

Northwest Regional Forecast

of Power Loads and Resources

August 2007 – July 2017

The logo for PNWCC (Pacific Northwest Electric and Energy Conference) features the letters 'PNWCC' in a bold, blue, sans-serif font. A stylized lightning bolt is integrated into the letter 'W', extending upwards and downwards from the top and bottom of the letter respectively.

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Northwest Regional Forecast

Each year the Northwest Regional Forecast reports the sum of individual utilities' projected electric loads and anticipated generating resources as an indicator of the Northwest utilities' need to acquire additional power in the next decade. This year the attention on the region's load/resource picture has significantly escalated as state and national leaders are implementing recently passed and/or discussing new initiatives that are changing utilities' requirements for acquiring new resources to meet their customers' demands. Much of this activity centers on carbon-neutral, renewable generating resources and new technology.

In addition, many Northwest utilities are preparing new contracts with Bonneville Power Administration that are expected to include significant changes in how utilities meet their future load. In these contracts each utility will have the opportunity to commit to acquiring resources to meet their growing demand rather than relying on BPA for that service. These are exciting times that are pointing to change. This report provides a straight forward look at the region's load/resource picture and plans for future resources from the utilities' perspective in this evolving environment.

Serious About New Resources – Especially Renewables

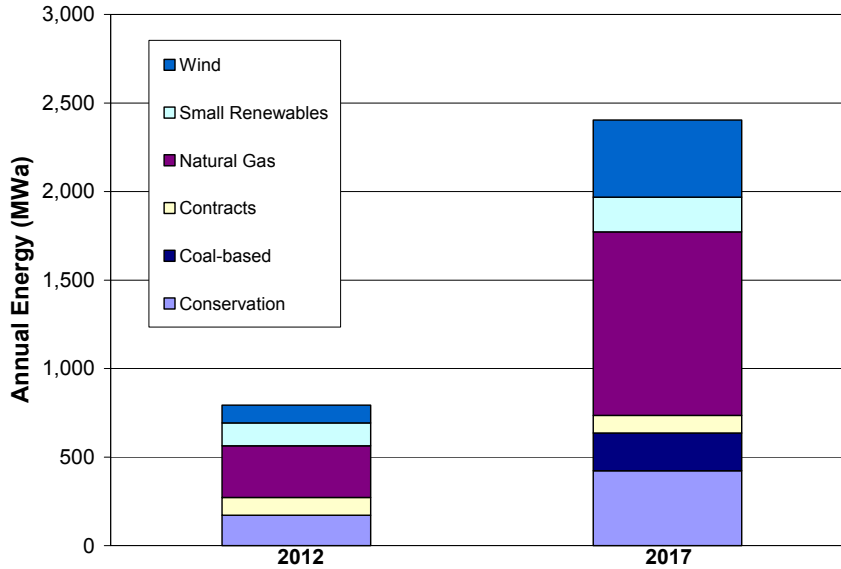
This report highlights utilities' activity in new resource development and how they are looking for opportunities to include renewable generation in their future plans. A dozen utility projects totaling almost 950 MW of new capacity were installed or acquired this last year. The majority of these projects are wind and other renewable generation. The other projects include one small coal plant and two natural gas fired combustion turbines.

Also reported are more than twenty projects currently being built and expected to be completed in the next two years. These projects total over 2,500 MW of capacity of which 1,300 MW is wind and other renewable generation. The remainder is natural gas-fired combustion turbines. Of all the generating capability added to the resource mix in 2006 and those resources under construction, one third of it is being developed by non-utility entities.

Many Northwest utilities develop integrated resource plans to evaluate their power needs for the next 10 to 20 years. In looking at those plans we get a glimpse at what utilities are expecting to build in the longer term. Below is a snapshot of resources utilities are planning to build or acquire, in annual average energy (MWh) for 5 and 10 years in the future. Wind generation, other small renewables, and conservation are a significant part of the picture. And as utilities' need for power increases, they will be relying on the traditional resources of combustion turbines and coal plants. This is only

a partial list of expected resources as some utilities are still completing their latest plans and have not identified the specific types of resources.

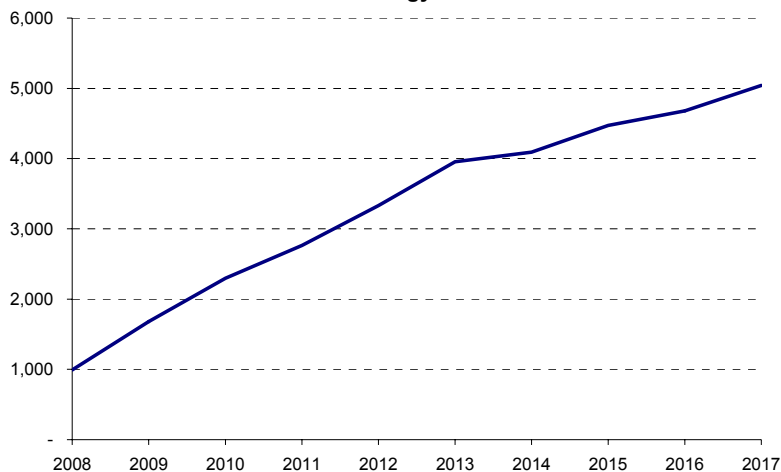
Future Resource Plans



Need for Power still Growing

With the amount of resource activity we see, it is no surprise that the sum of utilities' firm loads compared to expected resources indicates a need for power of approximately 1,000 MWa. This need continues to increase to over 5,000 MWa in ten years, as loads grow at about 300 MWa annually and firm imports and contracts diminish.

Northwest Need for Power
Annual Energy - MWa



This assumes critically low water conditions for fueling the hydro system. All resources are utility owned and operated or secured through firm contracts. Generating resources currently under construction are also included.

The load forecast includes both firm and interruptible loads assuming normal weather conditions and reflects utilities' expected savings from conservation efforts.

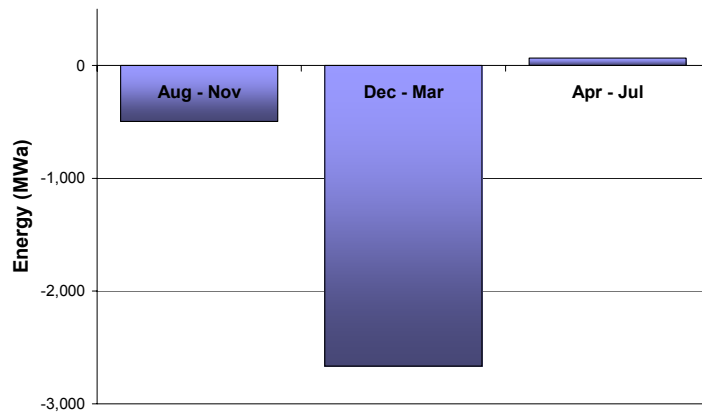
Other Perspectives – This report is one of several assessments used by electric utility industry planners as an indicator of a need for action to ensure generating resources are available to adequately meet customer’s future needs. The Bonneville Power Administration and the Northwest Power and Conservation Council are two other entities that develop a regional picture of loads and resources. The Bonneville *White Book* presents both energy and capacity perspectives. In BPA’s most recent report, December 2006, the energy analysis also suggests a need for action in the Northwest. The extent of actions needed vary depending on assumptions about the availability of uncommitted generation from independent power producers.

The Northwest Power and Conservation Council, working with the Regional Adequacy Forum, has developed a market analysis for evaluating regional adequacy. The Council analysis incorporates the regional energy market containing a mix of utility and non-utility participants. In other words, their assessment assumes that generation from facilities located in the Northwest and owned by independent entities (nearly 3,100 MWa) will be available to meet regional load during a period of power shortage. These resources can provide enough generation to the regional energy market to meet current loads.

More to the L/R Balance Story – The annual average energy load/resource picture does not tell the whole story. Historically the shape of the deficit across the year fluctuates greatly. This graph illustrates how the balance of supply and demand varies by season. The annual average firm deficit is about 1,000 MWa.

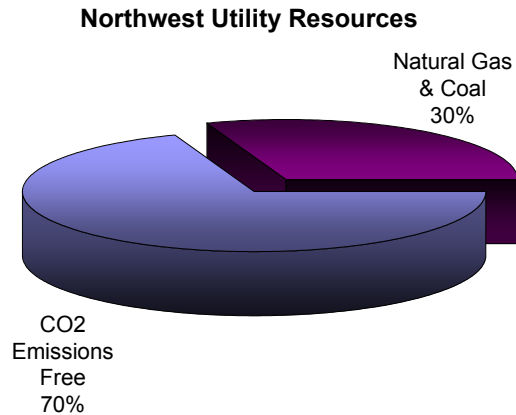
However, the winter deficit averages over 2,600 MWa during those four months and that is a stark contrast to April through July and August through November situation demonstrating some of the challenges utility planners face as they are deciding on new power sources.

2007-08 Seasonal Load/Resource Balance



The Northwest Resource Mix is Clean

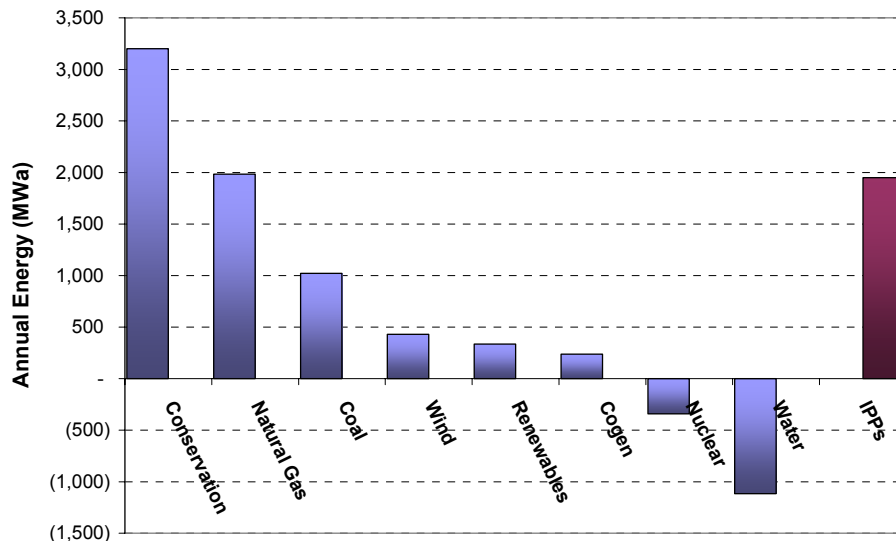
With all the attention on resources and what utilities should be acquiring, it is interesting to look at the types of firm resources Northwest utilities count on to meet their loads. The chart shows today's resource mix for the region's utilities is seventy percent CO₂ emissions free. Much of this is due to the significant reliance on hydropower in the region as well as our one nuclear plant. And the recent investments in wind and other renewable resources are contributing to this clean mix.



A look at what utilities have been investing in the past 25 years (below) shows that conservation efforts have provided the region with the greatest gain toward balancing Northwest loads and resources in the past two and a half decades. This conservation information is from the Council's recently released report on conservation accomplishments in the past 25 years and indicates that the region has saved 3,200 MWa during that time.

This also shows that gas-fired combustion turbines have been the generating resource of choice for utilities. And the energy shown for independent power producers is all gas-fired combustion turbines as well. Much of this generation came on line following the 2000-2001 power situation. This increase in independent power producers has created the notable difference between the sum of utilities' resources and total Northwest resources we see today.

Northwest Additional Resources 1980 to 2006



Northwest Region Requirements and Resources

Annual Energy (MWa)	<u>2007-08</u>	<u>2008-09</u>	<u>2009-10</u>	<u>2010-11</u>	<u>2011-12</u>
Requirements					
Load	21,371	21,831	22,141	22,444	22,711
Exports	828	773	866	827	773
Total	<u>22,198</u>	<u>22,604</u>	<u>23,007</u>	<u>23,271</u>	<u>23,484</u>
Resources					
Hydro	11,480	11,478	11,496	11,487	11,486
Small Thermal & Miscellaneous	24	24	24	24	24
Combustion Turbines	1,516	1,526	1,518	1,535	1,496
Renewables	802	868	872	871	862
Cogeneration	1,151	1,148	1,152	1,150	978
Imports	1,684	1,525	1,218	1,016	719
Large Thermal	4,523	4,329	4,404	4,397	4,562
Total	<u>21,181</u>	<u>20,899</u>	<u>20,684</u>	<u>20,480</u>	<u>20,127</u>
Surplus (Deficit)	(1,018)	(1,705)	(2,323)	(2,791)	(3,357)
Potentially Available Resources					
Independent Power Producer Projects	3,086	3,086	3,086	3,086	3,086
Hydro Generation (70 year average)	4,181	4,179	4,160	4,170	4,171

Northwest Region Requirements and Resources

Annual Energy (MWa)	<u>2012-13</u>	<u>2013-14</u>	<u>2014-15</u>	<u>2015-16</u>	<u>2016-17</u>
Requirements					
Load	23,049	23,348	23,655	23,972	24,197
Exports	735	722	674	618	555
Total	<u>23,784</u>	<u>24,070</u>	<u>24,329</u>	<u>24,590</u>	<u>24,752</u>
Resources					
Hydro	11,484	11,483	11,481	11,481	11,481
Small Thermal & Miscellaneous	24	24	25	25	25
Combustion Turbines	1,516	1,509	1,518	1,503	1,516
Renewables	855	856	846	845	845
Cogeneration	831	743	745	745	745
Imports	719	722	722	726	581
Large Thermal	4,374	4,617	4,494	4,560	4,494
Total	<u>19,803</u>	<u>19,953</u>	<u>19,831</u>	<u>19,884</u>	<u>19,686</u>
Surplus (Deficit)	(3,981)	(4,117)	(4,498)	(4,706)	(5,066)
Potentially Available Resources					
Independent Power Producer Projects	3,086	3,086	3,086	3,086	3,086
Hydro Generation (70 year average)	4,172	4,174	4,175	4,176	4,176

Northwest Region (Seasonal) Requirements and Resources

Average Energy (MWa)	<u>August - November</u>	<u>December - March</u>	<u>April - July</u>	<u>Average</u>
Requirements				
Load	20,439	23,107	20,564	21,371
Exports	900	765	819	828
Total	<u>21,339</u>	<u>23,871</u>	<u>21,383</u>	<u>22,198</u>
Resources				
Hydro	11,184	10,957	12,298	11,480
Small Thermal & Misc.	25	24	24	24
Combustion Turbines	1,563	1,518	1,464	1,516
Renewables	692	840	872	802
Cogeneration	1,162	1,169	1,121	1,151
Imports	1,535	2,090	1,425	1,684
Large Thermal	4,667	4,662	4,240	4,523
Total	<u>20,826</u>	<u>21,260</u>	<u>21,444</u>	<u>21,180</u>
Surplus (Deficit)	(513)	(2,611)	62	(1,018)

Potentially Available Resources

Project	Fuel/Tech	Nameplate (MW)	Percent Available	Annual Energy (MWa)	Developer
Big Hanaford	CCCT	248	100%	223	Transalta
Big Horn	Wind	200	100%		PPM Energy
Centralia 1 & 2	Coal	1,404	92%	1,097	Transalta
Chehalis Generating Facility	CCCT	520	100%	468	Chehalis Power Limited
Hermiston Power Project	CCCT	630	100%	567	Calpine
Klamath Cogen Project	Cogen	484	100%	436	Pacific Klamath Energy, PPM Energy
Klondike III	Wind	221	100%		PPM Energy
Rathdrum Power Project	CCCT	270	100%	243	Avista Energy
Rearden	Wind	64	100%	16	Energy Northwest
White Creek	Wind	205	52%	37	FPL Energy
Total				3,086	

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.

Newly Installed Generating Resources

Project	Date	Fuel/Tech	Nameplate (MW)	Location	Utility
Basin Creek ¹	May 2006	Natural Gas	50		NorthWestern Energy
Goldendale	Feb 2007	CCCT	277	Goldendale, WA	Puget Sound Energy
Hidden Hollow Landfill	Apr 2006	Landfill Gas	3	Boise, ID	Idaho Power
Horseshoe Bend - Great Falls ¹	Feb 2006	Wind	9		NorthWestern Energy
Horseshoe Bend Wind Park	Feb 2006	Wind	9	Great Falls, MT	Idaho Power
Judith Gap ¹	Feb 2006	Wind	135		NorthWestern Energy
Leaning Juniper 1 Wind Project	Dec 2006	Wind	101	Arlington, OR	PacifiCorp
Mora Drop	Sep 2006	Hydro	2	Boise, ID	Idaho Power
Rocky Mountain Hardin ¹	Apr 2006	Coal	116		NorthWestern Energy
Sahko	Jun 2006	Hydro	1	Twin Falls, ID	Idaho Power
Tieton Hydro	Aug 2006	Hydro	15	Klickitat Co., WA	EWEB
Wildhorse Wind Project	Dec 2006	Wind	229	Kittitas Co., WA	Puget Sound Energy
Total			946		

¹ Company-wide resource may not serve NRF region load

Resources Under Construction

Project	Schedule	Fuel/Tech	Nameplate (MW)	Location	Utility
Big Horn		Wind	200	Bickleton, WA	
Biglow Canyon	Dec 2007	Wind	125	Sherman Co., OR	Portland General
Danskin 1	Jun 2008	CT	170		Idaho Power
Elk Horn Wind	Jan 2008	Wind	100	North Powder, OR	Idaho Power
Freres Lumber	Dec 2007	Biomass-Wood	10	Lyons, OR	PacifiCorp
Kerr Rehab	Mar 2007	Hydro		Kerr Lake	PPL Montana
Klondike III	2007	Wind	221	Sherman Co., OR	
Lowline Midway	Feb 2008	Hydro	3	Twin Falls, ID	Idaho Power
Marengo	Aug 2007	Wind	140	Dayton, WA	PacifiCorp
Mountain Wind 1 QF ¹	Dec 2007	Wind	60	Wyoming	PacifiCorp
Mountain Wind 2 QF ¹	Dec 2007	Wind	60	Wyoming	PacifiCorp
Neal Hot Springs	Nov 2007	Geothermal		Vale, OR	Idaho Power
Nine Canyon Phase 3	Feb 2008	Wind	32	Finley, WA	
Pioneer Ridge QF ¹	Dec 2007	Wind	70	Utah	PacifiCorp
Port Westward	Mar 2007	CT, CW, CA	415	Clatskanie, OR	Portland General
Raft River 1	Oct 2007	Geothermal		Malta, ID	Idaho Power
Raft River 3	Jun 2009	Geothermal		Malta, ID	Idaho Power & EWEB
Rearden	2008	Wind	64	Rearden, WA	
Satsop Combustion Turbine	Mar 2008	CCCT	650	Satsop, WA	
Sumas Recovered Heat Generation		Heat Recovery	5	Sumas, WA	Puget Sound Energy
Treasure Valley	Jan 2008	Methane	3	Caldwell, ID	Idaho Power
White Creek	Dec 2007	Wind	205	Klickitat Co., WA	Cowlitz PUD
Total			2,532		

¹ Company-wide resource may not serve NRF region load

Planned Resources

Project	Schedule	Fuel/Tech	Nameplate (MW)	Location	Utility
Alkali Wind Generation Facility		Wind	18	Glenns Ferry	Idaho Power
Arlington Wind Farm	2008	Wind	104	N-Central OR	
Arrowrock Dam		Hydro	15	Boise River, ID	
Bennett Creek		Wind		Mountain Home, ID	Idaho Power
BP Cherry Point Refinery		Cogen CCCT	720	Birch Bay, WA	
Cabinet Gorge Units 2 & 4	Unit 4: 2006	Hydro Eff.	3	Clark Fork River, ID	Avista
Coffin Butte	Oct 2007	Landfill Gas	3		PNGC Power
Collins Pine	Dec 2008	Biomass	13	Lakeview, OR	
Colstrip 3 & 4 Therm. Upgrad	Unit 3: 2007 Unit 4: 2006	Thermal	8	Colstrip, MT	
Demand-Side Res. Programs	2007	Conservation			Idaho Power
Evander Andrews	2008	"Peaker"	170	Mountain Home, ID	Idaho Power
Fourmile Hill		Geothermal	55	Siskiyou Co., CA	
Hot Springs		Wind		Mountain Home, ID	Idaho Power
Kittitas Valley Wind Pwr Project		Wind	182	Kittitas Co., WA	
Klamath Generating Facility		CCCT	480	Klamath Falls, OR	
Leaning Juniper II		Wind	279	Arlington, OR	
Mar-Lu Wind Farm	2007	Wind	5	N-Central, OR	
Noxon Rapids	Unit 1: 2008 Unit 2: 2009 Unit 3: 2007 Unit 4: 2010	Hydro Eff.	33	Noxon, MT	Avista
Raft River - Unit 2	Dec 2008	Geothermal	13	Cassia Co., ID	EWEB
Roosevelt		Wind	150	Klickitat Co., WA	
Shepards Flat Wind		Wind	909	Gilliam/Morrow Co., OR	
Summit Ridge		Wind	50	Wasco Co., WA	
Wanapum Generator 1-4	2008-11	Hydro		Columbia River, WA	Grant PUD
Wild Horse Solar Project	Dec 2007	Solar PV	1	Kittitas Co., WA	Puget Sound Energy
Total			3,210		

Prospective Resources

Project	Schedule	Fuel/Tech	Nameplate (MW)	Location	Utility
Black Canyon		Hydro	10		BPA
Bull Mountain	2011-2012	IGCC	300	Roundup, MT	
Bull Mountain 1&2	Mar 2009	Coal	700		NorthWestern Energy
Burley Butte Wind Farm	Dec 2007	Wind	11	Burley, ID	Idaho Power
COB Energy Facility		CCCT	1,150	Klamath Co., OR	
Combine Hills II		Wind	63	Umatilla Co., OR	
Desert Claim		Wind	180	near Ellensburg WA	
Emmett Facility	Nov 2007	Biomass	18	Emmett, ID	Idaho Power
Golden Valley Wind Farm	Apr 2007	Wind	11	Burley, ID	Idaho Power
Hector Ridge		Wind	60	Klickitat County	
Idaho Energy Complex		Nuclear	1,600	near Bruneau, ID	
Klickitat Wind		Wind	15	Klickitat Co., WA	
Lava Beds Wind Farm	Mar 2009	Wind	18	Hagerman, ID	Idaho Power
Lower Columbia Clean Energy Center	Jun 2011	IGCC/NatGas	520	Columbia Co., OR	
Makah Bay Offshore Wave Energy Pilot Project		Wave	1	Neah Bay, WA	Clallam PUD
Milner Dam Wind Farm	Mar 2009	Wind	18	Twin Falls, ID	Idaho Power
Nelson Creek 1&2	Apr 2013	Coal	500		NorthWestern Energy
Notch Butte Wind Farm	Mar 2009	Wind	18	Twin Falls, ID	Idaho Power
Oregon Trails Wind Farm	Dec 2007	Wind	11	Hagerman, ID	Idaho Power
Pacific Mountain Energy Center		IGCC	600	Cowlitz Co., WA	
Pilgrim Stage Wind Farm	Dec 2007	Wind	11	Hagerman, ID	Idaho Power
Reedsport OPT Wave Park		Wave	2	Douglas Co., OR	PNGC Power
Salmon Falls Wind Farm	Mar 2008	Wind	21	Hagerman, ID	Idaho Power
Seven Mile Hill Wind		Wind	60	Wasco Co., OR	
Total			5,896		

Resources Under Consideration

Project	Schedule	Fuel/Tech	Nameplate (MW)	Location	Utility
CHP 1	2010	Natural Gas	50		Idaho Power
CHP 2	2020	Natural Gas	100		Idaho Power
Cle Elum Dam		Hydro	30	Cle Elum River	
Douglas Wind Generation		Wind	300	Douglas Co., WA	Douglas PUD
Geothermal (Binary) 1	2009	Geothermal	50		Idaho Power
Geothermal (Binary) 2	2021	Geothermal	50		Idaho Power
Geothermal (Binary) 3	2022	Geothermal	50		Idaho Power
Geothermal (Contract-25 year)	Dec 2008	Geothermal	14	South Idaho	Puget Sound Energy
INL Nuclear	2023	Nuclear Purchase	250		Idaho Power
Longview Power Station		CCCT	249	Longview, WA	
New Gas (Contract - 15 year)	Jan 2011	CCCT	280	Western WA	Puget Sound Energy
Pacific Mt. Energy Center	Oct 2011	IGCC	600	Kalama, WA	
Pumped Storage		Hydro	100	Douglas Co., WA	Douglas PUD
Rainbow Rehab		Hydro		Cascade	PPL Montana
Regional IGCC Coal	2017	Coal/IGCC	250		Idaho Power
Seasonal Exchange (5-yr winter)	Jan 2007		100	System Delivery	Puget Sound Energy
Silver Bow Generation Project		CCCT	500	Silver Bow Co., MT	
Thermal (RECIPS)	Mar 2007	Natural Gas	9	Western WA	Puget Sound Energy
Wanapa	2009	CCCT	650	Hermiston, OR	EWEB
Wind	2012	Wind	150		Idaho Power
Wind (Contract 15-year)	Dec 2007	Wind	50	WA/OR	Puget Sound Energy
Wyoming Pulv. Coal	2013	Coal/Pulv	250		Idaho Power
Total			4,082		

Northwest Generating Resources

Project	Owner	Nameplate (MW)
HYDRO		
Albeni Falls	Corps of Engineers (BPA)	43
Alder	Tacoma Power	50
American Falls	Idaho Power	92
Anderson Ranch	Bureau of Reclamation (BPA)	40
Barber Dam	Idaho Power - non utility	4
Bend	PacifiCorp	1
Big Cliff	Corps of Engineers (BPA)	18
Big Creek	Flathead Irrigation Project	0
Big Fork	PacifiCorp	4
Billings Generation, Inc.	NorthWestern Energy	64
Birch Creek	PacifiCorp - non utility	3
Black Canyon	Bureau of Reclamation (BPA)	10
Black Creek Hydro	Puget Sound Energy	4
Black Eagle	PP&L Montana	17
Blind Canyon	Idaho Power - non utility	2
Bliss	Idaho Power	75
Boise Diversion	Bureau of Reclamation (BPA)	2
Bonneville Dam	Corps of Engineers (BPA)	1,101
Bonneville Pacific	PacifiCorp - non utility	6
Boulder Creek	Federal (BPA) - non utility	0
Boundary	Seattle City Light	1,040
Box Canyon	Pend Oreille County PUD #1	60
Broadwater Dam	Northwestern Energy - non utility	10
Brownlee	Idaho Power	585
Bull Run	Portland General Electric	21
Burnside Hydro	Other Publics - non utility	0
Bypass	Idaho Power - non utility	10
C.J. Strike	Idaho Power	83
Cabinet Gorge	Avista Corp.	245
Calispel Creek	Pend Oreille County PUD #2	1
Carmen	Eugene Water & Electric Board	80
Cascade	Idaho Power	12
CDM Hydro	PacifiCorp - non utility	-
Cedar Draw Creek	Idaho Power - non utility	2
Cedar Falls, Newhalem	Seattle City Light	20
Chandler	Bureau of Reclamation (BPA)	12
Chelan	Chelan County PUD #1	48
Chief Joseph	Corps of Engineers (BPA)	2,457
Clear Lake	Idaho Power	3
Clearwater	Federal (BPA) - non utility	1
Clearwater No. 1	PacifiCorp	15
Clearwater No. 2	PacifiCorp	26
Cline Falls	PacifiCorp	1
Cochrane	PP&L Montana	48
COID	PacifiCorp - non utility	7

Northwest Generating Resources

Project	Owner	Nameplate (MW)
Condit	PacifiCorp	10
Copco No. 2	PacifiCorp	27
Copco No.1	PacifiCorp	20
Cougar	Corps of Engineers (BPA)	25
Cove Hydro	Other Publics - non utility	0
Cowlitz Falls	Lewis County PUD	70
Crystal Springs	Idaho Power - non utility	2
Cushman 1	Tacoma Power	43
Cushman 2	Tacoma Power	81
Deep Creek	Avista Corp. - non utility	1
Derr Creek	Avista Corp. - non utility	0
Detroit	Corps of Engineers (BPA)	100
Dexter	Corps of Engineers (BPA)	15
Diablo	Seattle City Light	153
Dietrich Drop	Idaho Power - non utility	5
Dworshak	Corps of Engineers (BPA)	400
Dworshak/Clearwater Hatchery	Idaho	3
Eagle Point	PacifiCorp	3
East Side	PacifiCorp	3
Electron	Puget Sound Energy	26
Elk Creek	Idaho Power - non utility	2
Eltopia Branch Canal	City of Seattle - non utility	2
Elwha	Bureau of Reclamation (BPA)	11
Falls Creek	PacifiCorp - non utility	-
Falls River	Idaho Power - non utility	9
Faraday	Portland General Electric	37
Farmers Irrigation	PacifiCorp - non utility	3
Felt	PacifiCorp	1
Fish Creek	PacifiCorp	11
Foster	Corps of Engineers (BPA)	20
Frontier Technologies	PacifiCorp - non utility	4
Galesville Dam	PacifiCorp - non utility	2
GEM State Hydro	City of Idaho Falls	15
Geobon 2	Idaho Power - non utility	1
Glines Canyon	Bureau of Reclamation (BPA)	13
Glines Hydro	Federal System - BPA	16
Gorge	Seattle City Light	207
Grand Coulee	Bureau of Reclamation (BPA)	6,494
Green Peter	Corps of Engineers (BPA)	80
Green Springs	Bureau of Reclamation (BPA)	16
Hauser Lake	PP&L Montana	17
Hazelton A	Idaho Power - non utility	8
Hazelton B	Idaho Power - non utility	7
Hells Canyon	Idaho Power	392
Henry M. Jackson (Sultan)	Snohomish County PUD #1	112
Hills Creek	Corps of Engineers (BPA)	30

Northwest Generating Resources

Project	Owner	Nameplate (MW)
Holter	PP&L Montana	38
Hood Street Reservoir	Tacoma Power	1
Horseshoe Bend	Idaho Power - non utility	10
Hungry Horse	Bureau of Reclamation (BPA)	428
Hutchinson Creek	Puget Sound Energy - non utility	1
Ice Harbor	Corps of Engineers (BPA)	603
Idaho Falls	City of Idaho Falls	27
Iron Gate	PacifiCorp	18
Island Park (2)	Federal System - BPA	5
Jim Ford Creek	Avista Corp. - non utility	2
John C. Boyle	PacifiCorp	80
John Day	Corps of Engineers (BPA)	2,160
John Day Creek	Avista Corp. - non utility	1
Joseph Hydro	PacifiCorp - non utility	8
Kasel-Witherspoon	Idaho Power - non utility	1
Klamath	PacifiCorp - non utility	92
Kerr	PP&L Montana	171
Koma Kulshan	Puget Sound Energy - non utility	14
Koyle	Idaho Power - non utility	1
LaGrande	Tacoma Power	64
Lake Oswego Corporation	Portland General Electric - non utility	1
Lateral #10	Idaho Power - non utility	2
Leaburg	Eugene Water & Electric Board	14
Lemolo No. 1	PacifiCorp	29
Lemolo No. 2	PacifiCorp	33
Libby	Corps of Engineers (BPA)	525
Lilliwaup Falls	Other Publics	1
Little Falls	Avista Corp.	32
Little Goose	Corps of Engineers (BPA)	810
Little Wood	Idaho Power - non utility	2
Littlewood-Arkoosh	Idaho Power - non utility	1
Long Lake	Avista Corp.	70
Lookout Point	Corps of Engineers (BPA)	120
Lost Creek	Corps of Engineers (BPA)	49
Lower Baker	Puget Sound Energy	64
Lower Granite	Corps of Engineers (BPA)	810
Lower Malad	Idaho Power	14
Lower Monumental	Corps of Engineers (BPA)	810
Lower Salmon	Idaho Power	60
Lowline #2	Idaho Power	3
Lowline Canal	Idaho Power - non utility	8
Lucky Peak	Seattle City Light - non utility	113
Madison	PP&L Montana	7
Magic Reservoir	Idaho Power - non utility	9
Main Canal Headworks	City of Seattle - non utility	26
Marcos Ranches	Idaho Power - non utility	1

Northwest Generating Resources

Project	Owner	Nameplate (MW)
Mayfield	Tacoma Power	162
McNary	Corps of Engineers (BPA)	980
McNary Fishway	Public Utility	8
Merwin	PacifiCorp	136
Meyers Falls	Avista Corp.	1
Middlefork Irrigation	PacifiCorp - non utility	3
Mile 28	Idaho Power - non utility	2
Mill Creek	Federal System - BPA	1
Milner	Idaho Power Company	59
Minidoka	Bureau of Reclamation (BPA)	28
Mink Creek	PacifiCorp - non utility	3
Mitchell Butte	Idaho Power - non utility	2
Monroe Street	Avista Corp.	15
Morony	PP&L Montana	45
Morse Creek	City of Port Angeles	1
Mossyrock	Tacoma Power	300
Moyie Springs	City of Bonners Ferry	4
Mystic Lake	PP&L Montana	10
Naches	PacifiCorp	6
Naches Drop	PacifiCorp	1
Newhalem	Seattle City Light	2
Nine Mile	Avista Corp.	26
Nooksack	Puget Sound Energy	2
North Fork	Portland General Electric Company	41
North Fork Sprague	PacifiCorp - non utility	1
North Umpqua	PacifiCorp	175
Noxon Rapids	Avista Corp.	466
Oak Grove	Portland General Electric Company	51
Opal Springs	PacifiCorp - non utility	5
Owyhee Dam	Idaho Power - non utility	5
Oxbow	Idaho Power	190
P.E.C. Headworks	Grant County PUD #2 - non utility	7
Packwood	Energy Northwest	28
Palisades	Bureau of Reclamation (BPA)	177
Pelton	Portland General Electric	110
Pelton Reregulating	Portland General Electric	18
Phillips Ranch	Avista Corp. - non utility	0
Pigeon Cove	Idaho Power - non utility	2
Portland Hydro Project	Portland General Electric - non utility	36
Post Falls	Avista Corp.	15
Potholes East Canal 66	City of Seattle - non utility	2
Powerdale	PacifiCorp	6
Priest Rapids	Grant County PUD #2	956
Prospect No. 1	PacifiCorp	4
Prospect No. 2	PacifiCorp	32
Prospect No. 3	PacifiCorp	7

Northwest Generating Resources

Project	Owner	Nameplate (MW)
Prospect No. 4	PacifiCorp	1
Quincy Chute	Grant County PUD #2 - non utility	9
R. D. Smith	City of Seattle - non utility	6
Rainbow	PP&L Montana	36
Reeder Gulch	Other Publics	1
River Mill	Portland General Electric	19
Rock Creek #1	Idaho Power - non utility	2
Rock Creek #2	Idaho Power - non utility	2
Rock Island (PH1&2)	Chelan County PUD #1	624
Rocky Reach	Chelan County PUD #1	1,280
Rogue	PacifiCorp	25
Ross	Seattle City Light	360
Round Butte	Portland General Electric	247
Roza-Pump	Bureau of Reclamation (BPA)	13
Ryan	PP&L Montana	48
Sheep Creek	Avista Corp. - non utility	2
Shoshone Falls	Idaho Power	13
Slide Creek	PacifiCorp	18
Smith Creek	Eugene Water & Electric Board	38
Snoqualmie Fall	Puget Sound Energy	42
Soda Creek	Other Publics	1
Soda Springs	PacifiCorp	11
South Fork Tolt	Seattle City Light	17
Spokane Upriver	Avista Corp. - non utility	16
Stauffer Dry Creek	PacifiCorp - non utility	4
Stayton	PacifiCorp	1
Stone Creek	Eugene Water & Electric Board	12
Strawberry Creek	Lower Valley Power & Light Inc.	2
Sullivan Lake	Pend Oreille County PUD #3	-
Summer Falls	City of Seattle - non utility	92
Swan Falls	Idaho Power	25
Swift #1	PacifiCorp	204
Swift #2	Cowlitz County PUD	70
T.W. Sullivan	Portland General Electric	15
The Dalles	Corps of Engineers (BPA)	1,807
The Dalles Fishway	Northern Wasco	0
Thompson Falls	PP&L Montana	80
Thompson Falls Add.	PP&L Montana	-
Thousand Springs	Idaho Power	9
Toketee	PacifiCorp	43
Trail Bridge	Eugene Water & Electric Board	10
Tunnel #1	Idaho Power - non utility	7
Twin Falls	Idaho Power	52
Twin Falls	Puget Sound Energy - non utility	20
Upper Baker	Puget Sound Energy	105
Upper Falls	Avista Corp.	10

Northwest Generating Resources

Project	Owner	Nameplate (MW)
Upper Malad	Idaho Power	8
Upper Salmon 1 & 2	Idaho Power	18
Upper Salmon 3 & 4	Idaho Power	17
Walla Walla	PacifiCorp - non utility	2
Wallowa Falls	PacifiCorp	1
Walterville	Eugene Water & Electric Board	8
Wanapum	Grant County PUD #2	1,038
Weeks Falls	Puget Sound Energy - non utility	5
Wells	Douglas County PUD #1	774
West Side	PacifiCorp	1
White River	Puget Sound Energy	70
Wilson Lake	Idaho Power - non utility	8
Wynoochee Dam	Tacoma Power	13
Yakima-Trenton	PacifiCorp - non utility	3
Yale	PacifiCorp	134
Yelm	City of Centralia	10
COAL		
Boardman	Portland General Electric	601
Centralia 1 & 2	Transalta	1,343
Colstrip 1	PP&L Montana	333
Colstrip 2	PP&L Montana	333
Colstrip 3	PP&L Montana	805
Colstrip 4	NorthWestern Energy	805
J. E. Corette	PP&L Montana	163
Jim Bridger 1-4	PacifiCorp	2,080
Valmy 1	Idaho Power	254
Valmy 2	Idaho Power	267
NUCLEAR		
Columbia Generating Station	Energy Northwest (BPA)	1,157
COMBUSTION TURBINES		
Alden Bailey	Clatskanie PUD	11
Beaver (Combined-cycle)	Portland General Electric	586
Beaver 8	Portland General Electric	25
Bennett Mountain	Idaho Power	162
Big Hanaford	Transalta	248
Chehalis Generating Facility	Transalta	520
Coyote Springs II	Avista Corp.	288
Danskin	Idaho Power	90
Encogen	Puget Sound Energy	160
Frederickson Gen. Station	Puget Sound Energy/EPCOR Power	250
Fredonia 1 & 2	Puget Sound Energy	124
Fredonia 3 & 4	Puget Sound Energy	106
Fredrickson 1 & 2	Puget Sound Energy	85

Northwest Generating Resources

Project	Owner	Nameplate (MW)
Goldendale Energy Center	Puget Sound Energy	237
Kettle Falls	Avista Corp.	7
Hermiston Power Project	Calpine	630
Northeast 1& 2	Avista Corp.	61
Port Westward	Portland General Electric	415
Rathdrum 1 & 2	Avista Corp.	166
Rathdrum Power Project	Avista Corp.	248
River Road Generating Project	Clark County PUD	235
Whitehorn 2 & 3	Puget Sound Energy	170
COGENERATION		
Billings Cogeneration	NorthWestern Energy - non utility	64
Boise Cascade	Idaho Power - non utility	-
Coyote Springs	Portland General Electric	266
DAW	PacifiCorp - non utility	-
Freres Lumber	PacifiCorp - non utility	10
Grays Harbor Paper	Grays Harbor PUD	6
Hermiston Cogeneration	PacifiCorp	469
James River - Camas	PacifiCorp	520
Kimberly Clark Cogeneration	Snohomish PUD	52
Klamath Cogeneration Project	Pacific Klamath Energy	484
Magic Valley	Idaho Power - non utility	10
Magic West	Idaho Power - non utility	10
March Point Cogen #1	Puget Sound Energy - non utility	80
March Point Cogen #2	Puget Sound Energy - non utility	60
PERC	Puget Sound Energy - non utility	3
Potlatch Corporation	Avista - non utility	132
Simplot	Idaho Power - non utility	12
Sumas Energy	Puget Sound Energy - non utility	123
Tamarack (Wood)	Idaho Power - non utility	5
Tasco 1	Idaho Power - non utility	2
Tasco 2	Idaho Power - non utility	3
Tenaska	Puget Sound Energy - non utility	245
Thompson River	Northwestern Energy	12
Warm Springs (Wood)	PacifiCorp - non utility	8
Wauna (James River)	Eugene Water & Electric Board	15
Weyco Energy Center	Eugene Water & Electric Board	51
Weyerhaeuser Pulp Mill	Grays Harbor PUD	15
RENEWABLE		
Ashland Solar Project		-
Biomass One	PacifiCorp - non utility	25
Blue Mountain	Other Publics (BPA) - non utility	4
Champion - Stimson	PacifiCorp - non utility	17
Chinook Wind	PacifiCorp - non utility	1
Coffin Butte (landfill gas)	PNGC Power	2

Northwest Generating Resources

Project	Owner	Nameplate (MW)
Cogen Company	Non-Utility	8
Co-Gen II	PacifiCorp - non utility	8
Condon Wind	Federal (BPA - non utility)	50
Covanta Energy (MSW)	Portland General Electric - non utility	14
Foote Creek Rim 1,2,4 (wind)	PacifiCorp/EWEB	60
Fossil Gulch Wind	Idaho Power	11
Fourmille Hill Geothermal	Federal (BPA)	50
Glass Mountain (geothermal)	Non-Utility	30
Haley West (wood waste)	Avista Corp.	7
Hidden Hollow Landfill	Idaho Power - non utility	3
Hopkins Ridge (wind)	Puget Sound Energy	150
Horseshoe Bend (wood)	Idaho Power - non utility	9
Georgia Pacific Paper (Wauna)	Federal (BPA)	32
Kettle Falls (wood)	Avista Corp.	51
Klondike 1 (wind)	Federal (BPA) - non utility	24
Klondike 2 (wind)	Portland General Electric - non utility	75
Leaning Juniper (wind)	PacifiCorp - non utility	101
Mead	Non-Utility	2
Mountain Wind QF 1&2	PacifiCorp - non utility	120
Nine Canyon Wind	Energy Northwest	64
Pine Products	PacifiCorp - non utility	6
Rock River (wind)	Shell Wind Energy	50
Short Mountain	Other Publics (BPA)	3
Spokane MSW	Puget Sound Energy - non utility	23
Stateline Wind Project	PPM Energy	300
Tamarack (wood)	Idaho Power	5
Vaagen Bros. (wood)	Idaho Power - non utility	5
Van Sycle (wind)	Portland General Electric	25
West Boise Waste	Idaho Power	0
Wild Horse (wind)	Puget Sound Energy	229
Wolverine Creek (wind)	PacifiCorp	65
SMALL THERMAL AND MISCELLANEOUS		
Boulder Park	Avista Corp.	25
Crystal Mountain	Puget Sound Energy	3
Hoquiam Diesel	Gray's Harbor PUD	10
Randolph Road Diesel	Non-Utility	32
Springfield Generation Farm	Springfield Utility Board	10
Treasure Valley (methane)	Idaho Power	

Assumptions and Procedures

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. Procedures employed in preparing the regional load-resource comparison are described here. A list of definitions is included at the end of this section.

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.

LOAD ESTIMATES

The Northwest regional loads are the sum of loads estimated by the Northwest utilities and BPA. Estimates are reported for expected system energy loads and reflect normal weather conditions. Annual average energy is for August through July of each year. Load projections 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 and have been subtracted from the utility load forecasts to reflect the influence of assured programmatic conservation. Firm and interruptible loads are included in the regional total.

Federal System (BPA) Loads

Federal System (BPA) firm loads are the sum of the direct service 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 US Bureau of Reclamation 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.

Transmission Losses

Federal System (BPA) transmission losses for both firm loads and contractual obligations are embedded in federal load. 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 by BPA for firm loads utilizing the federal transmission system.

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. Generating resources (or shares) that are committed to meeting NW loads are included in the regional analysis.

Hydro

Hydro resource capabilities are estimated from a regional analysis using a computer model that simulates reservoir operation of past hydrologic conditions. The historical stream flow record used covers the 70-year period from August 1928 through July 1998.

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. Generation for projects that are influenced by downstream reservoirs is reported after encroachment.

Hydro energy capability was also estimated for each of the 70 historical water years. In these studies, 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. Reservoirs were operated in accordance with normal requirements for refilling. Other operational data were in accordance with the Pacific Northwest Coordination Agreement. The 70-year model was run in continuous mode.

Canadian Treaty

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 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 water at 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 reflected 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. 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.

Hydro Maintenance

Estimates of energy losses due to scheduled hydro maintenance are reflected in the 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.

Non-Hydro Resources

All existing generating plants, regardless of size, are included in amounts submitted by each plant operator. The energy capabilities of 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), forced outages and other expected operating constraints. Some 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.

Non-Utility Generation

Non-utility (or independent power producer) generation is reflected in the tables along with utility-owned generation for each resource type (e.g. hydro, cogeneration, renewable). Only generation that has been committed to serve regional load is reflected in the regional analysis.

Future Resources

Future generating resources are included in this report. They are categorized into one of four categories to reflect the various stages of planning and development.

Under Construction

Resources *Under Construction* include those projects not complete as of December 31, 2006, but currently are being built. In this report, these resources are included in the regional load-resource analysis.

Planned

Planned Resources include those projects not under construction as of December 31, 2006, but for which developers or utilities have made a firm commitment to construct or acquire and are at some stage in the site certification process. For example, they have obtained all licenses for construction or acquisition or are in the process of receiving their site certificate from the state.

Prospective

Prospective Resources include those projects that developers or utilities have made some commitment to construct or acquire and in the initial stages of filing for site certificates and licenses for construction. However, not all licenses have been obtained, a commercial operation data has not been necessarily specified, or the specifics of the transaction have not been finalized.

Under Consideration

Resources Under Consideration include those projects that developers and utilities 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 or ownership.

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 these areas are amounts delivered at the area border and include any transmission losses associated with deliveries.

"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. Intra-company transfers for PacifiCorp have accounted for possible transmission bottlenecks. Transfers of other utilities do not consider any transmission bottlenecks that may occur in the future.

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.