Establishment of new wholesale rates requires a review of spending proposals. The Bonneville Power Administration accomplishes this outside its formal rate cases to allow for substantial public input. We are expanding processes used in the past to allow review of our power and transmission expense and capital budgets at one time.

The new public discussion of our costs is called the Integrated Program Review. It invites our customers and the interested public to consider all BPA program costs before rates are set to recover those costs. Our customers requested this opportunity in their comments on the Regional Dialogue Policy, and we are pleased to afford it.

BPA rates for power and transmission expire at the end of fiscal year 2009, so new power and transmission rates must be developed for 2010–2011. In addition, a 2007 Ninth Circuit Court decision remanded the residential exchange issue to BPA. To implement changes responsive to the court, BPA is redoing its 2009 power rates. The IPR proposal seeks comments on BPA’s:

- power expenses for 2009,
- all expenses for 2010–2011, and
- capital programs through 2013.

Comments will be considered in establishing program costs for the final supplemental 2009 power rate proposal this summer and for initial 2010–2011 power and transmission rate proposals this fall.

It is important for BPA’s utility customers, ratepayers and the Northwest economy that BPA keep its costs and rates as low as possible while carrying out its mission. The Integrated Program Review is largely about testing with the public whether our cost projections are in line with this objective.

We look forward to your comments.
Background

BPA was not established to make a profit, but it’s not supposed to lose money, either. The law requires BPA to set its rates to recover all its costs. The agency lost more than $700 million in the West Coast energy crisis of 2000–2001, and it’s been a long road to recovery. We have worked diligently to reduce our costs, improve our revenues and restore the agency’s financial health.

Financial recovery complete

BPA has made back the losses of 2001–2002 and is in the black, despite mostly below-average water years. As a result, we most likely will need little-to-no planned net revenues for risk in our rates for 2009–2011. Our financial reserves are now adequate.

BPA rate history

BPA's combined power and transmission rates have been between $25 and $35 per megawatt-hour since 1984 in real dollars and are currently about $27 per MWh.

Cost discipline institutionalized

The cost discipline instilled in BPA over the last few years has been institutionalized. We have developed an extensive process improvement program known as EPIP². In the last four years, EPIP has captured $112 million in capital and expense reductions, which BPA has assumed in its current rates and proposed program levels.

Assets managed for lowest long-term cost

EPIP also focused BPA on asset management – systematically prioritizing investments in existing physical assets to maximize their long-term value for our customers and other stakeholders. By applying this discipline, we have identified opportunities for cost reductions and also identified areas where investments can lead to greater value for ratepayers.

² Enterprise Process Improvement Program.
New pressures drive BPA costs

While internal cost discipline remains firm, new external pressures are driving up some BPA costs. Most cost issues are unique to either the transmission or power business, but some common themes stretch across the agency:

1) Maintenance and replacement of an aging system.
2) Meeting load growth in a world with increasing constraints on carbon.
3) Growing regulatory requirements, including environmental, reliability and financial constraints.
4) World competition and rising prices for commodities and equipment.

Being in better financial health also provides the opportunity to consider investments that have long-term value for the region. We also have some cost decreases, due primarily to projected reductions in residential exchange expenses and further internal efficiencies.

Costs alone do not set rates

IPR is a discussion of costs only, and making rate projections from BPA cost information alone would be incomplete. Rates, particularly power rates, are also affected substantially by other factors.

Transmission has been and remains a small part of delivered wholesale energy costs.
Transmission revenues in 2007 and 2008 have exceeded expectations. For power, secondary sales revenue forecasts for 2009 are increasing, reflecting recent trends in the power futures market. But, 2007 power revenues were below expectations, primarily due to below-average water. Optimism about 2008 revenues reflected in our Second Quarter Review has been dampened by yet another below-average water year and the poor shape of this year’s runoff.

Power and transmission rate cases will address revenue assumptions, reserve levels, rate design and many other topics.

Because power and transmission rates are established separately and driven by different costs, they will be discussed separately.

Since 2001, BPA has held its internal operating costs recovered in power rates flat with no adjustment for inflation. However, internal operating costs are a small fraction of costs paid from BPA power revenues. Overall BPA power expenses in 2007 were consistent with the rate case assumptions, with the exception of increased Columbia Generating Station operating expenses.

**Power cost drivers: some down, others up**

For 2009–2011, some drivers continue to press costs down, but other pressures are rising.

**Residential exchange**

Residential exchange costs in BPA power rates are proposed to decrease substantially due to the Ninth Circuit Court decision of May 2007. BPA's initial supplemental rate proposal for 2009 estimates a $126 million reduction in 2009 residential exchange costs from levels in current rates, but decisions in that process are not final.

**Fish and wildlife**

Costs are rising for mitigating damage to fish and wildlife from the federal hydroelectric system.

The new Biological Opinion on Federal Columbia River Power System operations issued by NOAA Fisheries on May 5, 2008, includes changes that result in cost increases for hydro system operations; habitat restoration; and research, monitoring and

---

3 The final May forecast of Columbia Basin streamflows for January – July 2008 is 91 percent of average, measured at The Dalles, Ore.

4 The Residential Exchange Program shares the benefits of the Federal Columbia River Power System with Northwest utilities whose average system cost is high compared to BPA's applicable priority firm power rate. The benefits BPA provides through the program must be passed on to each utility's residential and small-farm customers. In 2007, the U.S. Ninth Circuit Court of Appeals ruled that residential exchange benefit settlements made in 2000 were not consistent with the Northwest Power Act. As a result, BPA is reinstituting the Residential Exchange Program. Details are at www.bpa.gov/power/pl/regionaldialogue/implementation/documents/.
evaluation. The Columbia Basin Fish Accords announced May 2, 2008, with Northwest states and tribes include some costs that overlap with BiOp actions, but also contain new incremental costs. Inflationary pressures are affecting operating costs of existing hatcheries owned by the U.S. Army Corps of Engineers, the Bureau of Reclamation and those of the Lower Snake River Compensation Program. On the other hand, BPA receives an annual credit against its Treasury payment for fish and wildlife costs it incurs that are not allocated to the power share of the Federal Columbia River Power System. This offsets some of BPA’s new fish costs5.

5 This is known as the 4(h)(10)(C) credit because it is called for in Section 4(h)(10)(C) of the Northwest Power Act.

The net effect of these various pressures is that 2009 direct program fish and wildlife expenses in the Integrated Program Review proposal are up about $38 million, compared to 2009 expenses in the original 2007–2009 power rate case, net of the fish and wildlife credits. Similarly, fish and wildlife net expenses are projected to be about $70 million higher in 2010–2011 than costs included in current rates.

Nuclear plant

Columbia Generating Station nuclear plant costs are rising. The plant’s performance indicators have been low when measured against criteria set by the Institute of Nuclear Power Operations, although they improved in 2007. Energy Northwest owns and operates CGS. Its management believes significant investments are needed to improve the plant’s safety and reliability.

Energy Northwest recently adopted a $65 million increase for 2009 operation and maintenance, compared to the 2009 costs included in the current rates. Energy Northwest has tentatively agreed that its 2009 increase can be reduced to $51 million, and BPA and Energy Northwest are discussing the potential for additional reductions of the expense increase for 2009. Energy Northwest also proposes
an approximately $100 million annual increase in expenses for 2010–2011 compared to average 2008–2009 expenses in current rates.

There is an additional significant increase in 2010–2011 to replace the steam condenser, which Energy Northwest believes is critical for reliability and cost-effective performance. BPA agrees the steam condenser needs to be replaced. This is a capital cost that Energy Northwest estimates at about $100 million.

Under current plans, replacing the steam condenser will require an estimated additional 37-day outage beyond the normal 38-day refueling outage in 2011. The roughly $50 million cost of replacement power and/or reduced secondary sales during this additional outage is not included in the CGS expense estimates but will affect future BPA revenue estimates.

**Hydro system**

BPA, the Corps and Reclamation have undertaken a major asset management and planning effort. This comprehensive look at the condition of the Federal Columbia River Power System has identified critical risks of equipment failure that need attention. The FCRPS delivers electricity worth $4 billion a year.

Major components of the federal hydropower system are nearing or beyond their expected life...
and must be overhauled to maintain output capability. BPA’s goal is to maintain unit availability of 84 percent, absent scheduled outages.

The largest item in the hydro maintenance portfolio is overhaul of the six very large generators in the Grand Coulee Dam Third Powerhouse. Installed in the 1970s, this equipment has now exceeded its life expectancy. Three of these turbines provide 805 MW, each. The Integrated Program Review calls for $31 million per year from 2009–2015 in extraordinary hydro maintenance expense, primarily for these turbines. We had been planning for one large generating unit to be out of service at any given time from 2011 to 2020 but are delaying actual construction on the first unit so it will not be out of service while Columbia Generating Station is out for condenser replacement.

BPA is proposing that 2009 hydro operation and maintenance costs increase by $13 million in 2009 from levels in current rates and by another $27 million on average in 2010 and 2011 above the 2009 level in the IPR. These increases are for extraordinary maintenance expenses such as the Grand Coulee work, compliance with Western Electricity Coordinating Council requirements, a Biological Opinion on Willamette River dam operations, costs for the Leavenworth National Hatchery. Other costs are adjusted for inflation.

**Energy efficiency**

BPA’s energy efficiency programs have added 1,000 average megawatts to the region’s effective power supply since 1982, equivalent to the average power use of the city of Seattle. Today, demand is soaring for more energy efficiency and demand management due to climate change concerns, growth in regional population and loads and escalating costs of new power sources.

BPA sets its energy efficiency targets under the Northwest Power and Conservation Council’s Power Plan. The target will increase in 2010 from 52 aMW per year to 64 aMW per year, and the Council likely will raise this target further when it revises its Power Plan in 2009. BPA is budgeting based on an expectation of supporting 70 aMW of conservation acquisition annually for 2010–2011.

BPA is committed to working with our public agency customers to accomplish their share of the region’s cost-effective energy efficiency. We are planning to increase the size of our program and expect to begin reaching into higher-cost energy efficiency measures.

IPR proposal energy efficiency expenses reflect these drivers, rising about $6 million in 2009 over numbers in current rates to $71 million and rising another $5 million in 2010–2011. These figures are net of expenses directly reimbursed by BPA customers. BPA and the Council are now leading an effort to maximize energy efficiency benefits at the lowest possible cost.

**Internal operations**

BPA has kept internal operating expenses in power rates essentially flat for the last seven years. Some moderate increases are needed over the next three years. Internal expenses for 2009 in the original 2007–2009 power rate case are $112 million. The Integrated Program Review proposal increases this $13 million in 2009 to $125 million, with $135 million budgeted in 2010 and $139 million in 2011.

These increases pay for a larger-than-expected wind integration effort, administration of the Residential Exchange Program, more complex Regional Dialogue contract and tiered rates completion and implementation, a greater-than-planned resource
acquisition effort for Tier 1 augmentation and Tier 2 resource acquisition and a bigger payment to the National Park Foundation for power generated at Elwha Dam. Power is also absorbing its share of increased agency security requirements, regulatory requirements, increased research and development, information technology system improvements and other expenses.

**Depreciation and interest expenses**

Power debt-service costs are currently lower than projected for 2009 in the original 2007–2009 power rate case, because investment in Corps and Reclamation dams and energy conservation projects has lagged projections. This is expected to change with higher capital investments in 2009–2011 in fish projects, conservation, the Columbia Generating Station nuclear plant and Corps and Reclamation hydroelectric projects.

The Integrated Program Review proposal shows federal and nonfederal depreciation and interest expenses recovered through power rates increasing about $24 million annually in 2010–2011 compared to current rates. The IPR proposal shows nonfederal debt service, primarily for nuclear plant bonds, increasing about $13 million in 2010–2011 from current rates. Although current estimates of interest and depreciation expenses are displayed here, final determinations on these expenses will be made in the relevant rate cases.

---

6 BPA’s Long Term Regional Dialogue Policy, adopted in 2007, calls on the agency to sell power from the existing FCRPS under “Tier 1” rates reflecting costs of the existing Federal Base System with little augmentation, and to charge a “Tier 2” rate for further power sales. Tier 2 power will reflect the cost of new resources used to supply that power. For details, see [www.bpa.gov/power/pl/regionaldialogue/](http://www.bpa.gov/power/pl/regionaldialogue/).

---

**Power expense conclusions and rate implications**

BPA proposed a 4 percent rate reduction for preference customers in its initial proposal in the supplemental rate case for 2009 compared to existing rates. This reflected a decrease in residential exchange costs and other cost adjustments known in February.

Other than power purchase costs and reduced residential exchange costs, current expense forecasts show a $130 million increase for 2009 compared to current rates and a $110 million increase compared to the initial proposal for the supplemental rate case. The 2009 rate impacts are highly dependent on forecasts of secondary power sales revenues, which are likely to be higher than those of the initial proposal for the supplemental rate case. Rates for 2009 will also depend on decisions in the rate case on the level of residential exchange benefits. In BPA’s initial proposal, these benefits decrease by $126 million.

For 2010–2011, average Power expenses proposed in the IPR (excluding residential exchange and power purchase costs) increase by $295 million compared to 2009 spending levels in current rates and by $165 million compared to 2009 spending levels proposed in the IPR. Again, these figures cannot be translated into projected rate increases, because many other factors affect rate levels. For instance, they do not include the roughly $50 million in net secondary revenue loss due to the extended outage of the nuclear plant for condenser replacement. But these figures indicate the extent of the pressure on BPA power costs and provide a starting point for discussion in the IPR.
Power capital programs

BPA capital investments recovered through power rates are increasing with growing needs for hydro and nuclear plant maintenance, fish and wildlife projects and energy efficiency.

- The aging hydro system needs significant capital investment to maintain its production capacity. Today, nearly 25 percent of the power train equipment at plants critical to the system is in marginal or poor condition. In 2009–2013, BPA proposes to invest an average $193 million a year in large capital investments in the FCRPS. The most significant investment is allocated to Grand Coulee, Chief Joseph and McNary dams, which most need investment and present the highest risk to sustaining hydro system production. Hydro investments are targeted and prioritized in collaboration with the Corps and Reclamation.

- Fish and wildlife investments reflect the May 2008 NOAA Fisheries BiOp, the Northwest Power and Conservation Council’s Fish and Wildlife Program and the new Columbia Basin Fish Accords. Hundreds of capital projects in hatcheries and habitat improvement are included. Fish and wildlife capital investments...
in the IPR proposal rise from an average $36 million a year in the existing rates to an average $56 million per year in 2009–2013.

- In addition, CRFM – the Columbia River Fish Mitigation Project – constitutes capital investments in FCRPS dams for fish protection made by the Corps using appropriated funds repaid by BPA. These projects include fish screens, removable spillway weirs, the Bonneville Dam corner collector and other improvements. CRFM investments vary widely depending on capital equipment placed in service each year. Projected capital investments in this category for 2009, 2011 and 2013 run close to the annual average in existing rates of about $68 million, while investments slated for 2010 and 2012 are $114 million and $135 million, respectively. These expenses pay for capital expenses the Corps has already incurred and paid from appropriations, which are repaid by BPA as each plant is put in service.

- Energy efficiency capital investments are expected to increase to $53 million per year on average for 2009–2013, compared to about $32 million a year in existing rates. This assumes a higher energy efficiency target of 70 aMW a year, that savings achieved through utility programs will cost an average $2 million per aMW and that more third-party programs will be required to achieve higher targets.

- Columbia Generating Station investments are established by the Energy Northwest management team and executive board, subject to BPA non-disapproval. In addition to replacing the steam condenser in 2011, nuclear plant investments planned through 2013 include replacement of several transformers, the main generator exciter and rotor, a large pump motor and other aging equipment, plus equipment and system upgrades. Condenser replacement, by far the largest capital item, is spread over three years. Total nuclear plant capital investment is $90 million for FY 2009, $69 million for 2010, $91 million for 2011, $54 million for 2012 and $50 million for 2013. More capital investments are made in refueling years than in years when the plant remains in continuous operation.

**TRANSMISSION**

**Transmission performance: Revenues growing faster than operating costs**

Transmission accounts for only 11 percent of the cost of wholesale electricity and typically about 3 percent of retail rates. So, while transmission rates are a significant cost to utilities and independent power producers, they have only a small effect on retail power rates.

BPA’s transmission business performance for 2008 is on track to substantially exceed the net revenue forecast in the last transmission rate case, and this performance is expected to be sustained through 2009. This is primarily due to revenues exceeding forecast levels and debt service costs that are lower than expected. The increase in transmission revenues results primarily from increased demand for BPA’s firm Available Transfer Capability, release of a modest amount of inventory and improvements to the agency’s ATC methodology.

If revenues remain at current levels as expected, the IPR proposed expense levels would suggest little or no transmission rate increase in 2010–2011.
However, transmission capital requirements are rising significantly, and these costs will eventually be recovered in transmission rates.

The Integrated Program Review does not address transmission costs for 2009; transmission rates for that year are set. The IPR is reviewing transmission program costs for FY 2010–2011.

Transmission cost drivers:
An aging system faces increasing demands
Operating expenses increasing

BPA’s transmission operation expenses are defined as total transmission costs minus all debt service costs and acquisition of ancillary services, for which there are offsetting revenues. A fundamental concern for our transmission business is that the system be built and maintained to provide reliable service for growing regional loads.

To accomplish this goal, BPA’s transmission operation expenses are projected to increase at a rate greater than inflation. This is due to six factors:

1) New mandatory requirements (reliability, environmental, tariff, etc.)
2) Growing wind resources that need access to the BPA transmission system.
3) Increased demand for transmission capacity.
4) Need to sustain aging transmission assets.
5) Need to catch up where we have historically underinvested (control house buildings, access roads, etc.).
6) Global competition for material.

New mandatory reliability requirements for transmission are increasing compliance costs. BPA has had to significantly increase staff devoted to documenting compliance with Western Electricity Coordinating Council and North American Electric Reliability Corporation reliability standards, including audits. A new tariff BPA will file this year to comply with Federal Energy Regulatory Commission Order 890 will require revising numerous business practices, processes and systems. Environmental
stewardship requirements to comply with the Clean Water Act and Toxic Substances Control Act are also increasing.

Demand for capacity on BPA’s transmission system continues to increase, particularly for numerous new wind farms. In addition to capital projects, BPA is developing new automated systems to better manage system congestion as well as new transmission products such as conditional firm transmission to make better use of the physical assets.

BPA’s transmission system is aging and needs more maintenance. About half the equipment in the grid was installed before 1962. Many substations, transmission lines and communication facilities have remained in use past both BPA accounting and industry standards for electrical equipment lifespan. Corrective and preventive maintenance needs grow each year. Control house buildings and access roads also require attention. Accordingly, the IPR proposal shows a $14 million increase in system maintenance costs in 2010 and another $5 million increase in 2011.

Depending on the size of each project, from 30 to 70 percent of a transmission capital project’s dollars are for material. Raw material price escalations and the dramatic escalation in fuel prices continue to impact all commodities. For example, wood pole prices increased 15 percent in the last year, steel structure and lattice prices increased 21 percent.
BPA actions are offsetting cost pressures

BPA's emphasis on process improvement and increased performance management rigor is helping to offset pressures on operating expenses. The agency has already replaced an annual transmission work plan with a two-year work plan that smoothes and reduces workload. The agency is moving to standardized transmission component designs. It is developing strategic partnerships with vendors to ensure that it can get materials at the best cost.

Standardization and process efficiency improvements themselves require investments. For example, BPA's recent expansion of third-party capital leases requires more rigorous and extensive life-cycle documentation. Third-party leases also provide a significant new source of low-cost capital for transmission investments.

In contrast to the rising trend of transmission operating expenses, debt service on transmission investment has remained fairly flat. After completing new transmission projects for system reliability in the first years of this decade, relatively little new capital has been invested in the transmission grid. In recent years, BPA has deferred a number of transmission investments in its efforts to recover the agency's financial condition.

Transmission capital programs

BPA has built six new reliability projects since 2001, but no projects that primarily provide additional capability to add more megawatts to the power system. The transmission system has continued to age even as it becomes increasingly congested. A very high proportion of the main grid equipment is now more than 40 years old.

BPA sees a real need for stepped-up capital investment to reinforce the transmission network and maintain or improve reliability. System studies show that BPA's existing transmission system will likely run out of capacity in three to nine years, which would limit resource choices and could have serious environmental and economic consequences for the region.
New network facilities are needed to ease congestion and maintain reliable service to loads. Network additions are also needed to integrate and deliver new renewable resources to customers in response to utility demand and new state renewable portfolio and performance standards. More than 60 percent of the requests for new transmission service in BPA’s queue are for wind farms.

As proposed, BPA’s transmission capital program for 2010–2011 is the largest in the agency’s history in real dollar terms. In addition to main-grid projects, the capital program includes projects for area and customer service, line upgrades and replacement of older communications and controls equipment with current technology.

BPA has accomplished a program of this physical size before, but with a much larger workforce. The primary challenges will be meeting schedules for design, environmental analysis, procurement and construction. BPA is exploring alternative approaches such as use of furnish-and-install contracts or turn-key engineer-procure-construct contracts.

The size and specific projects of the transmission capital program will be driven in part by the results of BPA’s first Network Open Season, which closes June 15. The Open Season is intended to differentiate between commercially viable requests.
in BPA’s queue for new transmission access and those that are speculative and to be sure BPA has transmission available for those who are ready to take service. Projects that commit to receiving BPA service by specific dates will be studied in clusters to define the most efficient transmission plans from a system perspective. IPR capital transmission proposals assume the Open Season will be successful and that three large new transmission projects will need to be built soon.

**BPA capital programs**

Capital investments do not fully appear as expenses when the investments are made, but repaying capital investments increases debt service expenses over time. Reviewing capital plans in the IPR provides an opportunity for our customers and constituents to consider the long-term rate effects of capital investments before capital commitments are made.

The agency’s capital investment trends over the last 15 years show periods of higher and lower investment roughly corresponding to the agency’s financial condition at that time. BPA severely constrained investments in the mid-1990s as the agency responded to the new competitive wholesale power market environment. We have just emerged from a second period of financial difficulty that also slashed investment plans.

BPA’s planned capital investments for the next few years are intended to maintain the long-term value of these assets for the region’s ratepayers and assure that the system will be able to continue to respond reliably to the demands placed on it.

BPA’s capital investment plans, informed by asset management strategies, are intended to:

- Improve aging hydroelectric and transmission systems to ensure they maintain their value.
- Relieve congestion on the transmission system and facilitate increased commercial use.
- Invest in regional energy efficiency.
- Provide information technology support for programs throughout the agency, including EPIP initiatives.

Most agency capital investment levels in 2009–2013 shown in the IPR proposal reflect a 15 percent undistributed reduction compared to total proposed project costs. This is due to a historic lapse between existing budgets and rates of capital use due to a variety of factors, such as planned projects being delayed or canceled. These adjustments have not been made to any specific program or project. Excluded from the 15 percent undistributed reduction are fish and wildlife investments including CRFM and investments in the Columbia Generating Station.
BPA has learned a lot about cost discipline in this decade and is maintaining its commitment to internal cost control and to continual process improvement.

The IPR is BPA’s proposal for costs we would plan to recover in rates. We’re looking for engagement from our customers and interested members of the public in open workshops and in written comments. Thank you for your thoughtful consideration of our proposal.

Note: The graphs in this document are drawn from an IPR PowerPoint presentation that is posted at www.bpa.gov/corporate/Finance/ibr/. Additional assumptions and caveats are addressed in the presentation.

To learn more and to participate

Details of BPA's IPR cost proposals and the complete schedule of workshops are posted at www.bpa.gov/corporate/Finance/ibr/. You also may request more information by e-mailing BPA at Comment@BPA.gov or calling (800) 622-4519.

To comment verbally on BPA's cost proposals, attend one or more of the scheduled workshops May 15 through June 26 or contact your BPA account executive or tribal liaison. Written comments may be submitted to BPA, P.O. Box 14428, Portland, OR 97293-4428 or by e-mail to comment@bpa.gov. Comments may be submitted on line at www.bpa.comment or faxed to (503) 230-3285.

The deadline for comments on BPA's 2009 power expenses is June 19. Comments on all 2010–2011 expenses and on BPA's capital program are due August 15.