

INTEGRATED RESOURCE PLANNING STUDY 2007 UPDATE



Public Utility District No. 1 of Douglas County
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1.0 OVERVIEW OF DOUGLAS PUD

Douglas County Public Utility District (Douglas PUD) was organized in 1936. Formed by the people of Douglas County, Douglas PUD became one of the first non-profit, locally-owned electric distribution systems in the state. In its effort to provide the modern conveniences of electricity to rural customers at the lowest possible costs, Douglas PUD began to acquire over 400 miles of existing power lines from investor-owned utilities throughout the 1940s. Utilizing this system and the power supply of the Bonneville Power Administration, Douglas PUD began operations in 1945.

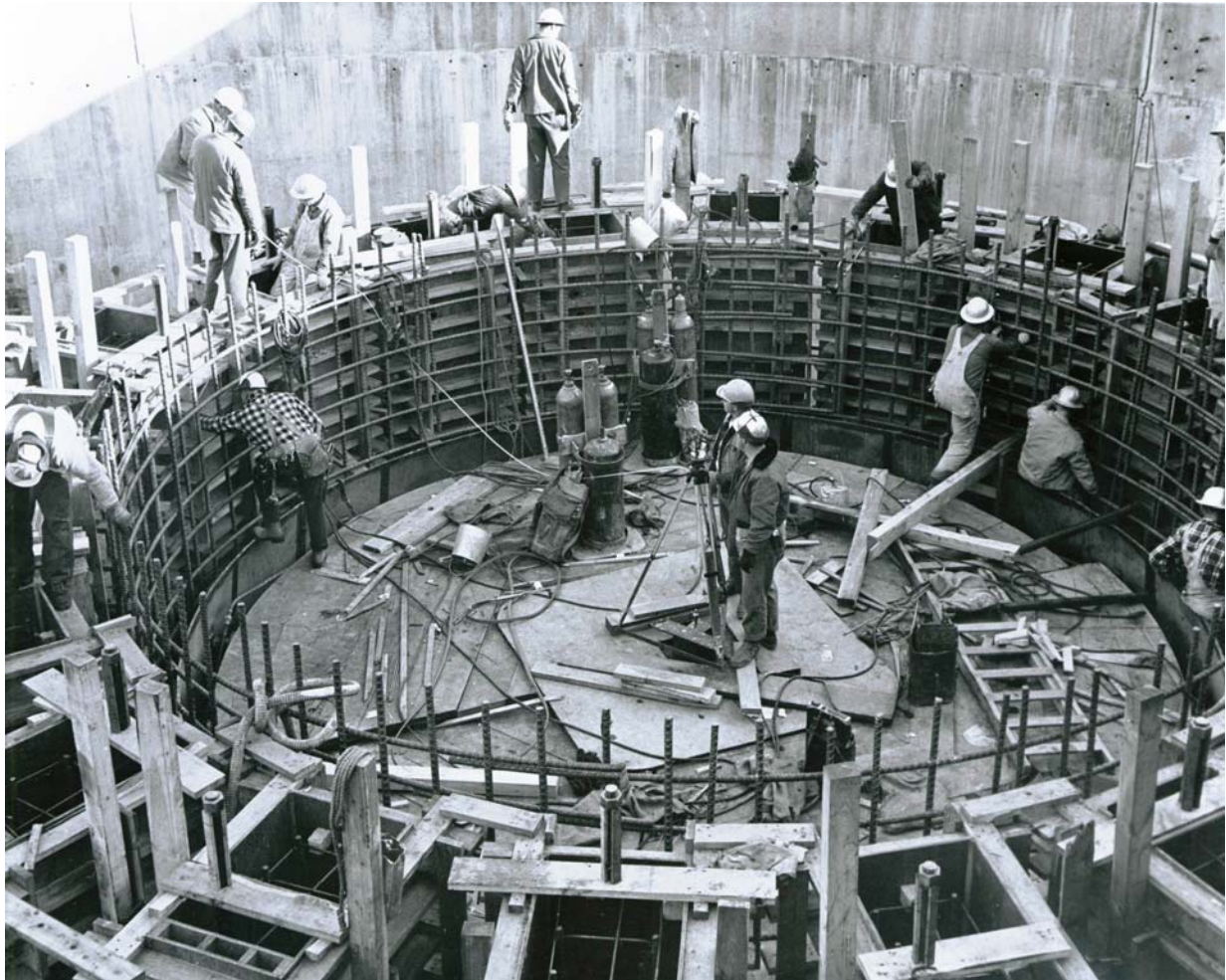
Building upon its success of serving rural customers, Douglas PUD worked to license and construct the Wells Hydroelectric Project in the late 1950s and early 1960s. This unique project, located on the Columbia River near the town of Pateros, was completed in 1967. After completion, the 840 megawatt Wells Project gradually became Douglas PUD's primary power supply resource.

Douglas PUD's share of the Wells Project, together with its portion of the output from the Rocky Reach Hydroelectric Project, has been sufficient to meet the needs of approximately 17,400 electric customers to date and an ever-growing Douglas County population. The Wells Project has become a model for providing clean, efficient and reliable hydroelectric power. The project supports the most successful juvenile fish bypass system on the Columbia River and funds several salmon and steelhead hatcheries. True to the vision of its first organizers, the prudent direction of its locally-elected commissioners and the hard work of its staff, Douglas PUD has developed one of the most environmentally-friendly, cost-effective and reliable power systems in the nation.

2.0 THE IRP PROCESS

Throughout the 1980s, there was growing concern that the utility industry needed to develop long-term strategies to meet the nation's growing energy needs and to ensure future stability. Policymakers believed that utilities needed to balance their increased demand and financial interests with the need for a clean environment and energy efficiency. Congress and President George H.W. Bush approved a comprehensive energy policy in early 1992 that was intended to accomplish these objectives. The Energy Policy Act of 1992 encourages utilities to develop and implement Integrated Resource Planning (IRP). IRP is defined as a process for planning and selecting new energy resources that evaluates the full range of both supply-side and demand-side options to provide utility customers adequate and reliable service at the lowest system cost.

As a consumer-owned, locally-regulated utility, Douglas PUD is well positioned to implement integrated resource planning. The 2007 Update to the IRP Study is a voluntary, locally-developed process designed to assist commissioners and staff in meeting the current and projected utility needs for Douglas PUD.



Douglas PUD received its initial license for Wells Dam on July 12, 1962. Construction of the project took place throughout the early 1960s with commercial operation beginning in 1967.

3.0 IRP HISTORY AT DOUGLAS PUD

In accordance with the Energy Policy Act of 1992, Douglas PUD assessed its resources and developed a strategic plan to meet the growing energy needs of Douglas County residents. While Douglas PUD was not required to adopt IRP, the locally-elected board of commissioners believed that a full analysis of the District's supply-side and demand-side resource options and expected load growth was in the best interest of Douglas County residents.

In November of 1992, Douglas PUD Commissioners instructed the District to pursue such work. The Commissioners, as well as District management, believed that the significance and scope of the work called for the services of an engineering firm with a proven record of success and a national reputation for thorough analysis. Douglas PUD received proposals from various highly-regarded engineering firms and ultimately chose the services of Bechtel Corporation in June of 1993.

Bechtel Corporation developed Phase 1 and Phase 2 of Douglas PUD's IRP Study. Phase 1 was completed in June of 1994 and includes a thorough review of Douglas PUD's loads and resources, including a focus on the resource projections leading up to the expiration of the Wells Project power sales contracts in 2018. Phase 2 was completed in December of 1995 and evaluates Douglas PUD's power supply alternatives. The report also presented both supply-side and demand-side recommendations to address future energy needs. After public presentation of the studies, PUD Commissioners adopted the report in early 1996 and directed Douglas PUD staff to plan implementation of the recommended resource strategy ("1995 Resource Plan").

Since resources and loads varied since the implementation of the 1995 Resource Plan, in part due to the close of business of an industrial customer and also as a result of implementing the plan, Douglas PUD developed Phase 3 of its IRP Study. The plan considered changes since the 1995 plan by summarizing loads, evaluating resource options, refining the resource strategy and updating the Resource Action Plan. PUD Commissioners adopted Phase 3 of Douglas PUD's IRP Study in October of 2002 (2002 Update).

The 2002 Update to the IRP Study included a stated intent to review and update the plan approximately every five years or when a material change in conditions warrants a review. In consideration of the changes to Douglas PUD's resources and loads since the implementation of the 2002 Update and in accordance with the schedule described within it, Douglas PUD has developed Phase 4 (2007 Update) to assess Douglas PUD's resources, expected load growth and conservation efforts.

4.0 PUBLIC PARTICIPATION

Since its formation in 1936 by Douglas County residents, Douglas PUD has had a long-standing tradition of public involvement. For that reason, local values will always be reflected in Douglas PUD's planning and operations. From the beginning of the Integrated Resource Planning process in 1992, Douglas PUD's approach to developing its resource plan has involved ample opportunities for public discourse.

For the development of the 1995 plan, Douglas PUD called a public meeting of its board of commissioners to discuss the need to investigate its resources and to develop a power resource strategy. A subsequent commission meeting led to the authorization to request proposals from engineering firms and ultimately to contract for the services of Bectel Corporation. During the development of the 2002 Update, Douglas PUD first presented information to its board during a board meeting, scheduled and held a public meeting to hear public comments about the plan and then adopted the plan. At every stage in the process, the commissioners deliberated and made decisions in open, public meetings that provided opportunities for community members to provide their review and comment.

5.0 CHANGES SINCE THE 2002 UPDATE

There have been numerous factors that have engendered change in Douglas County since the adoption and implementation of the 2002 Update. It is important to take these factors into consideration when reviewing the current state of Douglas PUD's generation resources and electric loads. The following have occurred since Douglas PUD adopted the 2002 Update:

5.1 Settlement with the Colville Confederated Tribes

In 2004, Douglas PUD entered into an agreement to settle long-standing claims of the Confederated Tribes of the Colville Reservation ("the Tribe") concerning the use of the bed of the Columbia River and lands appurtenant to Douglas PUD's Wells Project. A key element of the settlement was the sale, at cost, of 4.5 percent of the output of the Wells Project beginning April 1, 2005 through August 31, 2018, and 5.5 percent thereafter for so long as Douglas PUD holds a license for the Wells Project. This settlement-related sale to the Tribe proportionally reduced the amount of Wells Project output available for use in Douglas County as well as for sale to Okanogan PUD and the investor-owned Power Purchasers of Wells Project output.



On November 1, 2004, Douglas PUD and the Colville Confederated Tribes entered into a Settlement Agreement regarding annual charges owed to the tribes under Douglas PUD's license for the Wells Project. (Jim Davis, Joe Pakootas, D.R. Michel, Lynn Heminger)

5.2 State Laws

In 2006, the Washington State Legislature approved and Governor Christine Gregoire signed Engrossed Substitute House Bill 1010 pertaining to Electric Utility Planning. This law, RCW 19.280, requires utilities with more than 25,000 customers to develop or update an integrated resource plan by September 1, 2008 and every two years thereafter. The state law defines an Integrated Resource Plan to be “an analysis describing the mix of generating resources and conservation and efficiency resources that will meet current and projected needs at the lowest reasonable cost to the utility and its ratepayers”. Utilities serving less than 25,000 customers that do not rely on the Bonneville Power Administration for all power needed to supply its total load are required, at a minimum, to develop a resource plan that:

- a) Estimates loads for the next five and ten years;
- b) Enumerates the resources that will be maintained and/or acquired to serve those loads;
- c) Explains why the resources were chosen and, if the resources are not renewable resources or conservation and efficiency resources, why such a decision was made.

The short-form reporting requirements developed by the Washington State Department of Community, Trade and Economic Development pursuant to RCW 19.280.030 apply to Douglas PUD.

In 2006, Washington State citizens approved Initiative 937. This ballot initiative places load-service and conservation requirements on utilities serving 25,000 or more customers. The approved initiative, formalized as the Energy Independence Act under RCW 19.285, addresses both renewable resources and conservation. It requires that 3 percent of a utility’s load be served from renewable resources by 2012, 9 percent by 2016 and 15 percent by 2020. Under the law, renewable resources include water, wind, solar energy, geothermal energy, landfill gas, wave, ocean or tidal power, gas from sewage treatment facilities and biodiesel fuels. Efficiency improvements to hydroelectric projects are eligible for meeting the renewable resource requirements. Each qualifying utility under the law is also required to pursue all available conservation that is cost-effective, reliable and feasible by assessing its conservation potential and pursuing specific targets by specific dates using specific methodologies.

Although Douglas PUD is not currently a qualifying utility as defined by the Energy Independence Act, discussions related to complying with the law will be continually monitored in the years ahead as the customer base for Douglas PUD continues to grow.

5.3 Sabey Corporation

In August 2006, Douglas PUD entered into an agreement with Intergate.Columbia I LLC, which is managed by Sabey Corporation for the purchase of up to 30,000 kilowatts of electricity. Sabey Corporation is an infrastructure company that provides facilities for commercial data centers. The term of the agreement is for a 130 month-period after which Sabey may extend the agreement for four (4) successive periods of sixty (60) months.

5.4 Residential and Commercial Growth

Residential and commercial growth in Douglas County has continued to increase since the 2002 Update. In 2001, for example, the total number of residential customers was 13,726. By the end of 2006, the total number of residential customers was 15,181, representing over a 10 percent increase in residential customers during the 5-year period. Commercial customers in Douglas County totaled 1,198 in 2001 and increased to 1,300 in 2006, representing an approximate 9 percent increase in commercial customers during that period. Both the residential customers and commercial customers represented the same proportion of customers in 2001 as they did in 2006, with 63 percent and 25 percent, respectively. Douglas PUD predicts that the load growth in Douglas County based on residential and commercial customers will continue to gradually increase in the years ahead.



The number of residential customers continues to increase in East Wenatchee and Douglas County. Residential connections have increased by 1455 customers between 2001 and 2006.

6.0 APPLICATION OF THE 2002 UPDATE

Integrated resource planning is an ongoing process that requires periodic updates to guide Douglas PUD in meeting the future needs of its customer reliably and at the lowest system cost. The updated action items are outlined later in this document (see page 27). The 2002 Update to the IRP included the following Action Plan:

- Implement demand-side management programs with emphasis on weatherization.
- Pursue mid-and long-term inter-utility exchange and purchase opportunities.
- Continue to monitor Northwest generation expansion activities for potential Douglas PUD participation.
- Negotiate Wells Project Power Sales Contracts to help define the amount of Wells output available to serve Douglas PUD's actual and prospective needs beyond 2018.
- Continue to investigate renewable resource opportunities in Douglas County and develop those that cost-effectively enhance efficiency and safety of the electric system.
- Develop and maintain modern communication systems to enhance efficiency and safety of the electric system.

The implementation of this Action Plan is summarized in the following subsections:

6.1 Demand-side Management

The first action item in the 2002 Resource Plan recommends implementing demand-side management programs with an emphasis on weatherization. Douglas PUD currently implements two programs related to home weatherization, the "Zero Interest Loan Pilot Project" and the "Matchmaker Program". The Zero Interest Loan Pilot Project was transitioned from the Chelan-Douglas Community Action Council to Douglas PUD in 2005 to facilitate direct interaction with customers. The project is designed to acquire cost effective, demand-side resources through conservation efforts.

Under the pilot project, Douglas PUD offers qualifying residential customers "zero interest loans" to install weatherization measures in accordance with the most current Washington State uniform building codes. Customers utilize the loans to increase insulation levels, wrap warm air ducts and replace energy inefficient windows. Douglas PUD offered residential customers up to \$3,000 in zero interest loans beginning in 1997 and increased the maximum amount to \$4,500 in 2006. Customers obtain bids for the installation of weatherization measures and select an independent contractor of their choice. Upon completion of the work and inspection by a Douglas PUD engineer, eligible customers receive a maximum loan amount of \$4,500. The goal of the project is to process a total of 60 customer loans per year. Many customers choose to complete home weatherization projects well in excess of the \$4,500 zero interest loan limit, which results in even greater demand-side savings to Douglas PUD. Based on 2006 participants,

the average customer invests approximately \$4,800 per project, receives approximately \$4,100 in loan repayment and achieves a savings of approximately 3,300 in projected annual kilowatt-hours.

Douglas PUD contracts with the Chelan-Douglas Community Action Council to implement its “Matchmaker Program”. This program is similar to the Zero Interest Loan Pilot Project except that it is targeted to low income residential customers and is eligible for matching funds from the state and other entities. Since the 2002 Resource Plan, Douglas PUD has contributed a total of \$170,000 toward the Matchmaker Program, with a current annual allocation of \$40,000.

6.2 Exchanges and Purchases

The second action item in the 2002 Update recommended that Douglas PUD pursue inter-utility power exchanges and purchase opportunities. This recommendation was designed to supplement the generation from the Wells Project and better secure Douglas PUD’s firm resource base. As discussed in the 2002 Update, Douglas PUD entered into a long-term agreement in 2000 with Avista Energy (now known as Coral Energy). The agreement authorized Douglas PUD to exchange approximately 1.9 million megawatt-hours of power and energy at a fixed, level exchange rate with Coral Energy between 2000 and 2017. The agreement calls for Douglas PUD to deliver firm power to Coral Energy through 2006. Thereafter, Coral Energy would return a like amount of firm power to Douglas PUD through 2017. The firm power discussed in the 2002 Update is now being returned to Douglas PUD and will continue through 2017. This exchange has secured the firm resources necessary to accommodate the anticipated near term residential and commercial growth in Douglas County. As such, no new exchange or purchase opportunities have been pursued since the 2002 Update due to lack of need.

6.3 Northwest Generation Expansion

The third action item in the 2002 Update recommended continuing to monitor Northwest generation expansion activities for potential Douglas PUD participation. Douglas PUD briefly described its purchase of a percent share of Energy Northwest’s Nine Canyon Wind Project in the 2002 Update. At the time of publication of the 2002 Update, Douglas PUD had entered into a Power Purchase Agreement with Energy Northwest for a share of the output of the Nine Canyon Wind Project, which is located approximately eight miles southeast of Kennewick, Washington. The project currently consists of two phases of completed development with a third phase underway. Phase I consists of 37 1.3 megawatt wind turbine generators (48.1 MW) and commenced commercial operation on September 25, 2002, immediately prior to Douglas PUD’s publication of the 2002 Update. This entitled Douglas PUD to a 6.25 percent share of the output. Since the 2002 Update, Energy Northwest has completed the development of Phase II of the Nine Canyon Wind Project, which consists of an additional 12 1.3 megawatt wind turbine generators (15.6 MW) and commenced commercial operation on December 31, 2003. Douglas PUD is entitled to a 15.40 percent share of the combined output of Phase I and Phase II. Once Phase III, consisting of an additional 14 2.3 MW units, is completed (estimated January, 2008), Douglas PUD will be entitled to a 10.23 percent share of the combined output of all three phases.



Douglas PUD is a purchaser of Energy Northwest's Nine Canyon Wind Project and is currently entitled to a 15.40 percent share of the Nine Canyon Wind Project's output.

Douglas PUD has been monitoring Energy Northwest's plans to permit and construct a 680 megawatt integrated gasification combined cycle power plant at the Port of Kalama in southwest Washington. The Kalama power plant project, known as the Pacific Mountain Energy Center would use gasification technology to produce electrical power. The process includes the creation of an environmentally-friendly synthesis gas used to fuel combustion turbines. As specified in the 2002 Update's Action Plan, Douglas PUD continues to monitor these activities and other Northwest generation expansion activities for potential Douglas PUD participation.

6.4 Negotiate Power Sales Contracts

The fourth action item in the 2002 Update identified the need to negotiate Wells Project Power Sales Contracts to help define the amount of Wells output available to serve Douglas PUD's actual and prospective needs beyond 2018. On September 18, 1963, Douglas PUD entered into power sales contracts with four Power Purchasers to sell 62 percent of the output from the Wells Project at the full cost of production through August 31, 2018 or such later date as all bonds pertaining to the original construction financing are paid in full. These contracts were amended in 1965 to provide for the purchase of power from three additional generating units. The four Power Purchasers are Puget Sound Energy, Inc. (31.3 percent), Portland General Electric Company (20.3 percent), PacifiCorp (6.9 percent), and Avista Corporation (3.5 percent). In addition to the contracts with the four Power Purchasers, Douglas PUD entered into a Power Sales Contract with Okanogan PUD on September 18, 1963 for the sale of a portion of the Wells Project output that Douglas PUD's distribution system purchases. Currently, this is equivalent to 8 percent of the Wells Project output. This contract was amended in 1965 to provide for the sale and purchase of power from three additional generating units. The contract with Okanogan PUD includes similar provisions included in the Power Sales Contracts with the four Power Purchasers. Douglas PUD and Okanogan PUD are at an advanced stage in negotiating a power sales contract beyond 2018, and Douglas PUD is beginning the process of negotiating successor contracts with the four Power Purchasers.

6.5 Renewable Resource Options

The fifth action item in 2002 Update instructed Douglas PUD to continue to investigate renewable resource opportunities in Douglas County and develop those that cost-effectively enhance efficiency and safety of the electric system. Briefly discussed in the 2002 Update was Douglas PUD initial efforts to investigate the feasibility of developing a wind project in Douglas County. This effort began in 2001 with the placement of anemometer towers near the Town of Withrow in Douglas County. Studies of the wind data have identified approximately 53 ideal sites for the location of wind turbine generators. Douglas PUD's transmission system from the Withrow area currently has the capacity to accommodate an additional 15 megawatts of power. With this in mind, Douglas PUD is proposing to build an initial wind project with six to ten wind turbine generators, yielding a total output of up to 15 megawatts. If the project were eventually expanded to include all 53 sites, up to 80 megawatts could be generated to supplement Douglas PUD's other power supply sources. Douglas PUD is currently in the process of completing a variety of necessary environmental studies to determine the environmental impact the wind

project could have on the Withrow area. Once this is completed, Douglas PUD intends to develop an environmental impact statement and obtain the necessary land permit in order to license the wind project. Douglas PUD believes that wind is an untapped resource in Douglas County, which could complement its hydroelectric generation.



Douglas PUD is exploring the possibility of constructing a wind project in Douglas County. A site near the Town of Withrow, with a representation of future wind towers, is shown above.

In addition to exploring the feasibility of wind power as a renewable resource, Douglas PUD also continues to monitor other emerging technologies, including solar technology. As discussed in the 2002 Update, Douglas PUD placed 40 solar panels on the rooftop of its vehicle storage building as part of a Photovoltaic Pilot Project. The system activates itself and is connected to the electric system grid. Douglas PUD has been evaluating the performance of this project and evaluating advances in new solar technologies to determine whether a larger-scale project could be both feasible and cost effective for customers in Douglas County.

6.6 Modern Communication System

The sixth action item in the 2002 Update is to develop and maintain modern communication systems to enhance efficiency and safety of the electric system. As reported in the 2002 Update, Douglas PUD began installing fiber-optic cable throughout Douglas County in 1998 in an effort to facilitate the fastest possible communication between Douglas PUD's substations, administrative offices and Wells Dam. The system, known as the Douglas County Community Network (DCCN), was designed to enable Douglas PUD to more safely and effectively monitor and control its electric system. Additionally, the network offers high-speed, broadband transport opportunities for local service providers who connect to the system to offer a variety of communication services to Douglas PUD customers. The DCCN currently has approximately 800 end user connections in all communities throughout Douglas County, including East Wenatchee, Bridgeport, Waterville, Rock Island, Mansfield, Orondo and Palisades. This high-speed communication infrastructure, coupled with reliable and low-cost power, has helped make Douglas County an attractive place to relocate and grow businesses. This is reflected in the previously described industrial and commercial growth experienced in Douglas County since the 2002 Update.



The Douglas County Community Network (DCCN) connects Douglas PUD's substations, administrative offices and Wells Dam to enhance the efficiency and safety of the electric system.

7.0 DOUGLAS PUD'S LOADS

Douglas PUD's "load" or electricity demand has changed since the adoption of the 2002 Update. Douglas PUD has experienced a steady increase in residential and commercial load since 2002. At that time, Douglas PUD served approximately 16,800 customers using approximately 503,500 MWh of energy annually. Currently, Douglas PUD serves approximately 17,400 customers using approximately 576,200 MWh of energy annually. The table below shows the change in customers by customer class and shows the increase in megawatt-hours sold between 2001 and 2006.

| Energy Consumption within Douglas County | | | | | | |
|---|------------------------|-------------------------|------------------|------------------------|-------------------------|------------------|
| | 2001 | | | 2006 | | |
| | Customers ₁ | Annual Sales (MWh Sold) | Percent of Sales | Customers ₁ | Annual Sales (MWh Sold) | Percent of Sales |
| Residential | 13,726 | 312,993 | 63 | 15,181 | 364,330 | 63 |
| Commercial | 1,198 | 125,195 | 25 | 1,300 | 145,343 | 25 |
| Industrial | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 1,883 | 65,296 | 12 | 885 | 66,487 | 12 |

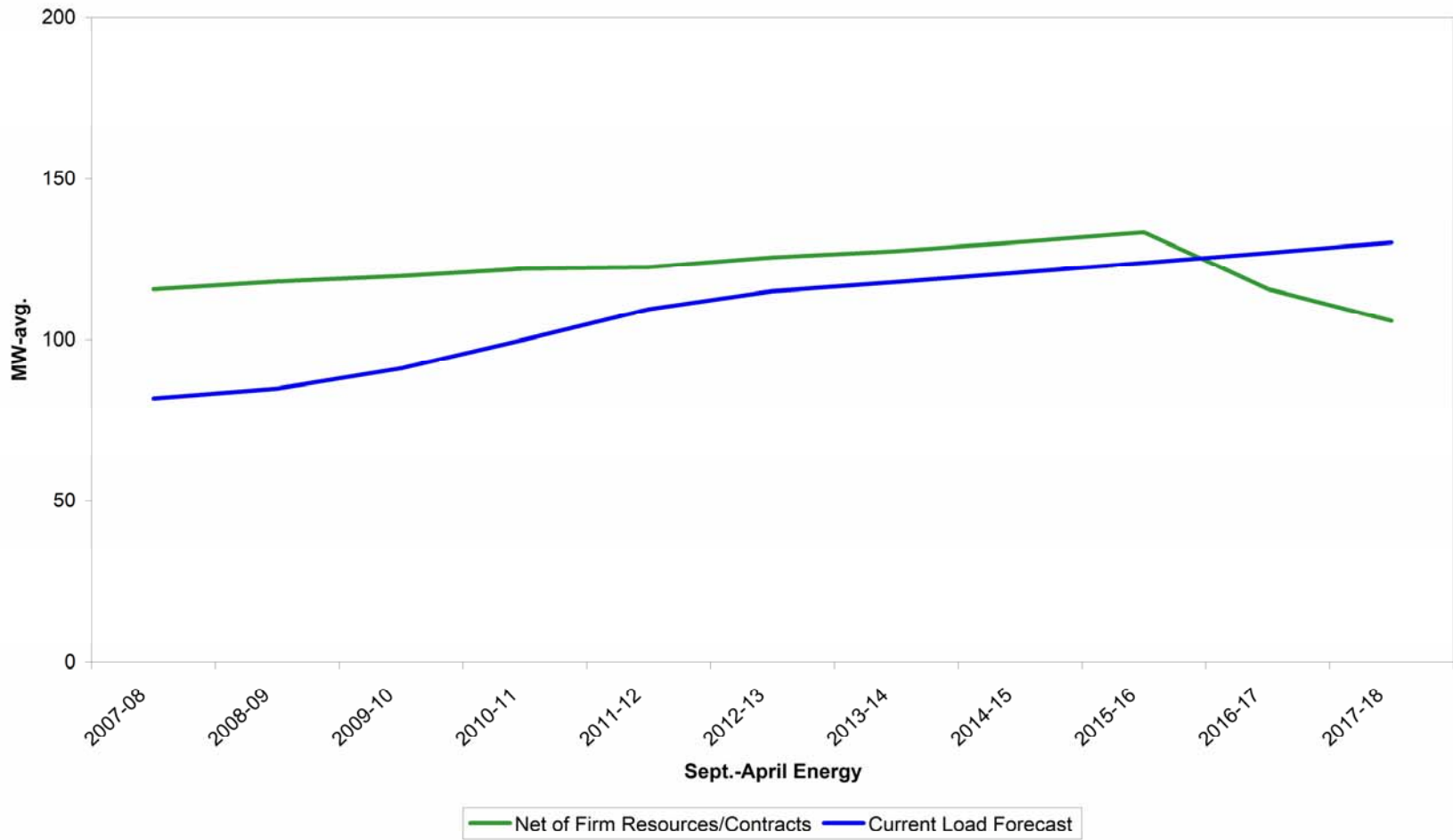
₁ Includes irrigation, public building and street light customers.

The addition of Sabey Corporation's agreement to purchase of up to 30,000 kilowatts of electricity, as previously described, is expected to increase the annual energy sold. The steady increase in residential and commercial energy consumption described in the 2002 Update as well as the steady increase described in this update represent a growing trend for Douglas County. The local economy continues to diversify and grow. Land is available and power is affordable and reliable. These circumstances are expected to result in a gradual increase in residential and commercial growth. Fortunately, Douglas PUD is well positioned to accommodate the long-term load growth in Douglas County. The ability of Douglas PUD to respond to the growing needs of its customers and any prospective customers depends upon its available power or "firm resources". These resources include the reliable power supplied by the Wells Project and the Rocky Reach Project as well as other power sources previously described, such as the long-term power exchange with Coral Energy and the purchased shares of the Nine Canyon Wind Project.

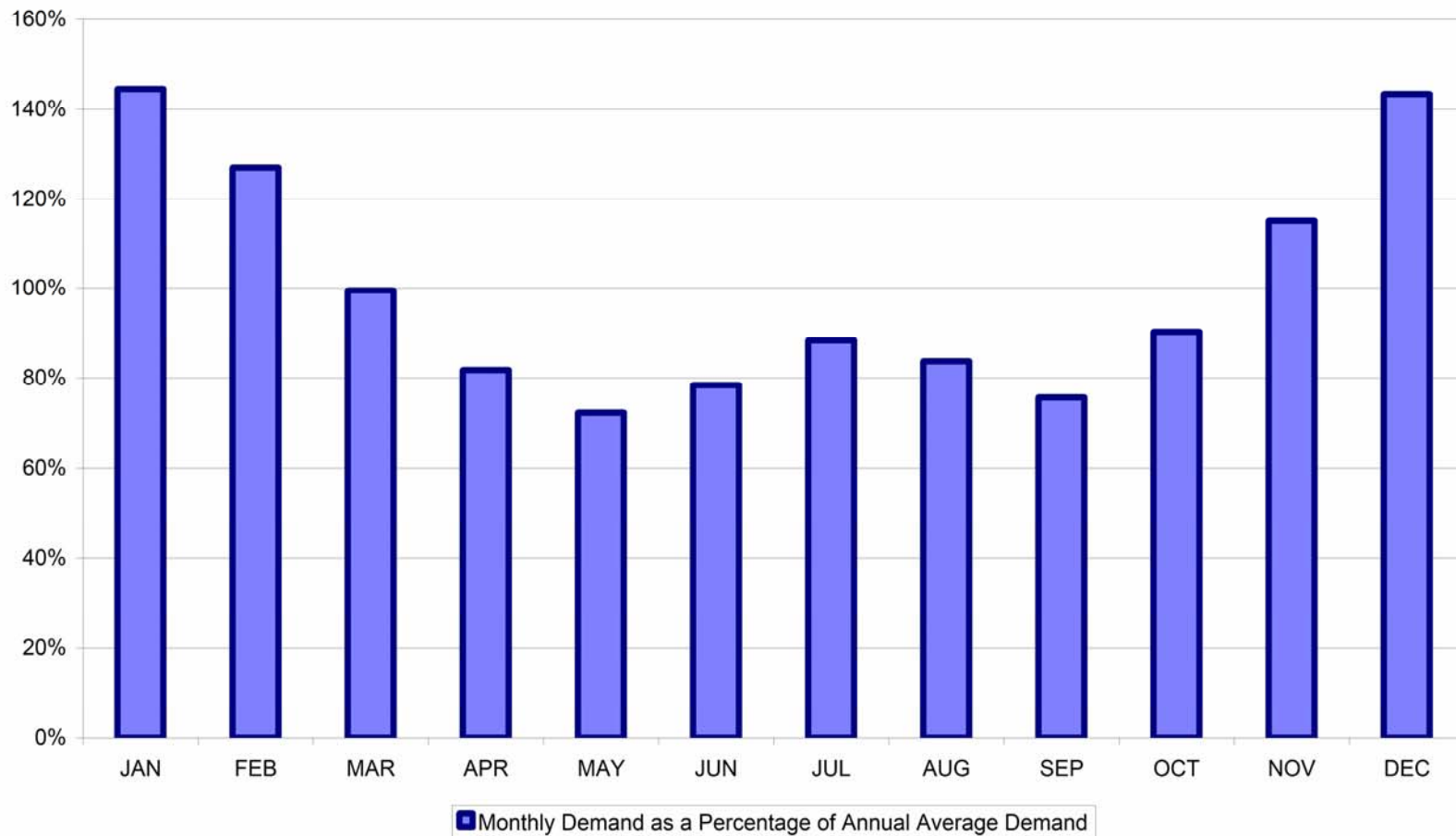
The graph on page 15 illustrates Douglas PUD's base electric load/resource projection through 2018. As depicted in the graph, both the load and resource amounts will gradually increase over time, resulting in Douglas PUD projecting surplus power until approximately 2016.

Additionally, the distribution of load varies throughout a year. For example, residential and business customers typically consume more energy between the months of November through February for heating purposes. As a result of the seasonal weather changes in Douglas County, customers typically utilize the most energy in winter months and the least in late spring and early fall. The graph on page 16 details the monthly load distribution in Douglas County.

Douglas PUD Electric Load/Resource Projection



**Annual Distribution of Energy Demand
for Douglas County PUD
(Normal Weather)**



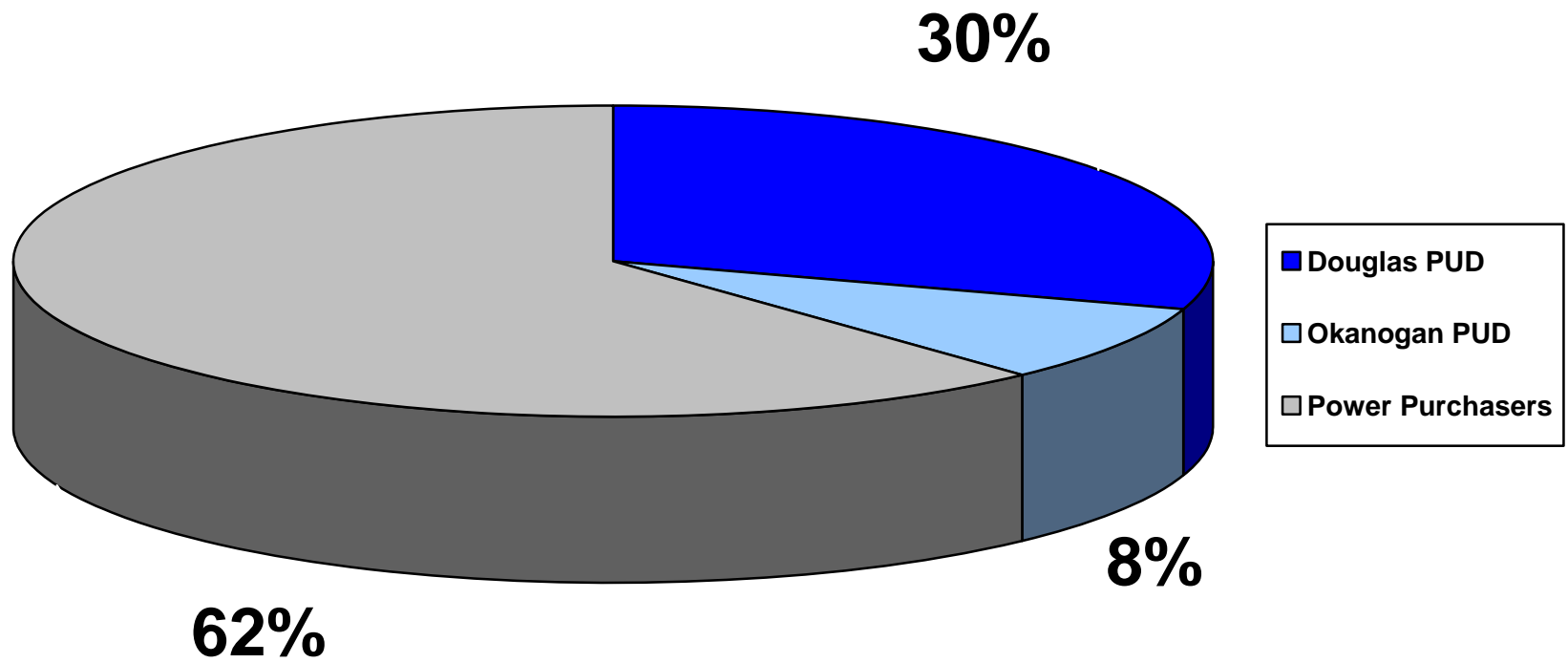
8.0 DOUGLAS PUD'S RESOURCES

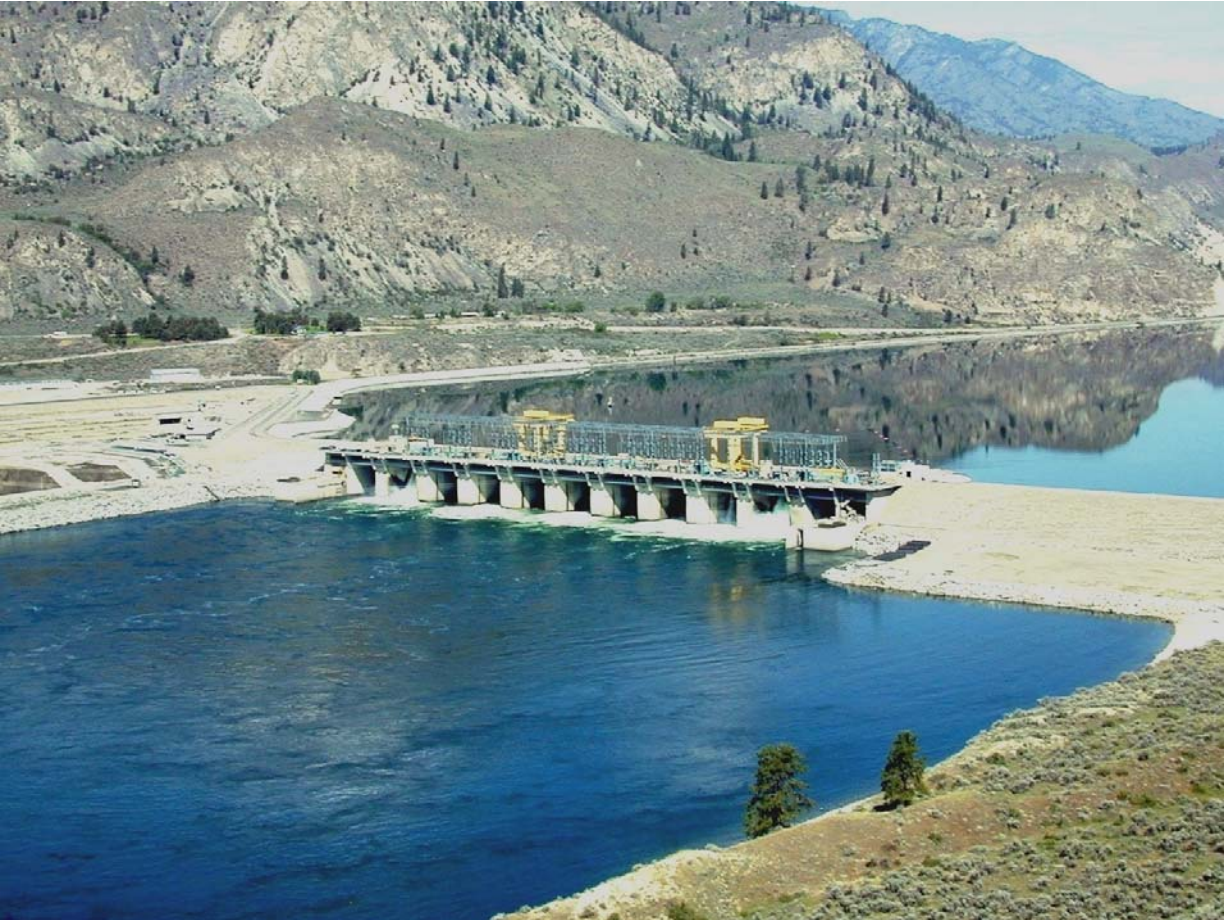
Douglas PUD's chief generating resource is the Wells Project and additional resources include purchased power from the Rocky Reach Project, owned and operated by Chelan PUD, and the Nine Canyon Wind Project, owned and operated by Energy Northwest. The Wells Project consists of ten hydraulic turbine generation units and is capable of generating 840 MW at peak capacity. The output of the Wells Project, however, is affected by the following factors: 1) natural stream flows, 2) regulation of upstream storage reservoirs in the United States and Canada, 3) regulation of upstream releases of water from other power projects, 4) operating condition of the Wells Project, 5) the FERC's requirements and 6) environmental factors. Douglas PUD estimates, on average, that the Wells Project can produce approximately 3,942 gigawatt-hours of annual gross generation. Douglas PUD is obligated to sell 62 percent of the output of the Wells Project to the four investor-owned utilities who entered into take-or-pay power sales contracts in the early 1960s. As previously stated, the four Power Purchasers that receive 62 percent of the output of the Wells Project are Puget Sound Energy, Inc. (31.3 percent), Portland General Electric Company (20.3 percent), PacifiCorp (6.9 percent), and Avista Corporation (3.5 percent).

The Power Purchasers have contractual agreements for Wells Project output through August of 2018. At that time, Douglas PUD will be entitled to use a greater portion of the Wells Project generation to meet the current and prospective needs of Douglas County. In addition to the contracts with the four Power Purchasers, Douglas PUD entered into a Power Sales Contract with Okanogan PUD equivalent to 8 percent of the Wells Project output from Douglas PUD's 38 percent. According to a settlement agreement signed in 1989, Douglas PUD must offer, from its remaining 30 percent share, any energy excess to Douglas County's need for sale to the Power Purchasers according to a defined pricing structure. The chart on page 18 shows the Wells Project output as allocated to Douglas PUD, Okanogan PUD and the Power Purchasers.

In addition to the Wells Project and the Nine Canyon Wind Project, Douglas PUD purchases 2.77 percent of the net output of Chelan PUD's Rocky Reach Project. This hydroelectric dam, also located along the Columbia River, has a capacity of approximately 1280 MW. Consistent with the 2002 Update, in 2006 Douglas PUD exercised the first of its options to extend its contract with Chelan PUD in five successive ten-year increments beyond the contract's initial term of October 31, 2011. With this extension of the contract's term, Douglas PUD also exercised the option to increase its share of the Rocky Reach Project output to 5.54 percent.

Wells Project Output





The Wells Hydroelectric Project is Douglas PUD's primary power supply resource. It includes ten generating units and is capable of producing 840 megawatts of power at peak capacity.

9.0 WELLS PROJECT RELICENSING

Douglas PUD was granted a 50-year license of the Wells Project in 1962. The license expires on May 31, 2012. Douglas PUD prides itself in providing reliable power at the lowest possible costs and plans to apply to the FERC for a new license. Douglas PUD continues to place great emphasis on maintaining excellent customer service and being a good steward of the environment and is already taking the appropriate steps to secure another license. On December 1, 2006, Douglas PUD submitted its Notice of Intent to File an Application for New License and Pre-Application Document with the FERC. The documents represent the culmination of over two years of work by Douglas PUD staff, consultants and stakeholder representatives. The Pre-Application Document includes descriptions of Wells Project facilities, operations, license requirements, environmental resources and impacts. During 2008 and 2009, Douglas PUD intends to complete the study portion of the FERC relicensing process and will submit the Final License Application by May 31, 2010.

Although there are no guarantees that an existing operator, such as Douglas PUD, will have its license renewed, the FERC places substantial emphasis on the adherence to license conditions and current operations.

According to the Electric Consumers Act of 1986, the FERC will issue a new license to the applicant having the proposal that best serves the public interest. This includes the following:

- The plan and ability of the applicant to comply with the license issued to it.
- The plan of the applicant to manage, operate and maintain the project safely.
- The plan and ability of the applicant to operate and maintain the project in a manner most likely to provide efficient and reliable electric service.
- The need of the applicant over the short-and long-term for the electricity generated by the project to serve its customers taking into consideration the reasonable costs and availability of alternate sources of power, conservation, and its effect on the communities served.
- The existing and planned transmission services of the applicant.
- The cost-effectiveness of the applicant's plans.
- Other factors that the FERC may deem relevant.

10.0 SUPPLY-SIDE RESOURCE OPTIONS

Although Douglas PUD's resource outlook is currently very secure, it remains important for the District to examine additional resource options. Douglas PUD prides itself in not only providing reliable, low-cost power but also in being a good steward of environmental resources. Douglas PUD strives to minimize environmental impacts and seeks cost-effective solutions to mitigate environmental impacts resulting from its operations. A number of resource initiatives reflect these values, consistent with the objectives of the integrated resource planning process. Most of the supply-side alternatives focus on developing clean, renewable and cost-effective generation. The others, such as power purchases and exchanges, can also help secure Douglas PUD's long-term firm resource base. These types of resources could supplement the generation from the Wells Project and ensure surplus power in Douglas County for years to come. The following projects or agreements represent Douglas PUD's current supply-side options:

10.1 Wind Generation

As a purchaser of output from Energy Northwest's Nine Canyon Wind Project, Douglas PUD is expected to receive an average of three megawatts of energy annually from its shares of Phases I and II. As previously discussed, Douglas PUD is actively exploring the possibility of producing wind generation in Douglas County. The initial wind project with six to ten wind turbine generators is estimated to yield a total output of up to 15 megawatts with the potential to grow to 80 megawatts if all sites are developed. Despite the escalation in the cost of generating and integrating wind energy, demand for clean, renewable sources of electric energy is expected to grow due to state and federal mandates.



Douglas PUD receives energy from Energy Northwest's Nine Canyon Wind Project.

10.2 Fuel Cells

Douglas PUD and others in the electric power industry continue to monitor the development of fuel cells, which are combinations of electrodes that generate electricity by chemical reactions. The byproducts of fuel cell electrical production are water and heat. Therefore, generating electricity through fuel cells is appealing because of its environmentally sound process. Although fuel cell technology is currently available, the utility industry finds applications of the technology to be somewhat cost-prohibitive. Douglas PUD made provisions to site a fuel cell at the Eastmont School District's Junior High School building built in 2002. While Douglas PUD has not yet sited a fuel cell at this location, it will plan further involvement accordingly, as data is collected and as scientists continue to design more efficient and less expensive fuel cells.

10.3 Solar Technology

Advances in solar energy technologies could present Douglas PUD with an opportunity to acquire additional resources if needed. Since solar energy can be converted to electricity through photovoltaic systems, areas with significant sunlight can utilize the sun as a reliable and clean generation resource. Photovoltaic systems have been developed for utility applications in many areas. Douglas PUD has placed photovoltaic panels on its own building as part of the pilot project described earlier in this plan in order to actively study the feasibility of developing cost-effective solar power. Douglas PUD also plans to monitor the utility industry's effort nationwide regarding solar/photovoltaic systems. The overall costs of producing solar power for mass distribution, however, are not yet competitive with other generation alternatives.



A Photovoltaic Pilot Project established in 2002 helps Douglas PUD evaluate whether a larger scale solar project could be both feasible and cost effective for customers in Douglas County.

10.4 Short-term Purchases

As Douglas PUD's surplus power diminishes, the District anticipates the possible need to rely upon "spot" transactions or short-term power purchases to meet Douglas County's firm power needs. Due to the current load forecasts represented in this document, spot transactions and short-term purchases may occasionally be necessary. As the need arises, Douglas PUD staff will utilize such purchases to meet the immediate needs of its customers.

10.5 Power Exchanges

Douglas PUD participates in inter-utility exchanges when either the need arises to supplement generation from the Wells Project or when Douglas PUD's projected generation will exceed its load over a long-term period. The agreement with Coral Energy is one example of a mutually beneficial power exchange, which benefits Douglas County customers. Douglas PUD will continue to monitor the available options for future power exchanges as needed.

11.0 DEMAND-SIDE RESOURCE OPTIONS

Douglas PUD has participated in a variety of demand-side management projects in past years. These types of projects help reduce energy consumption within Douglas County, maintain important environmental resources and decrease customer electric bills. Douglas PUD's demand-side management programs have placed emphasis on all customers, including government offices, businesses, school and homes. Douglas PUD will continue to implement such programs when both cost effective and in the best interest of Douglas PUD customers. The following are examples of past efforts:

11.1 Energy Audits

Douglas PUD's weatherization pilot project has been in place since 1997 and has included analyses of residential energy usage. Past reviews by Douglas PUD staff have qualified many residential customers for Douglas PUD's zero-interest loan project. Douglas PUD has also worked with local school districts to identify and implement energy conservation measures. These measures have included the installation of school system control equipment that ultimately helped reduce the operating costs of the school districts and extended the availability of resources generated from the Wells Project.



Douglas PUD has helped fund energy conservation measures in local school districts.

11.2 Lighting Efficiency

The zero interest loan project has included the implementation of higher efficiency retrofits for lighting. Relatively simple upgrades to a building's lighting design or a systematic replacement of bulbs can improve the quality of lighting and the operating costs of the system. The placement of higher efficiency lights in Douglas County homes and schools as a result of the aforementioned programs has saved customers substantial amounts of money and has made available more electric supply for use by other customers.

11.3 Home Weatherization

Douglas PUD believes that customers will make efforts to install additional insulation and other energy efficiency measures in their homes if adequate incentives are created. The zero interest loan project, as discussed previously, was a response to the original 1995 Resource Plan. The project provides loans of up to \$4,500 to various customers in Douglas County who installed weatherization measures consistent with the most current Washington State uniform building codes. Efforts to insulate ceilings, walls and floors as well as window replacement, caulking and weather stripping are just some of the strategic conservation measures residents have implemented through the loan program.

12.0 RESOURCE PLANNING GOAL

The number one goal of Douglas PUD is, and has always been, to best serve its customers. Douglas PUD strives to accomplish this goal by providing its customers with the most cost-effective and reliable resources necessary to meet their energy needs. Efforts by Douglas PUD staff and commissioners through the application of the 2002 Update have helped create the currently stable and secure resource outlook through 2018. Beyond this point, Douglas PUD anticipates power supply will be adequate in the long-term when the District is successful at relicensing the Wells Project.

Therefore, it is critical to the long-term stability of Douglas County that Douglas PUD will successfully renew its license to operate the Wells Project and that the implementation measures detailed in the new license are reasonable, feasible and cost effective. Consistent with its goal of best serving the people of Douglas County, Douglas PUD plans to continue to not only provide reliable utility services at the lowest possible cost but also to remain a good steward of environmental resources. The resource strategy outlined below should position Douglas PUD well to meet its IRP goals as well as complement efforts to successfully relicense the Wells Project.



Douglas PUD was granted a 50-year license for the Wells Project in 1962. The license expires on May 31, 2012. Douglas PUD is seeking a new 50-year license for operations beyond 2012.

13.0 RESOURCE PLANNING STRATEGY

Douglas PUD intends to relicense the Wells Project by continuing to manage it in a prudent, safe and environmentally responsible manner and by continuing to work diligently toward meeting relicensing requirements specified by the FERC. Relicensing the Wells Project coupled with the negotiation of responsible power sales contracts for the period after 2018 will provide Douglas PUD with a solid, cost-effective base of power supply. Douglas PUD further intends to capitalize on a variety of other cost-effective, renewable energy technologies to augment and diversify its power supply. The District will also continue to implement cost-effective conservation measures cooperatively with its customers.



Douglas PUD strives to be a good steward of environmental resources along Wells Project lands and waters, as indicated by its efforts to protect and enhance important Bald Eagle habitat.

14.0 UPDATED RESOURCE ACTION PLAN

- Implement demand-side management programs with an emphasis on weatherization.
- Pursue mid- and long-term inter-utility exchange and purchase opportunities.
- Continue to monitor Northwest generation expansion activities for potential Douglas PUD participation.
- Negotiate Wells Project Power Sales Contracts to define the amount of Wells output available to serve Douglas PUD's actual and prospective needs beyond 2018.
- Continue to investigate renewable resource opportunities in Douglas County and develop those that cost-effectively enhance efficiency and safety of the electric system.
- Continue to develop and maintain modern communication systems to enhance efficiency and safety of the electric system.
- Obtain a reasonable, feasible and cost-effective 50-year operating license for the Wells Hydroelectric Project.



The Wells Reservoir extends 29.5 miles upstream of Wells Dam on the Columbia River. Grand Coulee Dam and Chief Joseph Dam supply water into the Wells Reservoir for generation.

15.0 FUTURE EVALUATION OF THE IRP PROCESS

Douglas PUD intends to review and update its resource plan approximately every five years or when a material change in conditions warrants a review. This approach will provide the District and its customers with an opportunity to periodically assess Douglas PUD's resources, expected load growth and conservation efforts. The future IRP reviews will serve to continue the long-standing tradition of public participation at Douglas PUD.



Douglas PUD maintains a reputation for providing excellent customer service.

Future evaluations of this process will assist Douglas PUD in achieving its mission:

“To provide the best possible utility services at the lowest possible cost, consistent with sound business principles.”