units rewind of 18.

NORTHWEST GENERATING RESOURCES

<u>Project</u>	<u>Owner</u>	<u>Notes</u>	<u>NAMEPLATE (Megawatts)</u>
Elk Creek	Non - Utility	Idaho Power Company	2
Eltopia Branch Canal	Non - Utility	Seattle City Light/Tacoma Power	2
Elwha	USBR	Federal System - BPA	11
Falls Creek	Non - Utility	PacifiCorp (PPL/UPLC)	0
Falls River	Non - Utility	Idaho Power Company	9
Faraday	Portland General Electric Company		37
Farmers Irrigation	Non - Utility	PacifiCorp (PPL/UPLC)	3
Felt	PacifiCorp (PPL/UPLC)		1
Fish Creek	PacifiCorp (PPL/UPLC)	Condit, Big F & Minor	11
Foster	USCE	Federal System - BPA	20
Frontier Technologies	Non - Utility	PacifiCorp (PPL/UPLC)	4
Galesville Dam	Non - Utility	PacifiCorp (PPL/UPLC)	2
GEM State Hydro	City of Idaho Falls		15
Geobon 2	Non - Utility	Idaho Power Company	1
Glines Canyon	USBR	Federal System - BPA	13
Glines Hydro		Federal System - BPA	16
Gorge	Seattle City Light		207
Grand Coulee ¹	USBR	Federal System - BPA	6,494
Green Peter	USCE	Federal System - BPA	80
Green Springs	USBR	Federal System - USBR	16
Hauser Lake	PP&L - Montana	Missouri River, partially dedicated to region	17
Hazelton A	Non - Utility	Idaho Power Company	8
Hazelton B	Non - Utility	Idaho Power Company	7
Hells Canyon	Idaho Power Company		392
Henry M. Jackson (Sultan)	Snohomish County PUD #1		112
Hills Creek	USCE	Federal System - BPA	30
Holter	PP&L - Montana	Missouri River, partially dedicated to region	38
Hood Street Reservoir	Tacoma Power		1
Horseshoe Bend	Non - Utility	Idaho Power Company	10
Hungry Horse	USBR	Federal System - BPA	428
Hutchinson Creek	Non - Utility	Puget Sound Energy	1
Ice Harbor	USCE	Federal System - BPA	603
Iron Gate	PacifiCorp (PPL/UPLC)	Klamath River	18
Island Park (2)		Federal System - BPA	5

¹ Includes 3 service units, 6 pump-generator units, 6 third powerhouse units rewind of 18.

NORTHWEST GENERATING RESOURCES

Project	Owner	Notes	NAMEPLATE (Megawatts)
Jim Ford Creek	Non - Utility	Avista Corp.	2
John C. Boyle	PacifiCorp (PPL/UPLC)	Klamath River	80
John Day	USCE	Federal System - BPA	2,160
John Day Creek	Non - Utility	Avista Corp.	1
Joseph Hydro	Non - Utility	PacifiCorp (PPL/UPLC)	8
Kasel-Witherspoon	Non - Utility	Idaho Power Company	1
Klamath	Non - Utility	PacifiCorp (PPL/UPLC)	92
Kerr	PP&L - Montana	Flathead River, partially dedicated to region	171
Koma Kulshan	Non - Utility	Puget Sound Energy	14
Koyle	Non - Utility	Idaho Power Company	1
LaGrande	Tacoma Power		64
Lake Oswego Corporation	Non - Utility	Portland General Electric Company	1
Lateral #10	Non - Utility	Idaho Power Company	2
Leaburg	Eugene Water & Electric Board		14
Lemolo No. 1	PacifiCorp (PPL/UPLC)	Umpqua River	29
Lemolo No. 2	PacifiCorp (PPL/UPLC)	Umpqua River	33
Libby	USCE	Federal System - BPA	525
Lilliwaup Falls	Other Publics		1
Little Falls	Avista Corp.		32
Little Goose	USCE	Federal System - BPA	810
Little Wood	Non - Utility	Idaho Power Company	2
Littlewood-Arkoosh	Non - Utility	Idaho Power Company	1
Long Lake	Avista Corp.		70
Lookout Point	USCE	Federal System - BPA	120
Lost Creek	USCE	Federal System - BPA	49
Lower	City of Idaho Falls		11
Lower Baker	Puget Sound Energy		64
Lower Granite	USCE	Federal System - BPA	810
Lower Malad	Idaho Power Company	Spring Plants	14
Lower Monumental	USCE	Federal System - BPA	810
Lower Salmon	Idaho Power Company		60
Lowline #2	Non - Utility	Idaho Power Company	3
Lowline Canal	Non - Utility	Idaho Power Company	8
Lucky Peak	Non - Utility	Seattle City Light	113

¹ Includes 3 service units, 6 pump-generator units, 6 third powerhouse units rewind of 18.

NORTHWEST GENERATING RESOURCES

<u>Project</u>	<u>Owner</u>	<u>Notes</u>	<u>NAMEPLATE (Megawatts)</u>
Madison	PP&L - Montana	Madison River, partially dedicated to region	7
Magic Reservoir	Non - Utility	Idaho Power Company	9
Main Canal Headworks	Non - Utility	Seattle City Light/Tacoma Power	26
Marcos Ranches	Non - Utility	Idaho Power Company	1
Mayfield	Tacoma Power		162
McNary	USCE	Federal System - BPA	980
McNary Fishway	Public Utility		8
Merwin	PacifiCorp (PPL/UPLC)		136
Meyers Falls	Avista Corp.	Avista Corp.	1
Middlefork Irrigation	Non - Utility	PacifiCorp (PPL/UPLC)	3
Mile 28	Non - Utility	Idaho Power Company	2
Mill Creek		Federal System - BPA	1
Milner	Idaho Power Company		59
Minidoka	USBR	Federal System - BPA	28
Mink Creek	Non - Utility	PacifiCorp (PPL/UPLC)	3
Mitchell Butte	Non - Utility	Idaho Power Company	2
Monroe Street	Avista Corp.		15
Morony	PP&L - Montana	Missouri River, partially dedicated to region	45
Morse Creek	City of Port Angeles		1
Mossyrock	Tacoma Power		300
Moyie Springs	City of Bonners Ferry	Minor Hydro-Others	4
Mystic Lake	PP&L - Montana	W. Rosebud River, partially dedicated to region	10
Naches	PacifiCorp (PPL/UPLC)	Condit, Big F & Minor	6
Naches Drop	PacifiCorp (PPL/UPLC)	Condit, Big F & Minor	1
Newhalem	Seattle City Light		2
Nine Mile	Avista Corp.		26
Nooksack	Puget Sound Energy	Snoqualmie & Minor	2
North Fork	Portland General Electric Company		41
North Fork Sprague	Non - Utility	PacifiCorp (PPL/UPLC)	1
North Umpqua	PacifiCorp (PPL/UPLC)	PacifiCorp (PPL/UPLC)	175
Noxon Rapids	Avista Corp.		466
Oak Grove	Portland General Electric Company		51
Opal Springs	Non - Utility	PacifiCorp (PPL/UPLC)	5
Owyhee Dam	Non - Utility	Idaho Power Company	5

¹ Includes 3 service units, 6 pump-generator units, 6 third powerhouse units rewind of 18.

NORTHWEST GENERATING RESOURCES

Project	Owner	Notes	NAMEPLATE (Megawatts)
Oxbow	Idaho Power Company		190
P.E.C. Headworks	Non - Utility	Grant County PUD #2	7
Packwood	Energy Northwest		28
Palisades	USBR	Federal System - BPA	177
Pelton	Portland General Electric Company		110
Pelton Reregulating	Portland General Electric Company		18
Phillips Ranch	Non - Utility	Avista Corp.	0
Pigeon Cove	Non - Utility	Idaho Power Company	2
Portland Hydro Project	Non - Utility	Portland General Electric Company	36
Post Falls	Avista Corp.		15
Potholes East Canal 66	Non - Utility	Seattle City Light/Tacoma Power	2
Powerdale	PacifiCorp (PPL/UPLC)	Condit, Big F & Minor	6
Priest Rapids	Grant County PUD #2		956
Prospect No. 1	PacifiCorp (PPL/UPLC)	Rogue River	4
Prospect No. 2	PacifiCorp (PPL/UPLC)	Rogue River	32
Prospect No. 3	PacifiCorp (PPL/UPLC)	Rogue River	7
Prospect No. 4	PacifiCorp (PPL/UPLC)	Rogue River	1
Quincy Chute	Non - Utility	Grant County PUD #3	9
R. D. Smith	Non - Utility	Seattle City Light/Tacoma Power	6
Rainbow	PP&L - Montana	Missouri River, partially dedicated to region	36
Reeder Gulch	Other Publics		1
River Mill	Portland General Electric Company		19
Rock Creek #1	Non - Utility	Idaho Power Company	2
Rock Creek #2	Non - Utility	Idaho Power Company	2
Rock Island (PH1&2)	Chelan County PUD #1		624
Rocky Reach	Chelan County PUD #1		1,280
Rogue	PacifiCorp (PPL/UPLC)	PacifiCorp (PPL/UPLC)	25
Ross	Seattle City Light		360
Round Butte	Portland General Electric Company		247
Roza-Pump	USBR	Federal System - BPA	13
Ryan	PP&L - Montana	Missouri River, partially dedicated to region	48
Sheep Creek	Non - Utility	Avista Corp.	2
Shoshone Falls	Idaho Power Company		13
Slide Creek	PacifiCorp (PPL/UPLC)	Umpqua River	18

¹ Includes 3 service units, 6 pump-generator units, 6 third powerhouse units rewind of 18.

NORTHWEST GENERATING RESOURCES

Project	Owner	Notes	NAMEPLATE (Megawatts)
Smith Creek	Eugene Water & Electric Board		38
Snoqualmie Fall	Puget Sound Energy	Snoqualmie & Minor	42
Soda Creek	Other Publics		1
Soda Springs	PacifiCorp (PPL/UPLC)	Umpqua River	11
South Fork Tolt	Seattle City Light		17
Spokane Upriver	Non - Utility	Avista Corp.	16
Stauffer Dry Creek	Non - Utility	PacifiCorp (PPL/UPLC)	4
Stayton	PacifiCorp (PPL/UPLC)	Condit, Big F & Minor	1
Stone Creek	Eugene Water & Electric Board		12
Strawberry Creek	Lower Valley Power & Light Inc.	S. Idaho-Public Agy.	2
Sullivan Lake	Pend Oreille County PUD #3	Storage Only	-
Summer Falls	Non - Utility	Seattle City Light/Tacoma Power	92
Swan Falls	Idaho Power Company		25
Swift #1	PacifiCorp (PPL/UPLC)		204
Swift #2	Cowlitz County PUD		70
T.W. Sullivan	Portland General Electric Company		15
The Dalles	USCE	Federal System - BPA	1,807
The Dalles Fishway	Northern Wasco		0
Thompson Falls	PP&L - Montana	Clark Fork River, partially dedicated to region	80
Thompson Falls Add.	PP&L - Montana	Clark Fork River, partially dedicated to region	-
Thousand Springs	Idaho Power Company	Spring Plants	9
Toketee	PacifiCorp (PPL/UPLC)	Umpqua River	43
Trail Bridge	Eugene Water & Electric Board		10
Tunnel #1	Non - Utility	Idaho Power Company	7
Twin Falls	Idaho Power Company		52
Twin Falls	Non - Utility	Puget Sound Energy	20
Upper	City of Idaho Falls		8
Upper Baker	Puget Sound Energy		105
Upper Falls	Avista Corp.		10
Upper Malad	Idaho Power Company	Spring Plants	8
Upper Salmon 1 & 2	Idaho Power Company		18
Upper Salmon 3 & 4	Idaho Power Company		17
Walla Walla	Non - Utility	PacifiCorp (PPL/UPLC)	2
Wallowa Falls	PacifiCorp (PPL/UPLC)	Condit, Big F & Minor	1

¹ Includes 3 service units, 6 pump-generator units, 6 third powerhouse units rewind of 18.

NORTHWEST GENERATING RESOURCES

Project	Owner	Notes	NAMEPLATE (Megawatts)
Walterville	Eugene Water & Electric Board		8
Wanapum	Grant County PUD #3		1,038
Weeks Falls	Non - Utility	Puget Sound Energy	5
Wells	Douglas County PUD #1		774
West Side	PacifiCorp (PPL/UPLC)	Klamath River	1
White River	Puget Sound Energy		70
Wilson Lake	Non - Utility	Idaho Power Company	8
Wynoochee Dam	Tacoma Power		13
Yakima-Trenton	Non - Utility	PacifiCorp (PPL/UPLC)	3
Yale	PacifiCorp (PPL/UPLC)		134
Yelm	City of Centralia		10
COAL			
Boardman Turbine	Portland General Electric Company		601
Centralia 1 & 2	Transalta	IPP, partially dedicated to region	1,343
Colstrip 1	PP&L - Montana	Partially dedicated to region	333
Colstrip 2	PP&L - Montana	Partially dedicated to region	333
Colstrip 3	PP&L - Montana	Partially dedicated to region	805
Colstrip 4	NorthWestern Energy	Partially dedicated to region	805
J. E. Corette	PP&L - Montana	Partially dedicated to region	163
Jim Bridger 1-4	PacifiCorp (PPL/UPLC)		2,080
Valmy 1	Sierra Pacific	Partially dedicated to region	254
Valmy 2	Sierra Pacific	Partially dedicated to region	267
NUCLEAR			
Columbia Generating Station	Energy Northwest		1,157

¹ Includes 3 service units, 6 pump-generator units, 6 third powerhouse units rewind of 18.

NORTHWEST GENERATING RESOURCES

<u>Project</u>	<u>Owner</u>	<u>Notes</u>	<u>NAMEPLATE (Megawatts)</u>
COMBUSTION TURBINES			
Alden Bailey	Clatskanie PUD		11
Beaver (Combined-cycle)	Portland General Electric Company		586
Beaver 8	Portland General Electric Company		25
Bennett Mountain	Idaho Power Company		162
Benton CT Peaking Plant	Benton County PUD		27
Big Hanaford	Transalta	IPP	248
Boundary	Seattle City Light	Partially dedicated to region	1
Chehalis Generating Facility	Transalta	IPP	520
Coyote Springs II	Avista	IPP	288
Danskin	Seawest	Idaho Power Company	90
Encogen	Puget Sound Energy		160
Frederickson Gen. Station	Benton/Franklin/Grays Harbor PUDs		250
Fredonia 1 & 2	Puget Sound Energy		124
Fredonia 3 & 4	Puget Sound Energy		106
Fredrickson 1 & 2	Puget Sound Energy		85
Goldendale Energy Center	Calpine	IPP	237
Hermiston Power Project	Calpine	IPP	630
Northeast 1& 2	Avista Corp.		61
Pasco Generating Station	Franklin/Grays Harbor PUDs		44
Rathdrum 1 & 2	Avista Corp.		166
Rathdrum Power Project	Avista Corp.	IPP	248
River Road Generating Project	Clark County PUD		235
Whitehorn 2 & 3	Puget Sound Energy		170

¹ Includes 3 service units, 6 pump-generator units, 6 third powerhouse units rewind of 18.

NORTHWEST GENERATING RESOURCES

<u>Project</u>	<u>Owner</u>	<u>Notes</u>	<u>NAMEPLATE (Megawatts)</u>
COGENERATION			
Afton Energy (Wood)	Non-Utility	Idaho Power Company	8
Boise Cascade	Non-Utility	Idaho Power Company	0
Coyote Springs	Portland General Electric Company		266
DAW	Non-Utility	PacifiCorp	0
Hermiston Cogeneration	PacifiCorp, (PPL/UPLC)		469
Wauna (James River)	Eugene Water & Electric Board		15
James River - Camas	PacifiCorp, (PPL/UPLC)		520
Klamath Cogeneration Project	Non-Utility	IPP, Pacific Klamath Energy	484
Magic Valley	Non-Utility	Idaho Power Company	10
Magic West	Non-Utility	Idaho Power Company	10
March Point Cogen #1	Non-Utility	Puget Sound Energy	80
March Point Cogen #2	Non-Utility	Puget Sound Energy	60
Metro Methane	Non-Utility	Seattle City Light	4
Montana #1	Non-Utility	NorthWestern Energy, partially dedicated to region	44
PERC	Non-Utility	Puget Sound Energy	3
Potlatch Corporation	Non-Utility	Avista	132
Scott Cogeneration	Non-Utility	Snohomish County PUD	43
Simplot	Non-Utility	Idaho Power Company	12
Sumas Energy	Non-Utility	Puget Sound Energy	123
Tamarack (Wood)	Non-Utility	Idaho Power Company	5
Tasco 1	Non-Utility	Idaho Power Company	2
Tasco 2	Non-Utility	Idaho Power Company	3
Tenaska	Non-Utility	Puget Sound Energy	245
Warm Springs (Wood)	Non-Utility	PacifiCorp	8
Weyco Energy Center	Eugene Water & Electric Board		51
Weyerhaeuser Pulp Mill	Grays Harbor PUD		15

¹ Includes 3 service units, 6 pump-generator units, 6 third powerhouse units rewind of 18.

NORTHWEST GENERATING RESOURCES

<u>Project</u>	<u>Owner</u>	<u>Notes</u>	<u>NAMEPLATE (Megawatts)</u>
RENEWABLE			
Ashland Solar Project			
Biomass One	Non-Utility	PacifiCorp (PPL/UPLC)	25
Blue Mountain	Non-Utility	Other Public Utilities (BPA)	4
Boise Cascade - Emmit	Non-Utility	PacifiCorp (PPL/UPLC)	14
Champion	Non-Utility	PacifiCorp (PPL/UPLC)	17
Chinook Wind	Non-Utility	PacifiCorp (PPL/UPLC)	1
Coffin Butte	Other Publics (BPA)	PNGC	2
Cogen Company	Non-Utility		8
Co-Gen II	Non-Utility	PacifiCorp (PPL/UPLC)	8
Condon Wind		Federal (BPA)	50
Covanta Energy	Non-Utility	Portland General Electric Company	14
Foote Creek Rim (Wind) ^{1,2,4}	Federal (BPA)		36
Fossil Gulch Wind		Idaho Power Company	11
Frontier Energy	Non-Utility	Port of Morrow	6
Glass Mountain	Non-Utility		
Haley West	Avista Corp.		7
Hopkins Ridge	Puget Sound Energy		150
JR Wauna		Federal (BPA)	32
Kettle Falls (Wood)	Avista Corp.	Avista Corp.	51
Klondike	Non-Utility	Golden Wind Power	24
Mead	Non-Utility		2
Nine Canyon Wind	Non-Utility	IPP, Energy Northwest, partially dedicated to region	64
Pine Products	Non-Utility	PacifiCorp (PPL/UPLC)	6
Potlach	Avista Corp.		
Rock River (wind)	Non-Utility	Shell Wind energy	50
Short Mountain		Other Publics (BPA)	3
Spokane MSW	Non-Utility	Puget Sound Energy	23
Stateline Wind Project	Non-Utility	IPP, Seattle City Light/Others, partially dedicated to regi	300
Tamarack	Idaho Power Company		5
Vaagen Bros. (Wood)	Non-Utility	Idaho Power Company	5
Van Sycle (Wind)	Portland General Electric		25
West Boise Waste	Idaho Power Company		0

¹ Includes 3 service units, 6 pump-generator units, 6 third powerhouse units rewind of 18.

NORTHWEST GENERATING RESOURCES

Project	Owner	Notes	NAMEPLATE (Megawatts)
SMALL THERMAL AND MISCELLANEOUS			
Crystal Mountain	Puget Sound Energy		3
Hoquiam Diesel	Gray's Harbor PUD	Grays Harbor PUD	8
Lake	NorthWestern Energy		3
Okanogan IC's	Okanogan PUD	Okanogan PUD	26
Old Faithful 1 & 2	NorthWestern Energy		2
Randolph Road Diesel	Non-Utility	Grant County PUD	32
Springfield Diesels	Springfield Utility Board		26

¹ Includes 3 service units, 6 pump-generator units, 6 third powerhouse units rewind of 18.

**POTENTIALLY AVAILABLE RESOURCES
IPP Projects**

<u>Project</u>	<u>In-Service</u>	<u>Nameplate (MW)</u>	<u>Percent Available</u>	<u>January Peak (MW)</u>	<u>Annual Energy ^{/1} (MWa)</u>	<u>Developer</u>
Big Hanaford - CCCT	2002	248	100%	248	223	Transalta
Centralia	1971	1404	61%	840	728	Transalta
Chehalis Generating Facility - CCCT	2003	520	100%	520	468	Chehalis Power Limited
Goldendale Energy Center	2004	237	100%	271		Calpine
Hermiston Power Project - CCCT	2002	630	100%	630	567	Calpine
Klamath Cogen Project	2001	484	100%	484	436	Pacific Klamath Energy, PPM
Rathdrum Power Project - CCCT	2001	270	100%	270	243	Avista
Stateline Wind	2001	300	12%	0	12	FPL Energy
Total				3,263	2,677	

Note: These are projects located in the Northwest and owned by Independent Power Producers.

This generation is not known to be committed by firm contract to load serving utilities within the region and thus, is not considered in estimating the regional surplus/deficit balance.

The percent available is that share of the project that is potentially available for purchase.

^{/1} CCCT Annual Energy is based on a 90% capacity factor.

ACTUALLY INSTALLED GENERATION

<u>Project</u>	<u>Schedule</u>	<u>Technology</u>	<u>Nameplate (MW)</u>	<u>Energy (MWa)</u>	<u>Location</u>	<u>Developer</u>
Bennett Mountain	May-05	SCCT	179	2	Mountain Home, ID	Idaho Power Company
Butte, Basin Creek 1-9	Dec-05	Gas	45			NorthWestern Energy
Fossil Gulch	Mar-05	Wind	11	3	Hagerman, ID	Idaho Power Company
Hopkins Ridge Wind Farm	Nov-05	Wind	150	52	Columbia County, WA	Puget Sound Energy
Judith Gap Energy	Dec-05	Wind	135			NorthWestern Energy
Klondike II	Jan-05	Wind	75	27	Wasco, OR	PPM Energy
Thompson River Co-Gen	Jan-05	Co-Gen	12	4		NorthWestern Energy
Wolverine Creek	Dec-05	Wind	65	20	Idaho Falls, ID	Invenergy
Total Capacity			672			

RESOURCES UNDER CONSTRUCTION

<u>Project</u>	<u>Schedule</u>	<u>Technology</u>	<u>Nameplate (MW)</u>	<u>Energy (MWa)</u>	<u>Location</u>	<u>Developer</u>
Arrow Rock Wind Farm	May-06	Wind	9		Great Falls, MT	Idaho Power Company
Big Horn	Summer 2006	Wind	200		Bickleton, WA	PPM Energy
Hidden Hollow Landfill	Apr-06	Landfill Gas	3		Boise, ID	Idaho Power Company
Horseshoe Bend Wind Park	Jan-06	Wind	9	3	Great Falls, MT	Idaho Power Company
Lowline Midway	Apr-07	Hydro	3		Twin Falls, ID	Idaho Power Company
Port Westward	May-07	CT, CW, CA	415	290	Clatskanie, OR	Portland General Electric
Rocky Mountain Power Plant	Jan-06	Coal	117		Hardin, MT	NorthWestern Energy
Sahko	Jan-06	Hydro	1		Twin Falls, ID	Idaho Power Company
White Creek	Dec-07	Wind	200	69	Klickitat Co. Wa	Cowlitz PUD
Wildhorse Wind Project	Dec-06	Wind	229	73	Kittitas County, WA	Puget Sound Energy
Total Capacity			1,184			

PLANNED RESOURCES (Site Certification Process)

<u>Project</u>	<u>Schedule</u>	<u>Technology</u>	<u>Nameplate (MW)</u>	<u>Energy (MWa)</u>	<u>Location</u>	<u>Developer</u>
Arrowrock Dam		Hydro	15		Boise River, ID	Clatskanie PUD et al.
Burley Butte Wind Farm	Oct-06	Wind	11		Burley, ID	Idaho Power Comp.
Cabinet Gorge Units 2 & 4	Unit 4: 2006	Hydro Eff.	2.7	0.1	Clark Fork River, ID	Avista
Centennial Power		Coal	113.0	85.0	Hardin, MT	Rocky Mountain Power
Colstrip 3 & 4 Thermal Upgrade	Unit 3: 2007 Unit 4: 2006	Thermal	8.0	6.6	Colstrip, MT	(Reported by) Avista
Columbia Wind Ranch		Wind	80.0	28.9	Klickitat Co. Wa	Cielo Wind Power
Demand-Side Resource Programs	2007	Conservation		1.7		Idaho Power Comp.
Emmett Facility	Jan-07	Biomass	17.5		Emmett, ID	Idaho Power Comp.
Fourmile Hill		Geothermal	55.0	49.9	Siskiyou Co., CA	Calpine Corporation
Golden Valley Wind Farm	Oct-06	Wind	10.5		Burley, ID	Idaho Power Comp.
Grand Coulee 1 - 18 Runner Repl.	Dec-07	Hydro Eff.	60.0	30.0	Columbia River, WA	USBR
Kerr Rehab	2007	Hydro		1.7	Flathead River, MT	PP&L Montana
Klamath Generating Facility		CCCT	480.0		Klamath Falls, OR	Klamath Generation
Lava Beds Wind Farm	Jan-07	Wind	18.0		Hagerman, ID	Idaho Power Comp.

PLANNED RESOURCES (Site Certification Process)

<u>Project</u>	<u>Schedule</u>	<u>Technology</u>	<u>Nameplate (MW)</u>	<u>Energy (MWa)</u>	<u>Location</u>	<u>Developer</u>
Milner Dam Wind Farm	Nov-06	Wind	18.0		Twin Falls, ID	Idaho Power Comp.
Montana Wind Harness		Wind	150.0	57.0	Cutbank Vicinty, MT	Montana Wind Harness
Notch Butte Wind Farm	Dec-06	Wind	18.0		Twin Falls, ID	Idaho Power Comp.
Noxon Rapids	Unit 1:2008, Unit 2:2009, Unit 3:2007, Unit 4:2006	Hydro Eff.	33.0	19.0	Noxon, MT	Avista
Oregon Trails Wind Farm	May-06	Wind	10.5		Hagerman, ID	Idaho Power Comp.
Pilgrim Stage Wind Farm	May-06	Wind	10.5		Hagerman, ID	Idaho Power Comp.
Roosevelt		Wind	150.0	49.5	Klickitat Co. Wa	Last Mile Electric Cooperative
Salmon Falls Wind Farm	Jan-07	Wind	21.0		Hagerman, ID	Idaho Power Comp.
Seasonal Energy Purchases	2009	Purchases		159.0		Idaho Power Comp.
Sumas Recovered Heat Generation	Apr-06	Heat Recovery	5.0		Sumas, WA	Puget Sound Energy
Summit Ridge		Wind	50.0	15.0	Wasco Co. Wa	SeaWest
Summit Westward		Gas	520		Port Westward, OR	Westward Energy
Thousand Springs Wind Farm	May-06	Wind	11		Hagerman, ID	Idaho Power Comp.
Tieton	2007	Hydro	12.0	4.8	Yakima, WA	Eugene Water & Electric Board
Tuana Gulch Wind Farm	May-06	Wind	11		Hagerman, ID	Idaho Power Comp.
US Geothermal #1	Jan-07	Geothermal	10.0		Raft River, ID	Idaho Power Comp.
Total Capacity			1,884			

PROSPECTIVE RESOURCES (Initial Siting Process)

<u>Project</u>	<u>Schedule</u>	<u>Technology</u>	<u>Nameplate (MW)</u>	<u>Energy (MWa)</u>	<u>Location</u>	<u>Developer</u>
BP Cherry Point Refinery		Cogen CCCT	720		Birch Bay, WA	TransCanada
Black Canyon		Hydro				Bonneville Power (USBR)
Bull Mountain 1&2	Mar-08	Coal	700			NorthWestern Energy
COB Energy Facility		CCCT	1,150		Klamath Co., OR	Peoples Energy Resources Corp.
Coburg		CCCT	605		Coburg, OR	Coburg Power
Combine Hills II		Wind	63	21	Umatilla Co., OR	Enrus Energy America Inc.
Kittitas Valley		Wind	182	60	Kittitas Co., WA	Zilkha Renewable Energy
Klickitat Wind		Wind	15	5	Klickitat Co., WA	Klickitat PUD
Montana MW's - Phase 1	Aug-07	GT	100			NorthWestern Energy
Montana MW's - Phase 2	Aug-07	GT	100			NorthWestern Energy
Montana MW's - Phase 3	Aug-07	GT	115			NorthWestern Energy
Nelson Creek 1	Oct-11	Coal	250			NorthWestern Energy
Nine Canyon - Phase III	2006	Wind	25	8	Finley, WA	Energy Northwest
Rearden	2007	Wind	50	16	Rearden, WA	Energy Northwest
Southern Montana G&T	Mar-09	Coal	268			NorthWestern Energy
Wallula		CCCT	1,300	910	Wallula, WA	Newport Generation
Wind RFP		Wind	50			Puget Sound Energy
Total Capacity			5,693			

RESOURCES UNDER CONSIDERATION

<u>Project</u>	<u>Schedule</u>	<u>Technology</u>	<u>Nameplate (MW)</u>	<u>Energy (MWa)</u>	<u>Location</u>	<u>Developer</u>
Auger Falls		Hydro	44	17	Twin Falls County, ID	Northwest Power Services
Clatskanie CT			575		Clatskanie, OR	NW Energy Development
The Cliffs		CT	190		Goldendale, WA	GNA Energy, LLP
Douglas Wind Generation		Wind	300		Douglas Co., WA	Douglas PUD
Everett Delta		CCCT	500		Everett, WA	FPL Energy
Longview Power Station		CCCT	249		Longview, WA	Continental Energy Services
Pacific Mt. Energy Center	Oct-11	IGCC	600	550	Kalama, WA	Energy Northwest
Plymouth Generating Facility		CCCT	306		Plymouth, WA	Plymouth Energy
Pumped Storage		Hydro	100		Douglas Co., WA	Douglas PUD
Sherman County Wind		Wind	24		Sherman Co. OR	NW Energy Development
Silver Bow Generation Project		CCCT	500		Silver Bow Co., MT	Continental Energy Services
Star Falls		Hydro	25	12	Twin Falls/Jerome Co. Line, ID	Northwest Power Services
Tacoma Energy Center		CCCT	270		Frederickson, WA	Calpine Corp.
Wanapa	2009	CCCT	650	600	Hermiston, OR	Eugene Water & Electric Board
Total Capacity			4,333			