
FEDERAL ENERGY REGULATORY COMMISSION

ANNUAL REPORT 2000



FEDERAL ENERGY REGULATORY COMMISSION



*Avista's Noxon Rapids is a 460-megawatt hydro facility located on the Clark Fork River in northwestern Montana. It was built in 1959 and is 260 feet high.
Photo courtesy of Avista Corp.*

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MEMBERS OF THE FEDERAL ENERGY REGULATORY COMMISSION



William L. Massey
Commissioner



James J. Hoecker
Chairman



Linda K. Breathitt
Commissioner



Curt L. Hébert, Jr.
Commissioner

LETTER FROM THE CHAIRMAN

To the Senate and House of Representatives

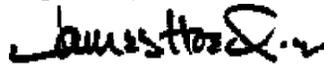
I am pleased to submit to the Congress the Federal Energy Regulatory Commission's annual report, covering the fiscal year from October 1, 1999, through September 30, 2000.

This is the 80th report issued by the Commission and its predecessor, the Federal Power Commission. As an independent agency, the Commission oversees key operating functions of the natural gas, electric utility, hydroelectric power, and oil pipeline transportation industries.

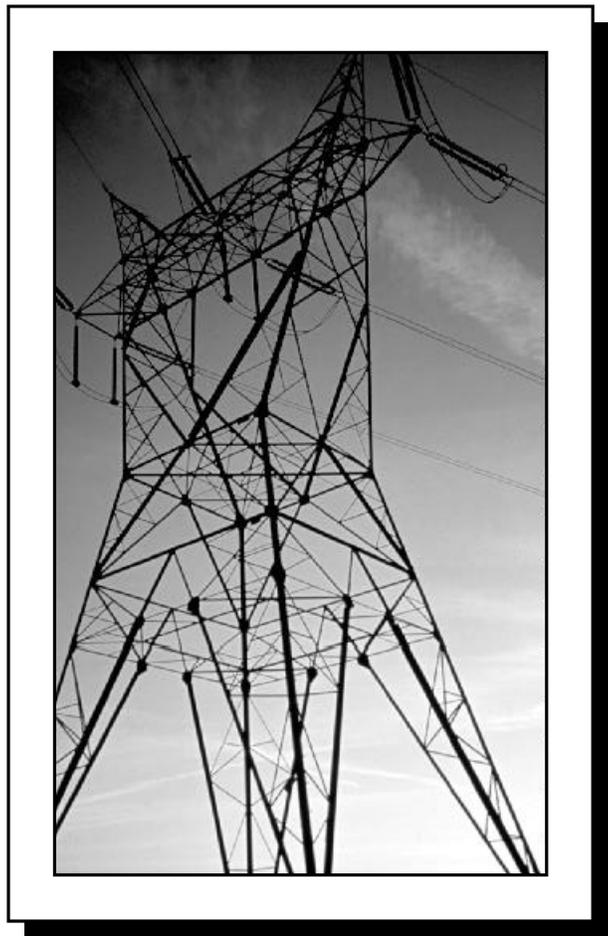
For fiscal year 2000, Congress appropriated \$174.95 million to support Commission activities. Under the authority of the Omnibus Budget Reconciliation Act of 1986 and other laws, the Commission recovers all of its costs from regulated industries through fees and annual charges. Revenues generated from these sources completely offset congressional appropriations and therefore result in a net cost to the treasury of zero dollars. As a result, the users and beneficiaries of the Commission's services not the general taxpayers pay its operating costs.

The Commission remains dedicated to protecting the economic welfare of American consumers of energy and to ensuring a healthy, competitive, and efficient energy industry.

Respectfully,



James J. Hoecker
Chairman



*Transmission tower. Photo by Rick Giammaria and
courtesy of the Potomac Electric Power Company*

THE COMMISSION'S REGULATORY RESPONSIBILITIES

The Commission is a five-member independent regulatory agency, which succeeded to the regulatory responsibilities of the Federal Power Commission in 1977. The Commission's responsibilities include the licensing of non-federal hydroelectric facilities, the certification of natural gas pipelines, regulating the rates of natural gas pipelines and pipelines transporting crude oil and oil products, and regulating the rates and other aspects of electric utility activities.

Hydropower is the oldest area of Commission jurisdiction. The Commission's predecessor began federal regulation of non-federal hydroelectric generation in 1920, authorizing the construction of projects in interstate commerce and overseeing their operation and safety. The Commission now regulates 2,000 dams that generate over five percent of all electric power in the United States.

Since 1935, the Commission has regulated certain electric utility activities under the Federal Power Act (FPA). Under FPA Sections 205 and 206, the Commission oversees the rates, terms and conditions of sales for resale of electric energy and transmission service in interstate commerce by public utilities. The Commission must ensure that those rates, terms and conditions are just and reasonable, and not unduly discriminatory or preferential. Under FPA Section 203, the Commission reviews mergers and other asset transfers involving public utilities. The utilities regulated under FPA sections 203, 205 and 206 are primarily investor-owned utilities; government-owned utilities (such as the Tennessee Valley Authority [TVA], the federal power marketing agencies, and municipal utilities) and most cooperatively-owned utilities are not subject to the Commission's regulation, with certain exceptions.

The Commission may not regulate retail sales or local distribution of electricity. These are matters left to the states by the FPA. Nor does the Commission have a role in authorizing the construction of new generation facilities (other than non-federal hydroelectric facilities) or transmission facilities. These too are state or local responsibilities.

The Commission's role in the natural gas industry is largely defined by the Natural Gas Act of 1938 (NGA). Under the NGA, the Commission regulates the construction of new natural gas pipelines and related facilities and oversees the rates, terms and conditions of sales for resale and transportation of natural gas in interstate commerce. Pipeline siting and construction is authorized by the Commission if found to be required by the public convenience and necessity. As with hydropower licensing, the Commission's actions on pipeline projects typically require consideration of factors under the National Environmental Policy Act (NEPA), the Endangered Species Act, the Fish and Wildlife Coordination Act, the Coastal Zone Management Act and other such legislation. The wellhead price of natural gas, which the Commission previously regulated, was gradually deregulated by Congress beginning with the Natural Gas Policy Act of 1978 (NGPA). All wellhead price controls on natural gas ended on January 1, 1993. Regulation of retail sales and local distribution of natural gas are matters left to the States.

Finally, the Interstate Commerce Act (ICA) gives the Commission jurisdiction over the rates, terms and conditions of transportation services provided by interstate oil pipelines. The Commission has no authority over the construction of new oil pipelines, or over other aspects of the industry such as production, refining or wholesale or retail sales of oil.

NATURAL GAS MARKETS

Today, natural gas commodity markets are competitive. There is truly a continental natural gas market in North America. Reserve prospects are very promising. However, production, transportation, and distribution capabilities will be tested by the significant annual demand growth—from 21 trillion cubic feet (Tcf) today to 30-35 Tcf in 2015. A sizable portion of the increase will come from gas-fired electric generation. In the current market, natural gas buyers are no longer limited to buying from one or two pipelines and instead have a wide

range of supply options that can be reached through various pipeline transportation options, including capacity release or at market hubs. In addition, an active financial market has developed to allow buyers and sellers of natural gas to hedge against future increases in natural gas prices.

This competition has produced substantial benefits for consumers. Retail gas prices, for example, declined by 42 percent in inflation-adjusted dollars from 1984 to 1994. If gas prices had remained at 1984 levels, consumers would have paid \$50-60 billion more for gas in 1995.

Spot wellhead prices for natural gas roughly doubled over the last year. The wellhead price averaged over \$4.00 per thousand cubic feet in the latter part of the fiscal year. (Energy Information Administration [EIA] Short-Term Energy Outlook, September 2000.) However, transportation access made the commodity market liquid and efficient and, despite recent price increases, consumers still saved money compared to pre-competitive prices. For example, according to one analysis of EIA data, wellhead prices have declined from \$4.10/MMBtu in 1983 to \$3.13/MMBtu today, in 1998 inflation-adjusted dollars. Moreover, recent wellhead price increases have already prompted a market response by producers to increase the supply of natural gas. The number of natural gas drilling rigs in use, for example, more than doubled in the past 15 months.

The Commission will continue to assure that competitive pipeline transportation markets continue to work in the public interest.

WHOLESALE POWER MARKETS

Bulk power markets are not as mature as natural gas markets. The transmission provisions of the Energy Policy Act (EPAct) and the Commission's Order No. 888 of 1996 have greatly expanded trading opportunities in wholesale markets, and the Commission's ongoing initiative on regional transmission organizations (RTOs) should further address remaining transmission obstacles to competition. And, as sources of generation become more diverse, market power will further diminish in wholesale power markets.

However, circumstances this fiscal year demonstrated the still-developing nature of competition in bulk power markets and the need for continuing vigilance by the Commission. Wholesale prices in California, for example, increased significantly, at least for the summer peak months. Prices in some other parts of the country were also more volatile than in the past. In addition, retail consumers in some areas increasingly faced the risk of brownouts or blackouts.

The most dramatic price increases were in California. According to San Diego Gas & Electric Company (SDG&E), for example, wholesale market prices in June and July of 1999 rarely exceeded \$150/megawatt-hour (MWh), while prices for the same period in 2000 exceeded \$250/MWh in 167 hours and \$500/MWh in 59 hours.

Recognizing the need for pro-active steps in California as well as other parts of the country, the Commission in late July directed its staff to investigate the conditions in bulk power markets throughout the country. Staff was told to determine any technical or operational factors, regulatory prohibitions or rules (federal or state), market or behavioral rules, or other factors affecting the competitive pricing of electric energy or the reliability of service, and to report its findings to the Commission.

In July, SDG&E, which was flowing volatile wholesale power costs through to retail ratepayers, filed a complaint with the Commission, seeking immediate imposition of a price cap of \$250/MWh for all public utility sellers in the California wholesale markets. On August 23, the Commission ruled on this complaint, instituting formal hearing proceedings under FPA section 206 to investigate the justness and reasonableness of the rates of public utility sellers in California. The Commission also investigated whether the tariffs, contracts, institutional structures, and bylaws of the Independent System Operator (ISO) and Power Exchange (PX), new market institutions created under California statute, were adversely affecting the efficient operation of competitive wholesale power markets in California and need to be modified. By establishing the hearing proceeding in the August 23 order, the Commission had the ability under the FPA to order refunds, as appropriate, if it

found that rates for sales by public utilities to the ISO or the PX were unjust or unreasonable. The Commission expected that its actions and the measures adopted by the state would moderate price volatility in California markets.

Price volatility also increased in other parts of the country in the summer, particularly the Northeast. In response, the Commission authorized temporary price caps in both New York and New England. These regions were another focal point for the investigation being conducted by the Commission's staff.

Some of the market-specific issues that appeared to be affecting prices included:

- ◆ Construction of new generating facilities had not kept pace with rapidly rising electrical demand. According to the California Energy Commission, from 1996 to 1999, demand for electricity in California grew by 5,522 MW, but only 672 MW of new generating facilities were added.
- ◆ State-regulated wholesale buyers had been purchasing most of their power in spot markets, which saw high prices, instead of purchasing power under long-term contracts or hedging their purchases.
- ◆ Rates for most buyers were averaged over time (for example, a monthly bill based on total electricity used during the month) so that customers had little incentive to reduce their usage during peak hours when electricity costs are highest.
- ◆ There was little competition at the retail level by energy service providers. While many utilities sell power in California's wholesale markets, few compete to sell power directly to retail customers. As a result, those customers were offered few innovative pricing or service options.
- ◆ According to some observers, sellers in California engaged in collusion or other anticompetitive behavior. These allegations were being investigated.

Based on the staff report to the Commission, at the end of the fiscal year, the Commission was preparing to take further measures, as appropriate, to address these issues.

However, the FPA defines the boundaries of the Commission's authority, and leaves responsibility for many helpful measures with California (and other states). For example, the California Energy Commission is responsible for authorizing the construction of new generation and transmission facilities in the state. The state also decides whether state-regulated wholesale buyers are restricted to buying in spot markets or are allowed to choose prudently among the full range of wholesale buying opportunities, including long-term contracts and hedges.

LOOKING AHEAD

The Need to Adapt Regulation

Energy is the lifeblood of the American economy, which boasts an energy industry that is one of the best and most cost-efficient in the world.

An efficient, reliable energy industry is essential both to the ongoing success of the American economy and to the well-being of millions of Americans. Growing competition in electricity and natural gas markets promises great benefits. However, natural gas and electricity both reach consumers through physically integrated transportation networks (pipelines for natural gas and transmission lines for electricity). Realizing the full benefits of competition—a policy that is central to the Commission's aim to build a power system for the 21st century—depends on:

- ◆ fair, open access to the transportation grids;
- ◆ appropriate regulation of the monopoly aspects of the grids; and
- ◆ strong commodity markets that reflect the limitations of the grids and operate both efficiently and fairly.

The importance of the Commission's work is evident in events over the past year. Energy prices have become a major issue for most Americans, as shown by the breakdown of California's electricity market and

the rising price of natural gas. Reliable energy service is also critical, with headlines reporting blackouts in San Francisco and Detroit. The Commission is deeply involved in responding to these events and must push through with the steps needed to ensure properly functioning energy markets and infrastructure.

This changing context has major implications for how the Commission operates. If it is to sustain a policy of encouraging competition for consumer benefit, the Commission must:

- ◆ become the watchdog of market integrity;
- ◆ be increasingly attuned to the effects of the transportation grids on the commodity markets and vice versa; develop the capacity to act much more quickly than ever before; and
- ◆ continue adapting its regulation.

The Commission has succeeded for half a century using a command-and-control, cost-of-service model as the basis for most of its regulation. For most of the last quarter century, it has adapted the basic cost-of-service model to promote competition first in the natural gas industry and more recently in the electric industry. This underlying regulatory model—cost-of-service regulation that adapts to accommodate growing competition—has produced large benefits for American consumers. For a decade and a half, it helped foster relatively low natural gas prices and the growth of a large independent power industry.

The model remains valid today. As traditional monopoly providers change or disappear, however, the traditional focus on cost-of-service regulation is no longer adequate to ensure that energy prices in the wholesale markets the Commission regulates will always be just and reasonable. Recent experiences reveal that:

- ◆ market rules on bidding, congestion management, and other matters can have dramatic effects on prices and require strong independent oversight;
- ◆ timing of investments, barriers to siting, and inflexible demand can lead to shortages and high prices even in a well-structured market; and
- ◆ political pressure to roll back competitive reforms can arise rapidly and powerfully, so the need for expedition in achieving market transformations is doubly important.

Energy projects—infrastructure—are critical to the success of energy markets. As our expanding economy increases the thirst for energy, reliability concerns increase. This, in turn, makes prudent expansion of the energy infrastructure a more visible part of the Commission’s mission. The Commission plays a direct role in the development of interstate natural gas pipelines and nonfederal hydroelectric facilities.

Siting new natural gas pipeline facilities requires difficult decisions, sound processes, and expert staff advice. Growing environmental awareness and citizen involvement in land use decisions make these projects more controversial than ever before. At the same time, the needs of natural gas and electric markets heighten the importance of siting new facilities quickly and pricing them appropriately. Reducing the time needed to process filings for new facilities becomes increasingly important as market demands shift quickly for both retail usage and new electric generation. This in turn presents new issues for determining market need and granting eminent domain authority to pipeline sponsors.

The Commission also oversees nonfederal hydroelectric facilities, and this type of energy infrastructure carries its own set of challenges. These include balancing competing interests for water use, recreation, cost allocation, and calculating the public interest over long time periods. The diverse regional interests in the relicensing of the New York Power Authority’s Niagara Project embody such issues. The Edwards Dam settlement in Maine, in which the dam was dismantled after 160 years, shows how balancing competing interests and looking for consensus can result in support for taking a new direction.

For the next year, the three biggest challenges facing the Commission are:

- ◆ to respond well to changing markets, especially for electric power;
- ◆ to continue the high quality of its case work, while improving timeliness in key areas; and,
- ◆ to continue to reinvest in the Commission’s employees.

Responding to Market Changes

The last year has made clear how difficult the electric industry’s transition to competition can be, how important it is to complete the transition sooner rather than later and how important it is for the Commission to respond to unforeseen developments quickly and effectively. For example:

- ◆ Specific aspects of market structure, such as bidding rules, can be vitally important. When flawed, they must be remedied quickly.
- ◆ Market power still exists in the electric industry and can appear in new and unexpected ways. The Commission must be able to recognize new exercises of market power and respond quickly.
- ◆ The financial health of the industry requires stable institutions so that capital markets can judge risks and allocate capital reasonably. The transition to competition must not be prolonged.
- ◆ Both companies and regulators make mistakes in new situations leading to problems both for individual players and the market as a whole. Again, the transition to stable markets and regulatory approaches must be as short as possible.

The coming year will be a time of transition for the electric power industry. If that transition is to be finished soon, it must be a decisive time for the Commission. The Commission’s most important priority for the next year is to develop its ability to understand market changes and to respond quickly and appropriately when needed. Developing the Commission’s response capability will require interlocking initiatives:

First, the Commission must develop its Market Oversight and Assessment (MOA) function. Today, this function is still in its formative stages. By the middle of next year, we must be able to understand unexpected market developments, identify issues that need resolution, and propose options for solving the problems, doing all of this in days rather than weeks. Building MOA is a Commission-wide priority.

Second, the Commission must be able to act quickly as markets develop in unforeseen ways. This will mean being able to adopt innovative procedures and refocus resources rapidly when needed. The Commission has already shown its ability to do this in its response to the Independence and Millennium pipeline certificate cases and to the California electric markets. It will need to build on these experiences to fold public consultation into expeditious processes.

Third, the Commission and the states must work out an effective way to regulate the electric markets of the future. For example, any retail open access program (regulated by the states) requires strong, competitive wholesale markets (regulated by this Commission). Similarly, wholesale markets will often work well only if electricity customers respond to changing prices. State and federal authorities are regulating a single, integrated industry, and must regulate it in a coordinated way.

The central goal: lower rates, improved service and more scope for competition.

FERC VISION AND VALUES STATEMENT

VISION

Promoting Competitive Markets
 Protecting Customers
 Respecting the Environment
 Serving and Safeguarding the Public

VALUES

- Employees**—People are our most valued asset. We provide the support needed for all employees to excel.
- Integrity**—We maintain the highest level of professionalism and an environment of fairness, trust, respect, and honesty.
- Diversity**—We value diversity in people and ideas.
- Working Together**—We clearly communicate expectations, encourage cooperation and teamwork, and share responsibility.
- Progress and Innovation**—We are creative and flexible, and seek out opportunities to improve.
- Action**—Prompt and fair resolution of matters before the Commission is essential to our mission.
- Reaching Out**—Two-way communication with the public is key to our effectiveness.
- Public Service**—Our ultimate objective is to provide valued services to the public.

FERC FIRST

During FY 2000, the Commission began to see the results of FERC First, its reengineering program which was one of the most extensive in the federal government. To begin with, the Commission's resources were redistributed among three basic processes:

- ◆ energy markets, including both traditional and market-based regulation of the electric, natural gas and oil pipeline industries;
- ◆ energy projects, including certification of natural gas pipeline facilities, hydropower licensing and relicensing, and dam safety; and
- ◆ management, including information technology, human resources, budgeting, and facilities.

Much more has changed than office structure, however. The Commission is taking new approaches to its work.

Teaming is a way to leverage our human resources to gain better results. It replaces multiple office-to-office paper hand-offs with interdisciplinary coordination, staff empowerment, and less repetitive review. Teaming ultimately knits all offices together at all levels of the organization.

Customer focus means the Commission seeks to meet people's needs. Making good and timely decisions is a real service to everyone involved in a case and to the public at large. The Commission's customer focus can entail outreach, which bridges gaps between the Commission and parties affected by the agency's work, or finding solutions to problems before they become contested cases, and increasing trust and information sharing, which leads to better outcomes.

Faster decision making helps the Commission respond to the pace of change in today's energy industries. Finding efficiencies in workload processing is also essential due to resource constraints and the need to put available effort into the highest-priority areas.

Strategic thinking is now built into the way the Commission does business, organizationally and culturally. The Commission staff has long been accustomed to "fighting fires"—making short-term decisions about itself or the industry. Because of the Government Performance and Results Act (GPRA) and FERC First, the Commission now does things differently.

Reengineering has enabled the Commission to focus on understanding and monitoring energy markets, improving energy infrastructure and offering new services to the Commission's constituents.

At the same time, an Internet-based system for accepting and processing filings electronically and managing the growing workload through better use of information technologies has successfully augmented these reforms. New electric filing procedures have been successfully tested and a steady phase-out of paper filings is scheduled for the years ahead. A Manage-to-Budget system has made all Commission administrators most cost-conscious in requesting and allocating resources.

Meantime, staff has been reduced about eight percent in the past three years and, all things being equal, will be cut by an equivalent number over the next five years. FERC First will thereby save taxpayers some \$35 million in salaries and benefits between now and 2005.

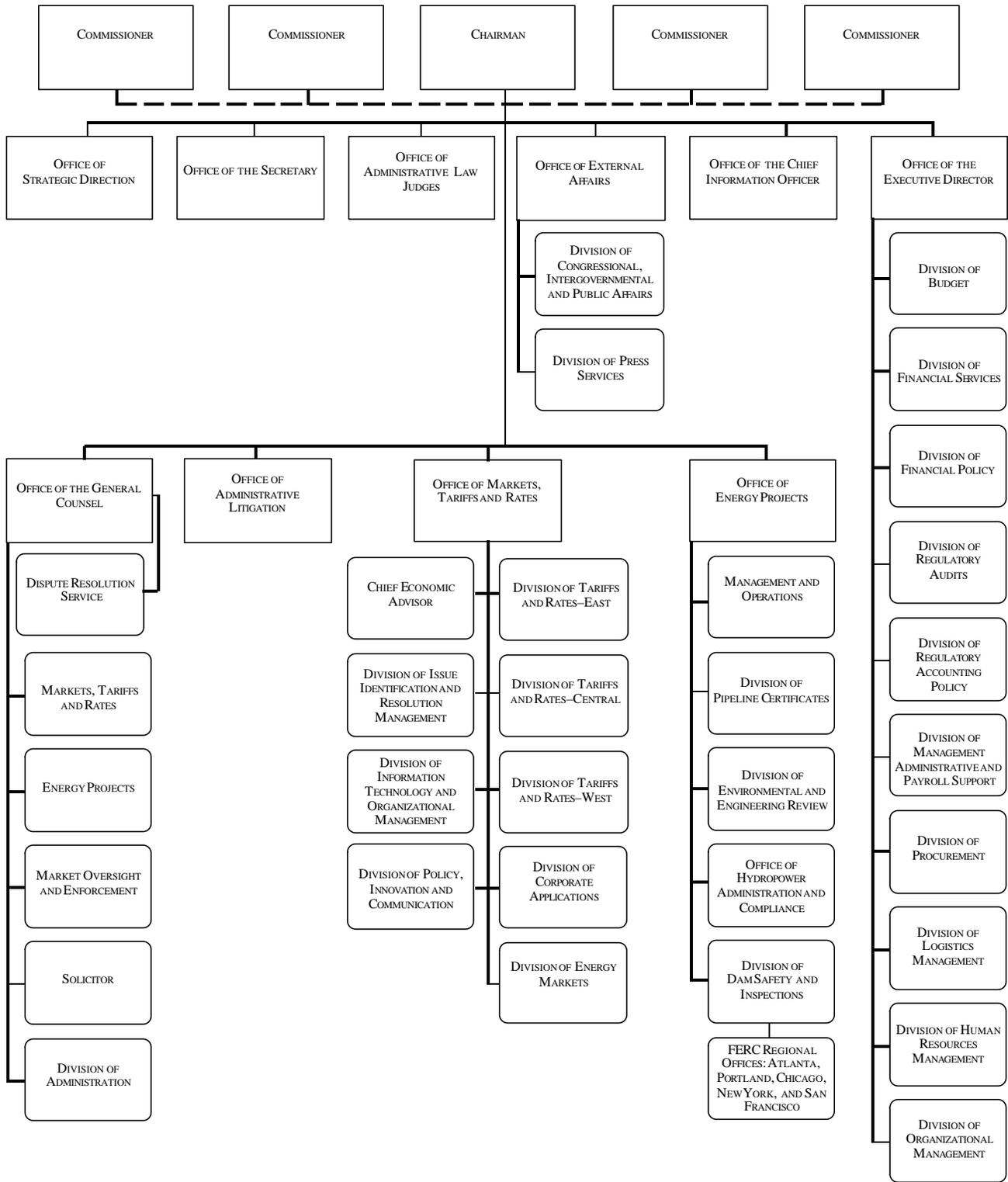
Even as this major reengineering was under way, the Commission cut its processing time in such key areas as certification of natural gas pipelines, litigated cases, and merger clearances in its drive to provide rapid and effective responses to industry and consumer needs.

FERC MISSION STATEMENT

<p>The Commission regulates key interstate aspects of the electric power, natural gas, oil pipeline, and hydroelectric industries. The Commission chooses regulatory approaches that foster competitive markets whenever possible, assures access to reliable service at a reasonable price, and gives full and fair consideration to environmental and community impacts in assessing the public interest of energy projects.</p>

KEY AREAS OF FERC REGULATORY RESPONSIBILITY				
TYPE OF REGULATION	INVESTOR-OWNED ELECTRIC POWER	INTERSTATE NATURAL GAS PIPELINES	INTERSTATE OIL PIPELINES	NONFEDERAL HYDROPOWER PROJECTS
Regulation of Markets and Rates, Terms, and Conditions of Energy Services				
- Transmission	Yes	Yes	Yes	N/A
- Sales for Resale	Yes	Yes	No	N/A
- Corporate	Yes	No	No	N/A
Authorization and Monitoring of Energy Facilities				
- Siting	No	Yes. The Commission issues certificates for construction of pipelines and related facilities.	No	Yes. The Commission issues licenses, exemptions, and license amendments.
- Environmental	No, except for programmatic EISs for some major actions.	Yes, NEPA review and interagency consultation for pipelines to be certificated.	No	Yes, NEPA review and interagency consultation for the above authorizations.
- Safety	No	No, except as part of initial certification—incorporation of DOT standards.	No	Yes, dam and public safety.
RELATED RESPONSIBILITIES OF OTHER KEY AGENCIES				
States	Retail sales, local distribution, siting for transmission lines and generation facilities, unbundled retail transmission	Retail sales, local distribution, intrastate transportation, natural gas production and gathering	Siting	Projects that do not affect navigable waters, interstate commerce, or Federal lands or dams
Other Federal Agencies	DOE: Power Marketing Administrations EPA: air quality NRC: nuclear power licenses USDA: electric cooperatives	DOT: safety DOI: siting in offshore waters, federal lands, national parks; endangered species USFS: siting in national forests COE: water body crossings Advisory Council on Historic Preservation: cultural resources EPA: PCBs National Marine Fisheries Service: offshore fisheries	DOT: safety	DOI: federal lands, national parks, fish and wildlife, endangered species USFS: national forests Advisory Council on Historic Preservation: cultural resources National Marine Fisheries Service: Fisheries resources

2000 FERC ORGANIZATIONAL CHART



GOALS

The overall goal of the Commission's Energy Markets Program is to maximize benefits to consumers and suppliers of energy through open, fair and flexible regulation.

Competition is growing in the electric generation and marketing sectors and the natural gas sector, in response to the EPAct and the efforts of the Commission to remove barriers to competition. Effective regulation of transmission facilities that are essential for delivering natural gas and electric power is critical to ensure that consumers receive the appropriate benefits from competition in power markets. Likewise, effective restraints on the exercise of market power in these newly competitive electricity and natural gas markets is essential to advancing competition.

The Commission has long promoted competition in the key markets it regulates—wholesale electric energy and transmission, also natural gas transmission markets—to foster a more efficient energy industry and to bring energy consumers reliable energy at the lowest reasonable cost. Our goal has been to rely on competition where competition can work and bring benefits to consumers in the long run. However, we continue to regulate rates and terms of access for essential transmission services, to monitor the wholesale markets that we regulate and, where necessary, to apply traditional or other appropriate regulation to curb market power and ensure consumer protection.

Over two decades ago, Congress and the Commission began to encourage the development of competition in the natural gas industry and in the last decade in the electric industry. As a result of these efforts, today's natural gas commodity markets are competitive, producing substantial benefits for consumers. Although natural gas commodity prices have risen this year, the Commission believes that this is largely an appropriate price response to a generally tighter balance between supply and demand.

Competition in the electric bulk power markets is not yet as developed as competition in natural gas markets. Competitive wholesale electricity prices in California this summer have been particularly volatile. In response to the volatile prices in California and other parts of the country that occurred this summer, the Commission directed its staff to investigate the condition of bulk power markets and report its findings. In each energy industry, the Commission has fostered the emergence of competitive markets and now must address key market issues by formulating new regulatory approaches. For example, the Commission encouraged market growth by separating operational control of energy production from energy transportation. The Commission will continue to regulate transportation with the goal towards ensuring competitive commodity markets. The Commission also mandated open access for the transportation systems, thereby enabling any user of the system to buy the same level of service at the same cost as the system owner would pay.

The Commission continues to encourage natural gas pipeline-specific proposals to implement new, innovative services. The Commission considers pipeline filings for flexible services and negotiated rates to increase capacity use and to meet individual customer needs. For example, the Commission authorized an hourly firm transportation rate schedule, limited availability services for niche markets, and volumetric and seasonal rates. In particular, specialized tariff services are enabling natural gas pipelines to serve expanding electric generation markets. The Commission also will continue to authorize an expanding array of new services such as parking, lending, and market hub services that meet the needs of customers.

The Commission anticipated the continued convergence of the electric and natural gas industries by integrating its electric and natural gas staffs and internal procedures. This realignment will enable the staff to increasingly focus on whole energy markets rather than individual companies and increase efficiency and consistency.

This section discusses, by objective, the Commission's key initiatives, strategies, and processes for reaching its energy markets goal. Achievements during the last year appear at the end of this section.

The Commission's objectives for energy markets are to:

- ◆ Increase pricing efficiency
- ◆ Nurture competitive market institutions
- ◆ Constrain market power
- ◆ Resolve disputes quickly and fairly.

ACHIEVEMENTS

Formed the Office Of Markets, Tariffs And Rates

The Office of Markets, Tariffs and Rates (OMTR) became fully operational on February 27, 2000. OMTR combines the Office of Electric Power Regulation, the Office of Economic Policy, most of the Office of Pipeline Regulation, and part of the Office of Finance, Accounting and Operations. OMTR was created to integrate the Commission’s economic regulation of the electric, natural gas, and oil industries. OMTR deals with matters involving markets, tariffs and rates relating to electric, natural gas pipeline, and oil pipeline facilities and services. It will play the lead role in monitoring, promoting and maintaining competitive markets and refining compliance auditing. As a result of the Commission’s reinvention effort (FERC First), the Commission is looking at how it can implement lighter handed regulation for energy transactions in competitive markets. The Commission is also working to standardize terms and conditions for transactions that fall under our jurisdiction. This office reflects the convergence of electric and natural gas concerns already taking place in the energy industry.

Issued its State of the Markets Report

As a signal to the future approach to regulation, the Commission issued its “State of the Markets 2000” report to Congress on April 4, 2000. This important new document underscores the Commission’s increasing focus on the structure and operation of energy markets, as distinguished from the services provided by individual companies. In it, the Commission reports on how natural gas and electricity markets have evolved in the past few years, in both regulated and unregulated sectors. Such baseline information will become increasingly important in judging the beneficial effects of competition, assessing the success of Commission policies, and focusing Commission oversight of the energy markets.

The State of the Markets report gives a better picture of the critical aspects of the energy system. It describes the development of competitive commodity markets for electric power and natural gas as well as broad changes in the operation of the interstate transportation networks for electricity, natural gas, and petroleum. It also explains how a series of rulemakings and major cases has helped these parts of the nation’s energy system become more competitive. The “State of the Markets 2000” represents the Commission’s first systematic effort to articulate an approach that will allow it to track the indicators of a well-functioning energy market, such as efficiency, transparency, transactional liquidity, ease of entry and exit, and competition.

TIME STANDARDS FOR LITIGATED CASES			
Case Type	Hearing	Reply Brief	Initial Decision
Simple Case	19.5 weeks	25.5 weeks	29.5 weeks
Complex Case	32 weeks	40 weeks	47 weeks
Exceedingly Complex Case	42 weeks	53 weeks	63 weeks
Complaint	30 days	45 days	60 days
“Fast-Track” Complaint	3 days	5 days	8 days

Industry Outreach

The Commission staff conducted 19 informal outreach meetings with trade associations and energy, environmental, and consumer organizations to explore issues relating to visions of the future and the regulatory changes that would be required to meet those visions. The Commission also held a series of industry-wide conferences on: (1) issues relating to state unbundling of natural gas services and how our current regulations facilitate or hinder those efforts; (2) projected gas pipeline capacity demands for the northeastern portion of the United States; and (3) issues relating to revisions to electronic filing requirements. In addition, the Commission held a number of conferences around the nation to facilitate implementation of Order No. 2000.

Conducted Alternative Dispute Resolution (ADR)

The vast majority of disputes sent to litigation were resolved through the negotiation and settlement process. This is the most cost effective and efficient means of resolution available to the parties, and was a point of primary emphasis for the Commission’s litigation staff and administrative law judges. Indeed, a remarkable 80 percent of the cases set for litigation were either fully or partially settled. To maintain and enhance this record, the Commission conducted extensive training for its staff in alternative dispute resolution techniques.

Developed Reduced Timelines in Cases Set for Hearing

When settlement is not possible or warranted, the Commission’s regulatory responsibilities demand the expeditious development, consistent with the due process rights of the parties, of a full and complete record upon which the Commission can base its decisions. To that end, during FY 2000 the Commission developed new timelines for cases set for hearing before the Commission’s administrative law judges in order to speed the processing. The timelines offer a predictable time frame and are likely to result in substantial time and cost savings for our customers. The time required to litigate many cases will be reduced by an average of one fourth.

PROCESSING TIMES FOR NATURAL GAS CERTIFICATES				
Category	Completed October 1998-September 1999		Completed October 1999-September 2000	
	# of Dockets	Days (average)	# of Dockets	Days (average)
NO PRECEDENTIAL ISSUES, UNPROTESTED	174	108	74	95
NO PRECEDENTIAL ISSUES, PROTESTED	31	247	10	168
PRECEDENTIAL ISSUES	39	300	42	210
MAJOR ENVIRONMENTAL IMPACT	14	438	23*	437*

*Excludes the Independence Project

Expedited Approval of Uncontested Settlements

The Commission instituted process improvements that will result in faster approval of uncontested settlements certified to the Commission by the administrative law judges. In the future, the information formerly provided to the Commission by staff memorandum will be provided in the judge's certification of settlement and draft Commission letter order, thereby reducing Commission review time. Under this procedure, the Commission anticipates approval of the settlement within 45-60 days of certification. An added benefit from this procedure is the fact that all documents will now be public.

Receives First Completely Paperless Filing

On November 4, 1999, the Commission issued a Notice of Proposed Rulemaking, RM00-1-000. The Commission proposes to amend its regulations to provide for the electronic filing of FERC Form Nos. 423, 714, and 715. The program allows for electric utilities to file the forms electronically in lieu of submitting any paper. On February 18, 2000, the Commission received the first completely electronic Form 423, through its Internet web site. Form 423 provides monthly reports on the cost and quality of fuels for electric plants. This initiative will expand to include other forms filed at the Commission. It is one more example of how the Commission is utilizing available technology to the benefit of the industry and consumers.

Electronic Filing of Documents

On September 14, 2000, the Commission issued Order No. 619, which amended its rules of practice and procedures (18 CFR Part 385) to permit the electronic filing of limited categories of documents in proceedings before the Commission on a voluntary basis. This order permits parties to file comments via the Internet. However, it excludes comments on rulemakings and settlements, and those submitted in connection with matters set for hearing. The Commission expects gradually to expand the categories of submissions that it will accept in electronic form. This furthers the Commission's goal of reducing the amount of paper that participants in Commission proceedings must file. Increased use of electronic filing will reduce the burden and expense associated with paper filings, and help to make information available to the public in a faster and more efficient manner. This final rule is effective on November 1, 2000.

ELECTRIC ISSUES

Mergers

Corporate consolidation and convergence continues to be among the strongest forces changing the electricity industry. The Commission recognizes the long-term opportunities these developments present for promoting open and competitive markets, delivering rate benefits for consumers, and encouraging new investments and infrastructure. Utility mergers can help generate enormous benefits, including innovative services and better reliability. In recent years, this Commission has experienced an unprecedented increase in major merger applications, including natural gas and electric utility combinations which raise very complex competition issues. The Commission has worked diligently to act promptly to complete its review of these mergers within the time frame set out in its 1996 Merger Guidelines, as well as to ensure that competition and other public interests are not adversely affected. Such corporate consolidation will tend to make the commercial and operational perspectives of market participants truly regional in nature. The Commission has acted on 18 merger applications this year.

Merger Applications Acted On During FY 2000:

EC98-40-000 American Electric Power Company/Central and Southwest

EC99-81-000 Dominion Resources, Inc./Consolidated Natural Gas Company

EC99-99-000 Illinova Corp/Dynegy Inc.

EC99-101-000 Northern States Power Co. (Minnesota)/New Century Energies, Inc.

EC99-106-000 Southern Indiana Gas and Electric Co./Indiana Gas Co.
EC99-109-000 Pennsylvania Enterprises/Southern Union Co.
EC00-1-000 Energy East Corp./CMP Group, Inc
EC00-026-000 Commonwealth Edison Co./PECO Energy Co.
EC00-027-000 UtiliCorp United, Inc./St. Joseph Light & Power Company
EC00-028-000 UtiliCorp United, Inc./Empire District Electric Co.
EC00-049-000 Consolidated Edison, Inc./Northeast Utilities
EC00-055-000 Florida Progress Corporation/CP&L Energy, Inc.
EC00-063-000 Sierra Pacific Power Company/Nevada Power Company/Portland General Electric
EC00-066-000 Consolidated Water Power Company/Stora Enso Oyj
EC00-067-000 PowerGen plc/LG&E Energy Corporation
EC00-070-000 Interstate Power Company/IES Utilities, Inc.
EC00-073-000 El Paso Energy Corporation/Coastal Corporation
EC00-075-000 NiSource Inc./Columbia Energy Group
EC00-076-000 Indeck Capital, Inc./Black Hills Corporation

The Commission has also experienced a marked increase in the number of corporate applications submitted pertaining to disposition of public utility property, consolidation or purchase of securities (Section 203 filings). Many of these applications involve the divestiture of transmission assets related to sale of generation assets and corporate reorganizations. These ongoing changes in the electric industry are occurring in large part as a result of continuing restructuring and the trend toward deregulation in the industry. With these changes, and with Commission initiatives such as Order No. 2000, Section 203 corporate applications are expected to remain an important part of the Commission's regulatory mission.

RTO Order No. 2000

On December 20, 1999, the Commission issued a broad set of rules in Order No. 2000 calling on transmission-owning utilities to join RTOs. RTOs are key to providing a greater choice of service providers, greater competition and lower prices for consumers through more efficient, reliable and non-discriminatory transmission systems. Order No. 2000 was the culmination of a lengthy process of conferences, consultations, and a Notice of Proposed Rulemaking (NOPR).

The Commission's objective in Order No. 2000 is for all transmission-owning entities in the nation, including non-public utilities, to place their transmission facilities under the control of appropriate RTOs in a timely manner. To that end, Order No. 2000 establishes minimum characteristics and functions for appropriate RTOs and a collaborative process by which public utilities and non-public utilities that own, operate, or control interstate transmission facilities, in consultation with state officials as appropriate, will consider and develop RTOs. It also lays out a proposal to consider transmission ratemaking reforms on a case-specific basis; an opportunity for non-monetary regulatory benefits, such as deference in dispute resolution and streamlined filing and approval procedures; and a time line for public utilities to make appropriate filings with the Commission to initiate operation of RTOs. As a result of this voluntary approach, the Commission expects jurisdictional utility entities to form RTOs. To initiate the implementation of Order No. 2000, the Commission hosted and facilitated industry discussion at five separate regional workshops around the country. A considerable amount of outreach and staff support for these regional collaborative efforts continues.

Streamlined Rate Schedule Sheet Designation Procedures for the Electric Industry

On March 31, 2000, the Commission issued a final rule (Order No. 614), amending its regulations to require the inclusion of proposed designations for all rate schedule sheets that public utilities file with the

Commission. The rule streamlines rate schedule sheet designation procedures for the Commission and the electric industry. The rule will also conform public utility tariff filing procedures with those for interstate natural gas and oil pipelines. This revision to the regulations accommodates the movement toward an integrated energy industry and facilitates the development of common standards for the electronic filing of all electric, gas, and oil rate schedule sheets.

Bulk Power Investigation

On July 26, 2000, the Commission issued an order directing the Commission staff to undertake an investigation of electric bulk power markets. The purpose of the investigation is to allow the Commission to determine whether these markets are working efficiently. The staff report will determine if any technical or operational factors, federal or state regulatory prohibitions or rules, market or behavioral rules, or other factors are affecting electricity reliability or the competitive pricing of electricity.

On August 23, 2000, the Commission ordered a formal Section 206 investigation of the electric rates and structure of California's ISO and PX as well as market-based sellers in the California market. The investigation comes in response, in part, to a complaint from SDG&E. Our goal in these proceedings is to detect and, to the extent within our jurisdiction, to resolve as expeditiously as possible, any defects in the operation of competitive power markets in California. To the extent market performance issues surface, in the investigation or the Section 206 investigation, that concern the structure or independence of the ISO, the Commission will also take up these issues to the extent they are present in any RTO proposal that is filed on January 16, 2001, pursuant to Order No. 2000.

Orders Intended to Support Electric Reliability and Improve Congestion Management

The Commission issued Order No. 2000 to implement the framework for transmission reliability in response to the North American Electric Reliability Council's (NERC) initiatives such as: clarifications to transaction curtailment procedures, market redispatch efforts to assist with congestion management, and facilitation of access to critical system information by system operators. The Commission also approved a tariff filed by the East Central Area Reliability Council, a regional council of NERC, designed to improve reliability by creating a settlement system that encourages proper system operation. The Commission took a series of steps to support the industry's efforts to ensure continued reliability during the summer's high demand period May through September, 2000.

Summer 2000 System Reliability

The Commission acted to aid the summer system reliability of the nation's electric supply system. While the law does not give it direct responsibility over these matters, Commission policies have always been directed toward ensuring the continued reliability of the electric power system as evidenced by the ongoing collaborative efforts in the development of RTOs. The Commission took decisive action to support the reliability efforts of the electric industry in preparation for the summer of 2000. In a May 17, 2000, notice, the Commission identified five actions intended to address short-term reliability through September 30, 2000, including waiving certain filing requirements and offering to make Commission staff available to assist with questions and suggestions related to reliability issues. Subsequently, on June 28, 2000, the Commission issued a supplemental notice responding to comments received and clarifying its short-term actions.

Steps Taken to Aid Summer 2000 System Reliability:

- ◆ Adoption of streamlined regulatory procedures to facilitate businesses' use of on-site generation facilities to meet demand during peak use periods.
- ◆ Facilitate demand side arrangements by waiving prior notice requirements in order for utilities and their customers to negotiate arrangements expeditiously to form an industrial generator.

- ◆ Eliminate disincentives to demand side transactions by clarifying pricing formulas.
- ◆ Encourage utilities to reassess available transmission capacity.
- ◆ Have Commission staff answer inquiries on practical ideas about steps to support the electric industry's efforts with respect to reliability issues.

NATURAL GAS AND OIL

Policy Statement Providing Guidance for Pricing Pipeline Facilities Without Customer Subsidies

The Commission's September 15, 1999, policy statement announced that a pipeline project that shows it is financially viable without subsidies from existing customers is preferable to one that employs pricing that rolls in the new costs to the pipelines' existing rates. The new preference changes the Commission's past pricing policy, which had a presumption in favor of rolled-in pricing (allowing recovery of construction costs from existing customers). The Commission will now favor incremental pricing in which construction costs are recovered only from customers benefitting from the new project. The policy statement will allow the market to decide whether a project is financially viable. In view of the new framework for analyzing pipeline certificate applications, the Commission issued Order No. 615 on July 14, 2000, removing the optional certificate regulations.

Wellhead Determinations

The Commission issued a final rule, Order No. 616, on July 14, 2000, in Docket No. RM00-6-000, reinstating wellhead determination procedures under Section 503 of the NGPA. The rule reinstates the procedures for Section 107 gas that qualifies for a tax credit under Section 29 of the Internal Revenue Code. The regulations, which took effect on September 25, 2000, reinstate the determination procedures for coal seam gas, Devonian shale gas, and tight formation gas produced through recompletions commenced after 1992 in wells drilled after 1980 and before 1993, or through wells commenced after 1980 and before 1993. In addition, the regulations provide that jurisdictional agencies may designate new tight formation areas.

Five-Year Review of Oil Pipeline Pricing Index

The Commission undertook a review of the effectiveness of the index used to measure actual cost changes in the oil pipeline industry. This is the five-year review of the oil pricing index, established in Order No. 561, issued October 22, 1993. It issued the findings in its Notice of Inquiry on July 27, 2000, on the adequacy of the Producer Price Index (PPI) for Finished Goods minus one percent as an index to measure actual costs changes in the oil industry. The oil pipeline carriers recommended PPI alone, and the oil pipeline shippers would like a PPI with up to a two percent reduction. The Commission intends to conclude any further action by May 2001.

Order No. 637 - Changes in Gas Pipeline Regulation

The Commission made important changes to its regulatory framework and policies governing the interstate gas markets and transportation grid. The rapid development of the competitive markets for natural gas presented challenges to the existing regulatory model. The Commission realized that its regulatory policy must seek to reconcile the objective of fostering an efficient market that provides good alternatives to as many shippers as possible with that of creating a regulatory framework that is fair and protects captive customers without good alternatives. The rule provides new economic opportunities and improves efficiency within the marketplace.

The Final Rule, Order No. 637:

- ◆ Temporarily removes price ceilings for certain short-term transactions
- ◆ Permits peak/off-peak and seasonal rates

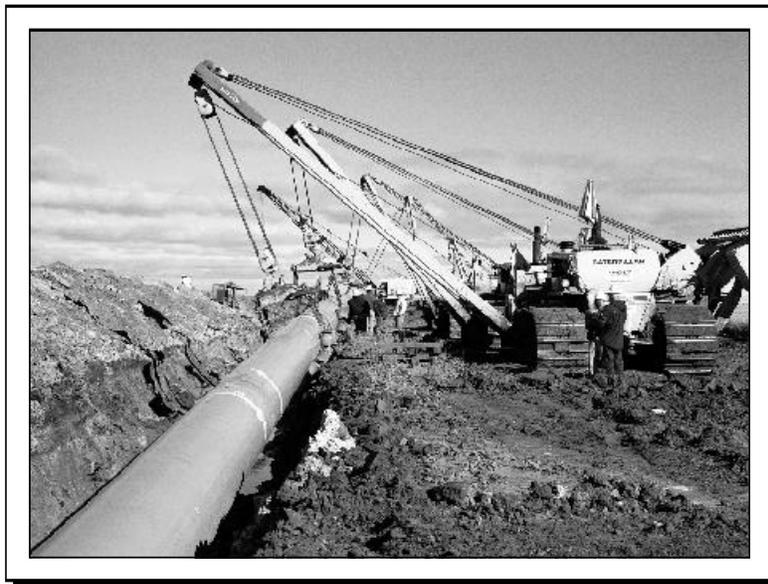
- ◆ Revises transaction procedures, such as scheduling
- ◆ Narrows the right of first refusal
- ◆ Improves reporting requirements to provide more transparent pricing information.

These changes are expected to create greater transactional liquidity and more competition. To ensure they do, the Commission will obtain and make available better information about availability and price, enabling shippers to make more informed decisions. The implementation compliance process for this order will continue into the next fiscal year.

Offshore Natural Gas Facilities Uniform Regulatory Regime

The Commission's Order No. 639 approved an initiative designed to promote increased efficiency in the marketplace by implementing a single set of regulatory requirements for virtually all offshore natural gas transportation providers on the Outer Continental Shelf (OCS) (RM99-5-000).

The Commission uses its authority under the Outer Continental Shelf Lands Act (OCSLA) to require all OCS pipeline facilities to render their transactions transparent by making available information regarding their affiliations, rates, terms and conditions of service. This information will help the Commission and others determine whether offshore transportation services adhere to the OCSLA which calls for open and nondiscriminatory access. The goal is to make previously inaccessible information about OCS transportation available to offshore producers and to the market generally. At times of high energy price volatility, we ensure development of domestic natural gas supplies and mitigate any disproportionalities in regulatory treatment. Deep-water exploration and development is critically important to our economy. The information will also enable OCS shippers to make informed transportation arrangements and will allow the Commission, competitors, shippers and others to monitor OCS transactions for discriminatory or anti-competitive behavior.



*Work crews lower a 36-inch gas pipeline into the ground near Mankato, Minnesota. The pipeline, when completed, will transport natural gas from British Columbia to Chicago.
Photo courtesy of Alliance Pipeline.*

GOALS

The Commission's goals for hydropower and natural gas pipeline projects are to:

- ◆ Foster a regulatory environment that facilitates the responsible development of transportation capacity to meet potential increases in market demands for natural gas to 25 tcf in 2005 and 30 tcf in 2010;
- ◆ Optimize hydropower benefits by improving the environmental performance of hydropower projects while preserving hydropower as an economically viable energy source; and
- ◆ Maintain and improve the safety of hydropower projects.

Responsible Development of Transportation Capacity

The Commission addresses multiple competing interests and timeliness issues concerning natural gas certificates on an ongoing basis through its casework.

The pipeline industry is aggressively pursuing serving new markets for gas. In the new competitive environment, pipelines are proposing to serve markets already served by other pipelines. Competing pipelines and landowners who question the need for the new projects vigorously contest many of these proposals. Processing these contested proposals requires significant resources.

Increasing availability of Canadian supplies, new deep-water production in the Gulf of Mexico, and the growing market for natural gas in the Northeast will continue to result in large construction projects. The Commission also expects that Canadian gas and oil suppliers will seek additional markets for their products in the U.S., and that producers will explore options to export gas to Canadian and Mexican markets, which may require pipeline construction. Pre-filing conferences and meetings are taking place to explore the utilization of Alaskan gas reserves for the lower 48 states. Increased competition in markets and customers' desires for multiple, competing sources of supply will generate more NGA Section 3 filings and related requests for Presidential permits for importing and exporting gas and oil. The Commission will also continue to see projects related to the extensive exploration effort on the offshore outer continental shelf and construction of pipelines to reach significant new gas supplies.

Growing demand in all regions of the country will continue to lead to applications for major pipeline extensions and new pipelines to serve these regions. Meeting construction and service time frames will require balancing the need for energy versus the impacts on landowners, communities, and customers of existing pipelines and competing pipelines. Processing of major construction projects will entail technical conferences and public meetings for environmental scoping and comments on draft documents, as well as the analysis of data responses, comments, protests, and other filings.

The Commission also expects to continue to receive applications for storage development for peaking capacity and supply flexibility, since customers will continue to be responsible for their own gas supply acquisition. Anticipated storage facilities include depleted gas fields, new leached-salt caverns, and liquefied natural gas (LNG) tanks. Commission review and approval of these projects, many of which will be located near market areas, is likely to generate significant public interest regarding competition, need, and environmental impact. Additionally, as storage fields age, more applications are expected for new wells and additional acreage for buffer zones.

The replacement and upgrading of pipeline facilities is also an area in which the Commission expects an increase. The Commission anticipates many replacement facilities because of the aging of the national pipeline grid. Replacing aging facilities is necessary for safe pipeline operations. A replacement project may be straightforward, with the pipeline proposing to merely remove old pipe and replace it with new pipe of the same diameter in the old right-of-way. Replacement projects can become much more difficult if the pipeline proposes to replace the old pipe with new pipe of a larger diameter, or to leave the old pipe in place, seal it off, and install new parallel pipe.

Optimization of Hydropower Benefits

Electricity generated from the power of falling water is economic, renewable, available for peak demand, and without emissions—a valuable contribution to, and a significant component of, the nation’s energy mix. But because hydropower projects use and affect a variety of important natural resources, they must adjust to increasing concern for the environment and shared jurisdictional authorities, while competing in rapidly changing energy markets.

The public’s and congressional concern about the environmental impacts of hydropower operations continues to increase. This heightened concern, reflected in a host of environmental laws, results in many additional requirements in new licenses.

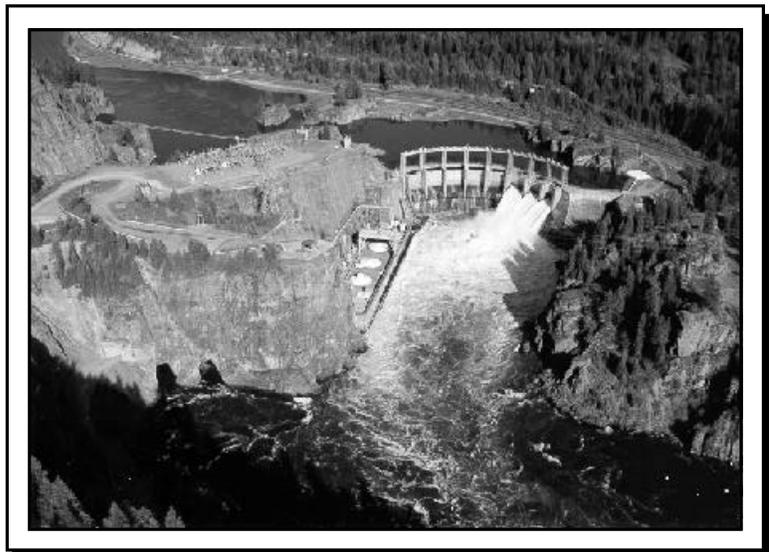
While the Commission’s responsibility under the FPA is to strike a balance among the many competing power and nonpower interests, various statutory requirements give other agencies a powerful role in the licensing of projects. The Commission must share its licensing conditioning authority with numerous state and federal agencies. Shared jurisdiction poses unique challenges to the Commission in issuing timely and balanced licenses.

Over the next 10 years, more than 220 project licenses will expire. Many of these projects significantly affect regionally important environmental resources, and as such, have a high potential for conflicts. The Commission mitigates this potential by: (1) having every integral stakeholder in the relicensing process (local citizen groups, power users, Native Americans, environmental organizations, fish and wildlife agencies, and the hydropower companies) at the table early in the process; and (2) having better communication among agencies. Through this participation in early collaborative processes, the Commission’s authorizations address the needs of the stakeholders affected by the hydropower facilities.

Hydropower Project Safety

The Commission’s internationally recognized dam safety program ensures that the dams under its jurisdiction are properly constructed, operated and maintained. Because of the increasing number of older dams under the Commission’s jurisdiction, continued vigilance is particularly necessary. As engineering technology, tools, and procedures improve, the Commission conscientiously facilitates sharing of knowledge, and it works with licensees, the engineering community, and federal and state agencies to maintain its outstanding dam safety record.

Cabinet Gorge hydro facility, built in 1952, is located in northern Idaho and western Montana on the Clark Fork River. Its generating capacity is 220 megawatts. It is 208 feet high and has four generating units. Photo courtesy of Avista Corp.



ACHIEVEMENTS

Natural Gas Pipelines

The Certificate Policy Statement, approved by the Commission in September 1999, sets forth the steps the Commission will use to balance the public benefits against the potential adverse consequences of an application for new pipeline construction. The Commission will approve an application for a certificate only if the public benefits from the project outweigh any adverse effects. Under this policy, pipelines are encouraged to submit applications designed to avoid or minimize adverse effects on relevant interests including effects on existing customers of the applicant, existing pipelines serving the market and their captive customers, and affected landowners and communities.

Key to this policy is the preference of incremental pricing in which construction costs are recovered only from customers that benefit from the new project. A threshold requirement for approval, that project sponsors must be prepared to develop the project without relying on subsidization by the sponsor's existing customers, protects all of the relevant interests. The Commission has certificated 39 projects under this policy, all in fiscal year 2000.

Certification of Major Facilities Construction

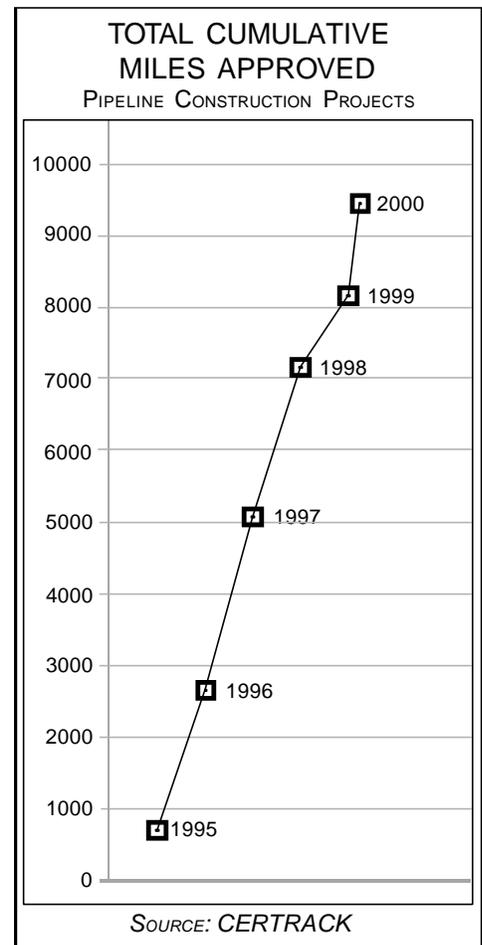
The Commission authorized major projects that will expand the capacity of the natural gas infrastructure in the Northeast, Midwest, Southeast, and Western regions of the U.S.

The Commission issued certificates to Independence Pipeline Company, ANR Pipeline Company, and Transcontinental Gas Pipe Line Corporation for the Independence Project. As authorized, the Independence Project will construct 625 miles of pipeline and 137,400 horsepower of compression at an estimated cost of over \$1.3 billion in order transport up to 916 Mmcf per day. The Independence Project will provide natural gas service from the Chicago area to markets in Pennsylvania, New York, and New Jersey as well as other parts of the Northeast through interconnecting pipelines. Also in the Northeast, the Commission certificated Tennessee Gas Pipeline Company's Eastern Express 2000 Project. This project is designed to deliver 173 Mmcf per day to electric generation customers in Connecticut and Massachusetts.

The Commission granted a certificate of public convenience and necessity to ANR Pipeline Company to expand its system in Wisconsin. This system expansion will allow the delivery of an additional 194 Mmcf per day to the Wisconsin market.

The Commission issued a certificate to Northern Border Pipeline Company to extend its system from its current terminus near Chicago to northern Indiana. This will allow the Indiana market to have access to Canadian gas supplies.

Transcontinental Gas Pipe Line Corporation was issued a certificate to expand its system in Alabama and Georgia in order to serve customers in those two states. Florida Gas Transmission Company received authorization for its Phase IV Expansion in



Florida. Also in the South, the Commission certificated a new pipeline, Trans-Union Interstate Pipeline, L.P., to serve a large electric generator in Arkansas.

The Commission issued a certificate to a new pipeline company, Questar Southern Trails Pipeline, that will convert an oil pipeline to gas service and construct other facilities. This pipeline will extend from Utah to Long Beach, California. Wyoming Interstate Company received Commission authorization to expand its Medicine Bow Lateral in Wyoming and Colorado.

In total, the certificates issued to the major projects described above approved the construction of 1,710 miles of pipeline and 301,816 horsepower of compression to provide almost 4.4 Bcf per day of new capacity at an estimated cost of about \$2.2 billion.

In addition to the above authorizations, the Commission also made preliminary determinations on non-environmental issues on several major projects. Preliminary determinations were made on two new pipelines in the Midwest, Horizon Pipeline Company and Guardian Pipeline, L.L.C., as well as two new pipelines that would traverse the Gulf of Mexico from the Mobile Bay area to Florida, Gulfstream Natural Gas System and Buccaneer Gas Pipeline Company, L.L.C. In addition, preliminary determinations were made on an expansion of Tennessee Gas Pipeline Company's system in the Northeast U.S. and an expansion of Transcontinental Gas Pipe Line Corporation's system in the Southeast U.S. These projects propose to construct over 1,600 miles of pipeline and over 270,000 horsepower of compression to provide a total capacity of 3.5 Bcf per day at an estimated cost of almost \$3.6 billion.

The Commission issued certificates for the expansion, establishment of storage boundaries, or modification of wells and facilities for storage fields of Petal Gas Storage Company, Honeoye Storage Corporation, Texas Gas Transmission Corporation, and Dominion Transmission, Inc. In addition, the Commission issued certificates to add new facilities to the existing liquefied natural gas facilities of Southern LNG Inc. and Distrigas of Massachusetts Corporation.

Initiative for Offshore Facilities

In 2000, the Commission issued a final rule under the OCSLA and also acted on a court remand of the Sea Robin Pipeline Company case involving the Commission's offshore jurisdiction. The rule establishes a more light-handed regulatory approach for the transportation of natural gas on the outer continental shelf which seeks to equalize competition and balance the interests of the marketplace and consuming public. The light-handed reporting requirements under the rule apply to virtually all transporters in the outer continental shelf (with certain limited exceptions). The reports will permit shippers in the offshore to obtain information about the terms and conditions under which offshore transporters provide service. The Commission's Sea Robin decision clarifies and refines the test the Commission uses to determine whether facilities in the outer continental shelf are jurisdictional. The decision recognizes the competitive dynamics in the offshore area and eliminates the burden of federal regulation for facilities which are found to perform a gathering function.

Outreach

The Commission has begun an extensive outreach program with pipeline companies, federal, state, and local agencies, landowners, and other interested parties. As a result of the outreach program, the Commission expects: (1) to receive more complete and less contentious applications as more issues are resolved before filing; and (2) to develop a toolbox of best practices for pipeline applicants. Both likely will reduce case processing times. This natural gas program borrows from the success of the hydropower program's process for pre-filing collaboration and other outreach initiatives.

Sharing Resources

The common thread woven through energy projects is the NEPA process. Combining the environmental and engineering professionals from the hydropower and natural gas staffs has created a broader and deeper pool of technical expertise for both programs to draw on. For example, the hydropower program has developed considerable expertise in the use of Geographic Information Systems (GIS) to expedite the processing of certain permits. This expertise is now focused on developing systems to use GIS to expedite the processing of proposals to build new natural gas pipelines. Combining the two staffs has increased the ability of the Commission to easily shift resources to meet changing caseloads in the pipeline and hydropower fields. To that end, some staff are being cross-trained in the NEPA process for both industries.

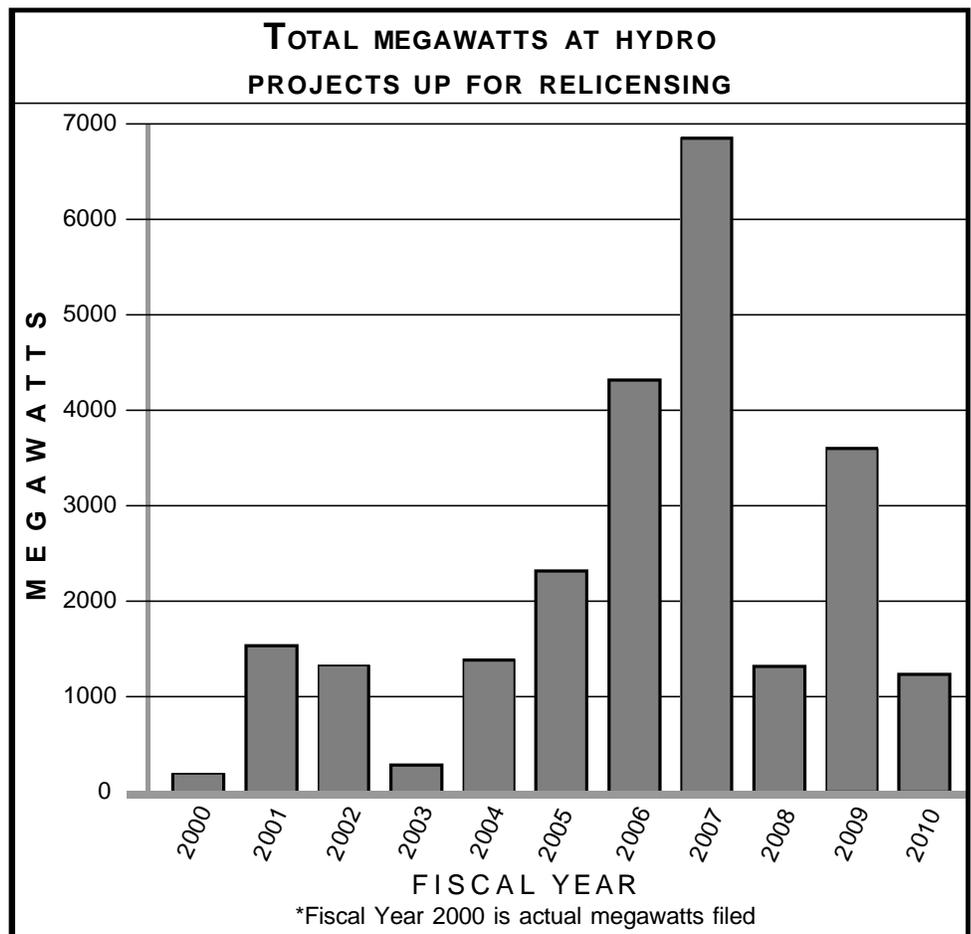
HYDROPOWER

Increased Collaborative Efforts

The collaborative process encourages agreement and settlement of major environmental issues by facilitating greater participation, communication, and cooperation. The Commission will promote collaborative efforts by encouraging participation in the Alternative Licensing Process (ALP) and several other efforts. The ALP is a voluntary process designed to improve communication among interested parties, and allows the Commission’s staff to provide requested assistance to participants early in the licensing process. The process is flexible and tailored to the facts and circumstances of the particular project. Other efforts to promote collaboration include interagency hydropower workshops, stakeholder consultation meetings, and outreach efforts.

Resource Standards and Adaptive Management Provisions

With the resource standards approach (performance-based measures), the Commission imposes the desired result and allows the licensee to decide the best way to achieve that result. Under the adaptive management approach, the Commission issues licenses with terms that allow the Commission to react to changes over time. The joint use of resource standards and adaptive management provides a more flexible approach, allowing stakeholders cooperatively to decide the best and most cost-effective way to meet license objectives. The Commission has already initiated the use of



these approaches in recent relicensing orders. During relicensing proceedings, Commission staff will examine license objectives to decide how optimally to apply the resource standards and adaptive management approaches. In addition, Commission staff will institute monitoring procedures to learn how successful these approaches are.

Settlements

Using the alternative licensing procedures and a collaborative approach, Avista Corporation prepared and filed an application to relicense the existing Cabinet Gorge (P-2058) and Noxon Rapids (P-2075) projects in February 1999. These projects abut one another on the Clark Fork River in Sanders County in northwest Montana and Bonner County in northern Idaho and have a combined generating capacity of 697 MW. In February 2000, the Commission issued a license for these projects requiring Avista to implement a comprehensive settlement agreement that was developed as part of the collaborative process and signed by 27 parties, including all significant agencies and non-governmental organizations involved in the proceeding.

Two additional comprehensive settlement agreements were also filed on longstanding relicensings in California. On July 28, 2000, Pacific Gas and Electric Company (PG&E) filed a settlement agreement on behalf of itself and 9 federal and state agencies and non-governmental organizations to resolve issues associated with the 28-year relicensing proceeding for its Mokelumne Hydroelectric Project, FERC No. 137. The settlement agreement is the result of over a year of discussions facilitated by FERC staff. On September 29, 2000, PG&E filed another settlement agreement on behalf of itself and 12 federal and state agencies and non-governmental organizations to resolve issues associated with the 21-year relicensing proceeding for its Rock Creek-Cresta Hydroelectric Project, FERC No. 1962. The settlement agreement is the result of two years of discussions facilitated by FERC staff, and involves the use of resource standards and adaptive management provisions as described above.

Capacity Development at Relicensing

When applicants use the ALP for relicensing, the Commission's staff will promote examining the viability of installing additional capacity at the project site. The examinations will include such factors as streamflow records, turbine hydraulic capacity, potential to improve generating efficiency, regional need for power, and ways to avoid adverse impacts on environmental resources and economics.

Interagency Cooperation

A major issue for the hydropower program has been the need to coordinate the related work of several agencies. The Commission took the lead in developing an interagency task force to improve the hydropower licensing process.

In May 2000, the Commission and the Departments of Interior, Commerce, and Agriculture signed a statement of commitment to make the hydropower licensing process more efficient and effective. A Joint Settlement of Commitment outlines the administrative reforms developed by an Interagency Task Force that these agencies created to improve the hydropower licensing process. The measures developed by the Task Force will make the licensing process more timely and less costly by encouraging collaborative efforts and settlements, improving communication among all participants and coordinating and streamlining the Commission's and other agencies' processes.

This task force has recently achieved several goals, including agreements on noticing procedures and NEPA processes. Guidance, including Collaborative Process Guidelines, a Primer on Writing Trackable and Enforceable License Conditions, a report on improving the process by which studies are identified and conducted, and a report on improving coordination of Commission licensing with Endangered Species Act consultation are on schedule for completion.

Preliminary Permits

During FY2000, the Commission completed 60 applications for preliminary permits. These applications are for projects at Army Corps of Engineers or other existing lock and dams and employ new design technology.

The new design involves a faster, cheaper, more environmentally friendly method for installing turbine generators at existing dams. Instead of the conventional design, where the turbine generator is inside the dam or powerhouse, this design installs a turbine unit externally, on the face of an existing dam or on a slab built on a river bank next to the discharge area. Using siphons and existing gates and water conduits keeps costs down by minimizing disruption to land and water resources. Installation can take less than eight weeks and construction can be as little as one half of the cost of conventionally designed facilities.

License Surrenders

Licensees and exemptees may decide to surrender their hydropower authorizations because a project is no longer economical or because natural catastrophes have damaged or destroyed project facilities. To protect the environment and the public, a license or exemption may be surrendered only upon agreement between the licensee or exemptee and the Commission. In recent years, the surrender review process has become more complex, with a corresponding increase in staff involvement, because of increased sensitivity to the environmental implications of ending Commission jurisdiction.

If construction of a licensed project has commenced, the Commission consults resource agencies that provided the original terms and conditions. It seeks input from the public to ensure that local environmental issues are considered in the surrender proceeding. It also prepares an environmental assessment of any need for restoration for public safety and environmental integrity. These measures may range from simply locking a perimeter gate to removing a dam.

License Transfers

Electric restructuring is prompting many licensees to reevaluate their generating assets. As a result, the Commission is receiving more applications to transfer hydropower project licenses. For example, in FY 2000 PG&E announced a settlement agreement with consumer groups that, subject to approval by California and the Commission, would supersede plans to auction 68 hydro plants to third parties and result in applications for the transfer of its hydropower licenses to a non-regulated affiliate. Before approving a transfer, the Commission reviews the proposed transferee's eligibility and considers potential compliance problems. The Commission also works with transferees to ensure they understand their responsibilities under the license.

**BETWEEN THE YEARS 2000
AND 2010, MORE THAN
220 PROJECT LICENSES
WILL EXPIRE. THESE
PROJECTS REPRESENT
ABOUT 22 GIGAWATTS, OR
37%, OF THE TOTAL
GENERATING CAPACITY OF
ALL LICENSED PROJECTS.**

Land Use Issues

Amendment proposals requesting authorization for commercial development create opportunities for the public to enjoy these reservoirs and enhance local economics. They also present challenges for the Commission to provide for a reasonable balance between developmental interests and wildlife and fishery values of the water resources.

One way to reach this balance is to develop shoreline management plans that consider both economic and environmental resource values. The Commission encourages licensees and, in some circumstances, requires them, to develop shoreline management plans, in cooperation with resource agencies, property owners, local governments, and other interested entities. Licensees typically revise these plans periodically, with the Commission's approval, to accommodate changes to environmental and economic circumstances.

Compliance with Authorizations

The Commission's post-licensing compliance program includes monitoring, compliance assistance, and penalty assessment under Section 31 of the FPA. The compliance program ensures that licensees observe the terms and conditions of licenses, which are designed to protect and enhance the environment and provide benefits to the public.

Post-Licensing Monitoring

Most licenses issued today require post-licensing monitoring. Monitoring the hydropower project provides data on the performance of mitigative measures, such as fish passage facilities, fishery habitat improvements, wildlife benefits, recreational enhancements, and cultural resource protection. It ensures that the measures are implemented, and also determines whether the measures are sufficient for the level of environmental benefits envisioned at the time of licensing. New licenses frequently incorporate performance measures. These licenses identify goals for environmental resource protection or enhancement and create a mechanism for measuring whether the goal is achieved.

Cooperative procedures have been helpful in achieving post-licensing monitoring objectives. More performance-based conditions are being developed through the collaborative licensing efforts, as parties to the licensing process recognize the importance and necessity of their role to fine-tune environmental conditions and ensure their success.

The Commission will continue to help licensees meet their post-licensing monitoring obligations in partnership with other agencies and participants. Early efforts focused on helping project owners with small projects or recently issued licenses and exemptions.

Civil Penalties

The primary goal of the civil penalty program is to achieve compliance with the terms and conditions in each license, exemption, or permit that protects and enhances environmental resources. The Commission offers technical guidance and support, including several outreach programs. In addition, technical staff meets with industry members and other interested parties to forge solutions to new or complex compliance issues. If all else fails, however, the Commission may initiate a civil penalty proceeding, either to obtain compliance or to penalize for violations having serious public safety or environmental implications. For example, in FY 2000 a licensee paid a civil penalty of \$10,000 for its failure to take reasonable measures to prevent soil erosion on lands adjacent to streams when a flow-line ruptured after it was left unattended with an inoperable leak detection system resulting in debris filling and temporarily blocking the flow of a creek. The Commission also imposed a civil penalty of \$15,000 for a licensee's failure to install gauging and recording devices to monitor stream-flow and pool levels. In another case, an exemption-holder agreed to pay \$10,000 for failing to comply with the Commission's safety regulations and a compliance order directing the filing of an independent consultant's report and revisions to its emergency action plan.

Outreach

The Commission now makes outreach a part of its day-to-day operations as well as major policy initiatives. For example, in December 1999, Commission staff met with Georgia Power Company's Land Department and its team of lake managers near Atlanta. During the workshop, Georgia Power Company described shoreline management practices on its licensed projects and explained the numerous issues that confront them each day in managing the shorelines for a variety of competing uses. Commission staff was able to offer advice on shoreline issues using its experience with related issues for other projects.

At the 2000 International Boating and Water Safety Summit in April 2000, staff spoke on land and water uses related to development along project shorelines at licensed projects, shoreline management and preparation of related applications. Similarly, in an effort to create a forum for licensees and Commission staff to meet and discuss such issues, the Commission hosted a workshop in Charleston, S.C., in July 2000, which was enthusiastically embraced.

Also in April, the Commission participated in an outreach effort concerning water-borne debris on the lower Susquehanna River. The Susquehanna River system becomes heavily laden with debris during high-flow periods, resulting in substantial project operating costs and significant impacts on local downstream interests. The purpose of the outreach was to review the debris management measures taken at the Conowingo Hydroelectric Project in response to a recent high-flow event on the river. The outcomes of the meeting were the identification of: (1) further immediate actions to be taken by the project licensee in response to this event; and (2) possible next steps, in cooperation with the Susquehanna River Basin Commission, toward the overall improvement of debris management on the lower river. The Commission's interests in attending were to: (1) confirm that the project licensees are taking all reasonable and practical measures within their control in handling these situations; and (2) offer appropriate advice and assistance, consistent with our regulatory role and responsibilities.

In June 2000, staff traveled to Minnesota to resolve difficulties certain licensees were having developing cultural resources management plans (CRMP) which can readily be integrated into the day-to-day operations of their projects. Staff explained the various components of a hydropower license, discussed how the implementation of each requirement might affect cultural resources and the obligations under their Programmatic Agreement the licensees needed to comply with. The session resulted in the group beginning to develop a matrix to tie together all the requirements of each license and the day-to-day operations and maintenance of their projects and the integration of the CRMP into their respective organizations.

In August 2000, staff met at the Smith Mountain Lake Project regarding shoreline management and development. U.S. Congressman Virgil Goode, government representatives from the three adjoining counties, and several commercial developers attended the meeting. At the end of the meeting, the participants had a much better understanding of FERC's obligations under the FPA, FERC's efforts to expedite its approval process, their responsibility to foster consensus decision making and more open communication among the local stakeholders. The participants asked, and staff agreed, to attend possible future meetings with them when they begin to develop a comprehensive management plan.

Shoreline Management Guidance Handbook

The Commission has begun the preparation of a shoreline management guidance book. In recent years, the FERC has seen an increasing number of applications filed for shoreline development activities (specifically for non-project uses and occupancies of project lands and waters). Many of these applications have drawn the interest of stakeholders who have filed letters concerning the effects of the proposed development on project environmental resources. In many instances the Commission finds that the licensed project reservoirs help support an economically viable industry of waterfront housing and recreational boating. At some projects, this industry is seasonal with second home and vacation rental properties located adjacent to project

land. At other projects there are increasingly more year-round, upscale homes, planned communities and retirement homes. Organized homeowner associations are participating more frequently in public review and comment processes for these proposals.

In response to this development trend, the Commission's staff has been actively searching for ways to work with our licensees and the concerned stakeholders to equitably balance the use of project land and water. The Commission hopes to minimize the environmental effects of these uses of project resources while continuing to allow for public enjoyment of project resources.

The Commission recognized the need for a guidance document that discusses the Commission's legal authorities and regulatory role with regard to shoreline management, planning and monitoring.

Compliance Plans

Licenses issued today include conditions that will protect and enhance environmental resources. These conditions result in the preparation by the licensees of plans or reports filed as compliance plans with the Commission. These plans and reports may deal with project operation, development of recreational resources, improvements to fishery habitat, water quality protection, wildlife benefits, wetlands and vegetation improvements, and cultural resources protection. Prepared after the license is issued, the plans and reports are typically developed by the licensees in consultation with identified agencies and groups, and are filed as applications with the Commission, frequently for Commission approval. In FY 2000, the Commission approved over 800 applications for plans and reports related to environmental requirements, addressing conditions that provide protection and enhancement of environmental resources.

Environmental Compliance Reviews

To ensure that licensees comply with the terms and conditions of its license, the Commission will continue to aggressively pursue reported incidences of environmental non-compliance. The Commission directs the licensee to explain the circumstances surrounding the incident and, if necessary, provide additional information. In FY 2000, the Commission completed the review of over 200 investigations into allegations of non-compliance with environmental requirements. The Commission continues to develop cooperative relationships with resource agencies and local organizations to help resolve the issues raised by these allegations and to ensure compliance with the conditions included in the issued licenses.

Environmental Review of Amendments

Protection of the environment remains a top consideration in the processing of license amendments. Under NEPA, the Commission will continue to perform required environmental analysis of all changes to hydropower licenses. The purpose of this analysis is to avoid or mitigate adverse effects on water quality, vegetation, wildlife, historic and cultural resources, soils and geologic resources, land use, and air and noise quality. The Commission conducts a thorough analysis of each of these areas before a license amendment can be issued.

Effectiveness of Environmental Measures

The Commission will track the outcome of environmental measures required at certain projects to decide whether the Commission's environmental policies are yielding the desired results and to monitor the need for particular measures. The Commission will conduct investigations and discussions with licensees, stakeholders, and other interested parties to gather information. The Commission will use this information to decide ways to improve the effectiveness of environmental mitigation measures. Through outreach meetings and workshops, the Commission will distribute information for licensees and potential licensees in developing their environmental resource protection plans. Outreach meetings and workshops will address such topics as shoreline management programs, water quality protection, fish passage, and recreation management plans.

Unexpected Contingencies

Throughout a license term, events can occur that require immediate Commission action to resolve environmental problems. These events may be construction problems resulting in fish kills, dam repairs resulting in environmental problems, or project operation endangering recently listed threatened and endangered species.

With the continuing listing of new endangered species, the Commission must implement habitat conservation measures to protect affected environmental resources. For example, in FY 2000, Commission staff issued habitat protection plans for whooping cranes, least terns, piping plover, Karner blue butterflies, and waterfowl.

Recreational Fishing

As a member of the National Recreational Fisheries Coordination Council, the Commission developed an annual report on actions and activities related to recreational fishing opportunities at licensed projects for FY 1999. This report was provided to the co-chairs of the National Recreational Fisheries Coordination Council in March 2000. In FY 2000, the Commission approved or amended over 15 recreation plans, many of which included provisions to enhance recreational fishing. Further, the Commission provided for recreation and fisheries-related training for approximately 15 staff and also participated in the annual International Boating and Water Safety Summit and Waterpower Conferences. The Commission continues to provide and maintain a "Fishing Net" link on the Commission's webpage.

Headwater Benefits

Section 10(f) of the FPA directs that the owners of non-federal hydropower projects who receive energy benefits from upstream federal storage reservoirs must reimburse the upstream project owners for part of their capital costs. The Commission conducts river basin studies and determines the assessments, which are returned to the U.S. Treasury. Approximately \$6 million is collected annually for benefits received from 116 federal headwater projects throughout the country.

Federal Lands

When federal lands are reserved for waterpower purposes, the Commission must review any applications for other uses of those lands. Other uses may include mining claims, oil and gas leases, mineral leases, rights-of-way and revocations under the FPA. The review allows the Commission and the Bureau of Land Management to protect existing licensed projects from adverse impacts from outside parties. It also allows for federal lands not affected by a project to be opened for other beneficial public uses.

Jurisdictional Review

The Commission's jurisdictional review program entails evaluating the jurisdictional status of all licensed projects with license expiration dates within 5 years. This review is conducted to determine the status of a licensed project, to ensure that the project does meet the jurisdictional criteria as outlined by Section 23(b)(1) of the FPA.

Although the review of projects with license expiration dates within 5 years has found that the majority of projects fall under the mandatory provisions of section 4(g), there have been several cases where projects did not meet the jurisdictional criteria. In cases with non-mandatory jurisdiction determination, the Commission will inform the project owner of the results of the investigation. The project owner then can elect to apply for a new license under the voluntary licensing provisions of section 4(e), or simply withdraw from the Commission's licensing process.

HYDROPOWER SAFETY

Project Inspections

Inspections verify the structural integrity of dams and compliance with engineering, environmental, and public safety conditions and regulations. They also identify necessary maintenance and remedial modifications. The Commission is responsible for inspecting about 2,600 dams and related water retention structures. It conducts periodic inspections starting from the receipt of an application for a proposed jurisdictional project, throughout the term of a license. The Commission's five regional offices conduct the inspections.

Inspections during project construction ensure that the constructed project complies with the approved design. They also ensure that project construction complies with all applicable federal and state environmental regulations and includes appropriate environmental protection measures, such as erosion control plans and flow monitoring systems. Construction inspections can uncover unexpected conditions (such as unknown foundation features) and any need for design changes.

When the project begins operation, focus shifts to ensuring safe operation and maintenance of the dams. Periodic, on-site operation inspections ensure that dams are maintained for long-term structural integrity of the project works and are repaired if necessary. They also ensure that licensees comply with license provisions. These inspections safeguard the continued operation of projects, as well as downstream lives, property, and environment.

Special inspections occur when special issues arise. These may involve potential dam safety problems, unauthorized projects, complaints about the construction or operation of projects, potential environmental problems, safety concerns, or compliance issues.

The Commission conducts environmental and public use inspections to confirm that licensees comply with the environmental and public use requirements of the license, and to ensure that the licensee appropriately protects the environmental resources. Commission environmental specialists also periodically review construction activities to ensure that dam safety and maintenance-related construction activities are environmentally responsible. In addition, the Commission makes special environmental inspections to investigate environmental compliance problems and environmental damage after flooding or earth or rock slides, and to determine appropriate protective measures.

Engineering and Environmental Analyses

The Commission keeps abreast of technological advances in field and laboratory investigative and analytical procedures, including innovative designs for proposed remedial modifications. Keeping abreast of advances in analytical techniques and dam technology is an important prerequisite to analyzing data and recommending modifications. The Commission requires licensees to use these new techniques. These efforts have typically resulted in cost savings associated with remediation and have sometimes eliminated the need for dam safety modification work.

To provide guidance to its engineering staff, dam owners, their consultants, and the rest of the dam safety community, the Commission publishes Engineering Guidelines for the Evaluation of Hydropower Projects. These guidelines specify the criteria, analytical methods, engineering parameters, and other engineering aspects related to the design, construction, monitoring, and operation of safe dams. The dam safety community widely requests and relies on these guidelines. The Commission updates and expands the guidelines as necessary to ensure consistency with state-of-the-art technology.

As dams age and undergo various stress conditions, such as floods and earthquakes, the Commission increases its monitoring and use of instrumentation data to decide whether the condition of the dams and

their appurtenant facilities are changing. This procedure is the key to detecting potential problems before they become serious and deciding whether new remediation is necessary. With monitoring data available, the Commission will require licensees and their consultants to continually evaluate the condition and performance of their dams.

Safety Reviews

The Commission's dam safety program must ensure consistently high safety standards at high and significant hazard potential dams to maintain the lowest probability of failure. In addition to its own periodic visual inspections and evaluations, the Commission requires periodic independent consultant inspections of dams with high hazard potential. These inspections include a complete engineering assessment and inspection of the project works, with a detailed review of the project design and a thorough inspection of project structures. For quality control, Commission dam safety experts approve qualifications of independent consultants. They also thoroughly review all independent consultant inspection reports for validity of the analysis and conclusions and the need for additional studies or remedial measures.

Emergency Action Plan (EAP) Tests

All of the inspections, evaluations, remediation, and monitoring, however, cannot guarantee that emergencies will not occur. Therefore, a second line of defense to protect life, property, and the environment is the development, maintenance, and periodic testing of EAPs. These plans specify actions that owners must take, in coordination with federal, state and local preparedness agencies, in case of flood, earthquake, or project facility failure. The Commission is recognized as a national leader in EAPs and regularly shares its expertise with many other federal and state agencies.

Ensuring Safe Projects: Focus on Aging Hydraulic Components

The proper functioning of the hydraulic components of dams is critical to ensuring dam safety. Without proper functioning of the hydraulic machinery, penstocks, conduits, gates, and spillways, the necessary control of reservoirs can be lost, resulting in dam failure. While the Commission's role and responsibility regarding dam safety are quite different from those of other agencies such as the Corps of Engineers, the Bureau of Reclamation, and the Federal Emergency Management Agency (FEMA), all have common technical dam safety concerns. In addition, the rest of the dam safety community, including dam owners, state dam safety agencies, and engineering consultants, have expertise and a vested interest in technical dam safety issues. The Commission is coordinating within the dam safety community to focus attention on hydraulic component safety problems. The goal is to develop the proper technical approach to assuring the safety and adequacy of aging hydraulic components of dams. A well-attended workshop on Tainter Gates was developed and held by the Commission in early FY 2000. Feedback from participants was very positive and workshop follow-up activities continued through FY 2000. Additional workshops on other important engineering issues, such as revised Engineering Guidelines, are being planned.

Electronic Filing of Inspection Reports

The Commission is further developing, perfecting, and implementing procedures for electronic submission of all regional office inspection reports, which include digitized photographs. This procedure allows all parties, public and private, to readily obtain copies of Commission inspection reports through the Internet. An additional benefit is the ability for Commission engineers, using digital cameras in the field during project safety-related incidents, to promptly submit photographs of on-site conditions for review by engineering teams and supervisors in the office. Staff is continually looking for ways to adapt new technological tools to the workplace in order to better, or more efficiently, do their jobs.

Actions Taken to Improve States' Dam Safety Programs

Congress established the National Dam Safety Program Review Board (NDSPRB) to advise the Director of FEMA on implementation of the National Dam Safety Program. The Commission's dam safety expertise was influential in the Board's accomplishments in FY 2000. Accomplishments include grant distribution to all 50 States, and dam safety program improvements being made in every state. Also during FY 2000, new training activities and opportunities were developed which have resulted in dam safety inspections and analysis review improvements by state dam safety staff. At the request of the State of Alaska Dam Safety Officer, Commission staff planned a training course on the exercising of emergency action plans for state regulated dam owners and FERC regulated licensees. The State of Alaska requested that the Commission share its expertise in emergency action planning to help improve the state's dam safety program. The course is scheduled for FY 2001 and will be held in Anchorage, Alaska.

Seismicity in the Southeast

In FY 2000 the Commission staff reviewed several site-specific seismicity studies and seismic stability analyses for projects in the Southeastern part of the United States. The impact of earthquakes on the safety and stability of FERC licensed dams is an area of concern and requires detailed engineering evaluation. Current studies have focused on earth dams constructed in the 1930's, sometimes over loose foundation materials, or constructed with techniques of that era that produced a loose embankment dam susceptible to drastic strength reductions during seismic shaking. These evaluations indicate significant modifications are required at several projects.

Three projects in the southeast where detailed engineering evaluations have shown that the embankment dam structures will perform poorly during the Maximum Credible Earthquake are: P-516, Saluda Dam, P-2232, Wateree Dam, and P-199, Santee Cooper. All of these structures have a high hazard potential classification, and if they failed they could cause significant loss of life, property damage, and environmental harm. The Commission is considering mitigation measures to minimize any potential problem. Project costs are estimated at approximately \$8 million for Santee Cooper, and in excess of \$200 million for the massive remediation of Saluda dam.

Several other embankment dams in the southeast are in the early stage of service evaluation, including Bridgewater, Mountain Island and Tillery. These projects could eventually require a significant level of remediation.

Seismicity in the Northwest

In FY 2000, engineering consultants to the Commission completed several seismicity studies in the Northwest. These studies involved assessing the seismic influence a major rupture from the Cascadia Subduction Zone and the Juan de Fuca Plate would have on several high hazard potential projects. For high hazard potential projects the Commission Engineering Guidelines requires the project to withstand the Maximum Credible Earthquake (MCE). Study results are enabling Commission staff to establish new or revised MCE loads in the Pacific Northwest region. Currently several licensees are reviewing the seismic stability of their projects using the seismic loadings adopted from the above studies. In addition the Commission is requiring that dam owners have their independent consultants perform site-specific seismic evaluations for some Part 12 Reports and revise stability analyses when loading conditions change significantly or when previous methods of analysis are no longer acceptable.

Expanded Emergency Action Plan Cooperation

The Commission continues to make improvements to its Emergency Action Plan Exercise Design Course. The FY 2000 improvements focused on incorporating emergency management personnel into the course, and providing more assistance to State dam safety programs (see EAP discussion under “Actions Taken to Improve States’ Dam Safety Programs”). The primary objective of the course is to help Commission licensees better prepare for the testing of their emergency action planning process. To achieve the maximum benefit of exercising the emergency action plan, participation of all key players involved in the plan is needed. Commission staff emphasizes the importance of the emergency management personnel working closely with the dam owner to complete the emergency action plan test. Understanding each individual’s role and responsibility during an emergency is vital in providing a coordinated, effective response to a dam safety emergency. In an effort to provide various key view points and direct involvement, Commission staff encouraged the attendance of emergency response personnel at the emergency action plan exercise training courses. Staff’s initiative has increased the number of emergency management personnel attending the course. The presence of emergency management personnel provides valuable information and insight to dam owners on how the emergency response and recovery system operates. Commission staff continues to search for ways to improve the relationship between dam owners and emergency management personnel to improve any potential response to an emergency.



*A work crew uncouples the shaft from an original 1952 turbine runner at the Cabinet Gorge hydroelectric project. The shaft will be reused with a new turbine runner. The shaft transmits mechanical power from the turbine runner to the generator.
Photo courtesy Andrew Vickers/Avista Corp.*

HYDROELECTRIC POWER TABLE

(PROJECTS FOR WHICH LICENSES WILL EXPIRE BETWEEN JANUARY 1, 2000, AND DECEMBER 31, 2006)

LICENSE EXPIRATION DATE	OWNER	FERC PROJECT			RIVER	INSTALLATION (KW)	FACILITIES UNDER LICENSE	PERIOD OF (YEARS)	SUBJ. FED.
		NO.	STATE	COUNTY					
20000228	PACIFICORP	2659	OR	HOOD	HOOD RIVER	6000	DM PH	20	N
20000229	OCONTO ELECTRIC COOP	1981	WI	OCONTO	OCONTO RIVER	1690	DM PH	50	Y
20000331	STURGIS CITY OF	2964	MI	ST JOSEPH	ST JOSEPH RIVER	2720	DM PH	20	N
20000430	GNE, INC.	2634	ME	PISCATAQUIS	PENOBSCOT	0	RS	20	N
20000430	DENVER CITY & COUNTY OF	2035	CO	BOULDER	SOUTH BOULDER CREEK	0	RS	50	N
20000531	INDIANA MICHIGAN POWER CO	2651	IN	ELKHART	ST JOSEPH RIVER	3440	DM PH	20	N
20000531	CENTRAL VERMONT PUB SERV CORP	2731	VT	ADDISON	OTTER CREEK	3000	DM PH	20	N
20000531	ERIE BOULEVARD HYDROPOWER, L.P	2047	NY	SARATOGA	SACANDAGA RIVER	30000	DM PH	50	N
20000614	SOUTHERN CALIFORNIA EDISON CO	372	CA	TULUARE	TULE RIVER	2520	DM PH	22	Y
20000630	KETCHIKAN CITY OF	420	AK	KETCHIKAN	KETCHIKAN CREEK	4200	DM PH	18	N
20000630	RHINELANDER PAPER CO	2161	WI	ONEIDA	WISCONSIN RIVER	2120	DM PH	19	Y
20000630	SOUTH CAROLINA ELECTRIC&GAS CO	1895	SC	RICHLAND	BROAD RIVER	10600	DM PH	20	Y
20000630	CONSOLIDATED WATER POWER CO	2192	WI	WOOD	WISCONSIN R	6620	DM PH	20	Y
20000630	NORTHERN STATES POWER CO	2567	WI	CHIPPEWA	CHIPPEWA RIVER	35280	DM PH	20	N
20000630	CENTRAL VERMONT PUB SERV CORP	2737	VT	ADDISON	OTTER CREEK	2250	DM PH	20	N
20000630	CONSOLIDATED WATER POWER CO	2110	WI	PORTAGE	WISCONSIN RIVER	3840	DM PH	23	Y
20000731	NORTHBROOK CAROLINA HYDRO L.L.C	2585	NC	FORSYTHE	YADKIN RIVER	1410	DM PH	20	Y
20000831	GEORGIA-PACIFIC CORP	2660	ME	WASHINGTON	ST. CROIX RIVER	0	RS	20	N
20000901	WISCONSIN ELECTRIC POWER CO	2670	WI	CHIPPEWA	CHIPPEWA RIVER	9500	DM PH	20	N
20000929	GEORGIA-PACIFIC CORP	2618	ME	WASHINGTON	ST. CROIX RIVER	0	RS	20	N
20000930	BANGOR HYDRO-ELECTRIC CO	2721	ME	PENOBSCOT	PISCATAQUIS RIVER	1875	DM PH	20	Y
20000930	PACIFIC GAS & ELECTRIC CO	2661	CA	SHASTA	HAT CREEK	20000	DM PH	25	N
20001031	PACIFICORP	696	UT	UTAH	AMERICAN FORK CREEK	950	DM PH	25	N
20001130	IDAHO POWER CO	2055	ID	OWYHEE	SNAKE RIVER	82800	DM PH	50	Y
20001231	NEKOOSA PACKAGING CORP	2902	VA	AMHERST	JAMES RIVER	512	DM PH	20	N
20001231	NORTHERN POWER CORPORATION	2056	MN	HENNEPIN	MISSISSIPPI RIVER	28400	DM PH	50	Y
20010125	S D WARREN CO	2942	ME	CUMBERLAND	PRESUMPSCOT RIVER	2400	DM PH	20	N
20010125	S D WARREN CO	2931	ME	CUMBERLAND	PRESUMPSCOT RIVER	1900	DM PH	21	N
20010125	S D WARREN CO	2932	ME	CUMBERLAND	PRESUMPSCOT RIVER	800	DM PH	21	N
20010125	S D WARREN CO	2941	ME	CUMBERLAND	PRESUMPSCOT RIVER	1000	DM PH	21	N
20010125	S D WARREN CO	2897	ME	CUMBERLAND	PRESUMPSCOT RIVER	1350	DM PH	22	Y
20010131	CONNECTICUT LIGHT & POWER CO	2597	CT	LITCHFIELD	HOUSATONIC RIVER	9000	DM PH	20	N
20010131	NEKOOSA PACKAGING CORP	2901	VA	AMHERST	JAMES RIVER	1875	DM PH	20	Y
20010131	LYNDONVILLE VILLAGE OF	3090	VT	CALEDONIA	PASSUMPSIC RIVER	350	DM PH	20	N
20010131	VIRGINIA ELECTRIC & POWER CO	2009	NC	HALIFAX	ROANOKE RIVER	278000	DM PH	50	Y
20010131	ERIE BOULEVARD HYDROPOWER, L.P	2060	NY	COLTON	TOWN OF COLTON	0	RS	50	Y
20010228	ANTRIM COUNTY	3030	MI	ANTRIM	ELK RIVER	700	DM PH	20	N
20010228	DAIRYLAND POWER COOP	1960	WI	RUSK	FLAMBEAU RIVER	15000	DM PH	50	Y
20010330	CONSUMERS ENERGY CO	2566	MI	IONIA	GRAND RIVER	3250	DM PH	20	Y
20010430	PACIFICORP	2071	WA	CLARK	LEWIS	134000	DM PH	50	Y
20010731	MARQUETTE CITY OF	2589	MI	MARQUETTE	DEAD RIVER	3900	DM PH	20	Y
20010731	USGEN NEW ENGLAND, INC.	2077	NH	GRAFTON	CONNECTICUT RIVER	291360	DM PH	50	Y
20010830	BLACK RIVER FALLS CITY OF	3052	WI	JACKSON	BLACK RIVER	920	DM PH	20	N
20010831	PACIFICORP	2652	MT	FLATHEAD	SWAN RIVER	4150	DM PH	25	Y
20010831	GREEN MOUNTAIN POWER CORP	2090	VT	WASHINGTON	WATERBURY RIVER	5520	DM PH	47	Y
20010901	INTERNATIONAL PAPER CO	2631	MA	HAMPDEN	WESTFIELD RIVER	2690	DM PH	20	Y
20010930	HAMILTON CITY OF	2724	OH	BUTLER	MIAMI RIVER	1500	DM PH	20	N
20010930	ENTERPRISE MILL, LLC	2935	GA	RICHMOND	AUGUSTA CANAL	1200	DM PH	20	N
20010930	AQUENERGY SYSTEMS INC	2416	SC	GREENWOOD	SALUDA RIVER	6200	DM PH	25	Y
20010930	NANTAHALA POWER & LIGHT CO	2694	NC	MACON	QUEENS CREEK	1440	DM PH	25	N
20011001	PACIFICORP	472	ID	FRANKLIN	BEAR RIVER	30000	DM PH	20	Y
20011001	CONNECTICUT LIGHT & POWER CO	2576	CT	FAIRFIELD	HOUSATONIC RIVER	105900	DM PH	20	N
20011001	PACIFICORP	20	ID	CARIBOU	BEAR RIVER	14000	DM PH	23	Y
20011001	PACIFICORP	2401	ID	CARIBOU	BEAR RIVER	40500	DM PH	25	Y
20011031	WISCONSIN ELECTRIC POWER CO	2131	MI	DICKINSON	MENOMINEE RIVER	7200	DM PH	22	Y

HYDROELECTRIC POWER TABLE

LICENSE EXPIRATION DATE	OWNER	FERC PROJECT			RIVER	INSTALLATION (KW)	FACILITIES UNDER LICENSE	PERIOD OF (YEARS)	SUBJ. FED.
		NO.	STATE	COUNTY					
20011031	WISCONSIN ELECTRIC POWER CO	2073	MI	IRON	MICHIGAMME RIVER	9600	DM PH	50	Y
20011031	WISCONSIN ELECTRIC POWER CO	2074	MI	IRON	MICHIGAMME RIVER	2800	DM PH	50	Y
20011130	METROPANITAN RECLAMATION	2866	IL	WILL	CHICAGO SANITARY	13500	DM PH	20	Y
20011130	NORTH CENTRAL POWER CO INC	2064	WI	SAWYER	CHIPPEWA RIVER	600	DM PH	50	Y
20011231	WISCONSIN ELECTRIC POWER CO	1759	MI	IRON	MICHIGAMME RIVER	19944	DM PH	27	Y
20011231	CENTRAL MAINE POWER CO	2142	ME	SOMERSET	KENNEBEC RIVER	76400	DM PH	47	Y
20011231	TACOMA CITY OF	2016	WA	LEWIS	COWLITZ RIVER	460000	DM PH	50	Y
20011231	PORTLAND GENERAL ELECTRIC CO	2030	OR	JEFFERSON	DESCHUTES RIVER	416100	DM PH	50	Y
20011231	WISCONSIN ELECTRIC POWER CO	2072	MI	IRON	PAINT RIVER	100	DM PH	50	Y
20020131	PUD NO 1 OF PEND OREILLE CNTY	2042	WA	PEND OREILLE	PEND OREILLE	60000	DM PH	50	N
20020131	ERIE BOULEVARD HYDROPOWER L.P.	2084	NY	ST LAWRENCE	RAQUETTE RIVER	101250	DM PH	50	Y
20020223	EL DORADO IRRIGATION DISTRICT	184	CA	EL DORADO	SOUTH FORK AMERICAN	20000	DM PH	22	Y
20020331	FORT JAMES OPERATING COMPANY	2312	ME	PENOBSCOT	PENOBSCOT RIVER	7655	DM PH	39	Y
20020731	COMINCO AMERICAN INC	2103	WA	PEND O'REILLE	CEDAR CREEK	0	RS	50	N
20020903	SPRINGVILLE CITY OF	2031	UT	UTAH	BARTHOLOMEW CR	2000	DM PH	50	N
20020930	HART CITY OF	3516	MI	OCEANA	PENTWATER RIVER	352	DM PH	20	N
20021012	SITHE PENNSYLVANIA HOLDINGS	309	PA	CLARION	CLARION RIVER	28800	DM PH	23	Y
20021031	HYDRO DEVELOPMENT GROUP INC	6059	NY	ST LAWRENCE	OSWEGATCHIE RIVER	900	DM PH	20	N
20021101	TRINITY CONSERVANCY INC	719	WA	CHELAN	HELPS CREEK	240	DM PH	23	N
20021201	NEW YORK STATE ELEC & GAS CORP	2835	NY	CLINTON	AUSABLE RIVER	2640	DM PH	20	Y
20021231	HYDRO DEVELOPMENT GROUP INC	6058	NY	ST LAWRENCE	OSWEGATCHIE RIVER	1490	DM PH	20	N
20030131	WOODS LAKE HYDRO CO	3410	CO	EAGLE	LIME CREEK	45	DM PH	20	N
20030228	NEW YORK STATE ELEC & GAS CORP	2852	NY	STEUBEN	MUD CREEK	2000	DM PH	20	Y
20030228	ENERGY, ARKANSAS, INC.	271	AR	HOT SPRINGS	OUACHITA	65300	DM PH	23	Y
20030331	AVONDALE MILLS INC	5044	GA	RICHMOND	AUGUSTA CANAL	2475	DM PH	20	N
20030426	SOUTHERN CALIFORNIA EDISON CO	344	CA	BERNARDINO	SAN GORGONIO RIVER	2250	DM PH	20	Y
20030430	PAROWAN CITY CORP	2782	UT	IRON	REDCREEK	500	DM PH	25	N
20030606	FORD MOTOR CO	362	MN	RAMSEY	MISSISSIPPI RIVER	17920	DM PH	23	Y
20030630	PCA HYDRO INC	2180	WI	LINCOLN	WISCONSIN RIVER	3000	DM PH	26	Y
20030731	BURFORD JUDITH A	6418	CO	EAGLE	EAST BRUSH CREEK	11	DM PH	20	N
20030824	MINNESOTA POWER & LIGHT CO	346	MN	MORRISON	MISSISSIPPI RIVER	18000	DM PH	23	Y
20030831	SOUTHERN CALIFORNIA EDISON CO	2086	CA	FRESNO	MONO CREEK	0	RS	50	N
20030918	INDIANA MICHIGAN POWER CO	401	MI	ST JOSEPH	ST JOSEPH RIVER	1750	DM PH	25	Y
20030930	CHAR TER TOWNSHIP OF YPSILANTI	5334	MI	WASHTENAW	HURON RIVER	3413	DM PH	20	N
20030930	PACIFIC GAS & ELECTRIC CO	2107	CA	BUTTE	FEATHER RIVER	142830	DM PH	50	N
20031031	PACIFIC GAS & ELECTRIC CO	233	CA	SHASTA	PIT RIVER	317000	DM PH	22	Y
20031031	MINNESOTA POWER & LIGHT CO	469	MN	LAKE	KAWISHIWI	4000	DM PH	22	Y
20031031	NEW YORK POWER AUTHORITY	2000	NY	ST LAWRENCE	ST LAWRENCE RIVER	912000	DM PH	50	N
20031231	POTOMAC EDISON CO	2516	WV	BERKELY	POTOMAC RIVER	1900	DM PH	27	N
20031231	POTOMAC EDISON CO	2517	WV	BERKELY	POTOMAC RIVER	1210	DM PH	27	N
20040131	NEWTON FALLS INC.	7000	NY	ST LAWRENCE	OSWEGATCHIE RIVER	2220	DM PH	20	Y
20040331	S D WARREN CO	2984	ME	CUMBERLAND	PRESUMPCOT	1800	DM PH	20	Y
20040331	PUD NO 1 OF CHELAN COUNTY	637	WA	CHELAN	CHELAN RIVER	48000	DM PH	30	Y
20040410	MIDWEST HYDRO, INC	287	IL	LASALLE	FOX RIVER	3680	DM PH	24	Y
20040430	MADISON PAPER INDUSTRIES	2364	ME	SOMERSET	KENNEBEC RIVER	16977	DM PH	40	Y
20040430	MADISON PAPER INDUSTRIES	2365	ME	SOMERSET	KENNEBEC RIVER	9000	DM PH	40	Y
20040430	MERIMILLTD PARTNERSHIP	2574	ME	KENNEBEC	KENNEBEC RIVER	6770	DM PH	40	Y
20040430	UNITED WATER CONSER VATION DIST	2153	CA	VENTURA	PIRU CREEK	1420	DM PH	50	Y
20040630	WISCONSIN PUBLIC SERVICE CORP	1979	WI	LINCOLN	WISCONSIN RIVER	4200	DM PH	30	Y
20040731	NORWAY CITY OF	2720	MI	DICKINSON	MENOMINEE RIVER	5636	DM PH	20	Y
20040731	IDAHO POWER CO	2726	ID	GOODING	BIG WOOD RIVER	21770	DM PH	25	Y
20040930	BARTON VILLAGE INC	7725	VT	ORLEANS	CLYDE RIVER	1300	DM PH	20	N
20040930	PPL HOLTWOOD, LLC	487	PA	WAYNE	LACKAWAXEN RIVER	40000	DM PH	30	Y
20041031	BUFFALO HYDRO L.C.	1413	ID	FREMONT	BUFFALO RIVER	250	DM PH	25	N
20041031	PACIFIC GAS & ELECTRIC CO	2105	CA	PLUMAS	FEATHER RIVER	342628	DM PH	50	Y

HYDROELECTRIC POWER TABLE

LICENSE EXPIRATION DATE	OWNER	FERC PROJECT			RIVER	INSTALLATION (KW)	FACILITIES UNDER LICENSE	PERIOD OF (YEARS)	SUBJ. FED.
		NO.	STATE	COUNTY					
20041112	PETERSBURG CITY OF	201	AK	WRANGELL	CRYSTAL CREEK	2000	DM PH	30	Y
20041116	PORTLAND GENERAL ELECTRIC CO	477	OR	CLACKAMAS	SANDY RIVER	21000	DM PH	25	Y
20041130	INTERNATIONAL PAPER CO	4914	WI	BROWN	FOX RIVER	1078	DM PH	20	N
20041230	PAROWAN CITY CORP	1273	UT	IRON	CENTER CREEK	600	DM PH	30	N
20041231	MOSINEE PAPER CORP	2207	WI	MARATHON	WISCONSIN RIVER	3050	DM PH	30	Y
20041231	MONTANA POWER CO	2543	MT	MISSOULA	CLARK FORK	3200	DM PH	40	Y
20041231	OAKDALE & SAN JOAQUIN IRR DIST	2005	CA	TUOLUMNE	STANISLAUS R	63990	DM PH	50	Y
20041231	OAKDALE & SAN JOAQUIN IRR DIST	2067	CA	TUOLUMNE	STANISLAUS RIVER	17100	DM PH	50	Y
20041231	PACIFIC GAS & ELECTRIC CO	2130	CA	TUOLUMNE	STANISLAUS	87900	DM PH	50	Y
20041231	GEORGIA POWER CO	2177	GA	HARRIS	CHATTAHOOCHEE RIVER	115600	DM PH	50	Y
20041231	PORTLAND GENERAL ELECTRIC CO	2233	OR	CLACKAMAS	WILLAMETTE R	16800	DM PH	50	Y
20050228	SOUTHERN CALIF EDISON CO	382	CA	KERN	KERN R	12,000	DM PH	25	Y
20050228	TAPOCO INC	2169	TN	MONROE	LITTLE TENNESSEE R	326,500	DM PH	50	Y
20050331	WISCONSIN ELECTRIC POWER	2697	WI	DUNN	RED CEDAR R	6,000	DM PH	25	Y
20050331	SOUTHERN CALIF EDISON CO	2174	CA	FRESNO	RANCHERIA CR,BIG CR	10,800	DM PH	50	Y
20050331	WISCONSIN ELECTRIC POWER	2181	WI	DUNN	RED CEDAR R	5,400	DM PH	50	Y
20050430	PACIFIC GAS & ELECTRIC CO	178	CA	KERN	KERN R	11,500	DM PH	25	Y
20050430	ALABAMA ELECTRIC COOP INC	2586	AL	CRENSHAW	CONECUHR	8,250	DM PH	25	N
20050531	MARSHALL, CITY OF	6514	MI	CALHOUN	KALAMAZOO R	319	DM PH	20	N
20050531	GRAND RIVER DAM AUTH	2183	OK	MAYES	NEOSHOR	100,000	DM PH	50	Y
20050630	N. E. W. HYDRO INC ET AL	7264	WI	OUTAGAMIE	FOX R	1,390	DM PH	20	Y
20050630	PACIFICORP	2630	OR	JACKSON	N FK ROGUE R	36,760	DM PH	25	Y
20050630	FPL ENERGY MAINE HYDRO LLC	2194	ME	YORK	SACOR	4,000	DM PH	50	Y
20050730	NANTAHALA PWR AND LT CO	2601	NC	SWAIN	OCONALUFTEE R	980	DM PH	25	Y
20050730	NANTAHALA PWR AND LT CO	2602	NC	JACKSON	TUCKASEGEE R	225	DM PH	25	Y
20050730	NANTAHALA PWR AND LT CO	2603	NC	MACON	LITTLE TENNESSEE R	1,040	DM PH	25	Y
20050731	NANTAHALA PWR AND LT CO	2619	NC	CLAY	HIWASSEE R	1,800	DM PH	25	Y
20050731	IDAHO POWER CO	1971	OR	BAKER	SNAKE R	1,166,500	DM PH	50	Y
20060131	NANTAHALA PWR AND LT CO	2698	NC	JACKSON	TUCKASEGEE RIVER	26,175	DM PH	25	N
20060131	NANTAHALA PWR AND LT CO	2686	NC	JACKSON	TUCKASEGEE RIVER	24,600	DM PH	25	N
20060214	MONROE CITY CORPORATION	632	UT	SEVIER	MONROE CREEK	250	DM PH	28	N
20060228	PACIFICORP	2082	CA	SISKIYOU	KLAMATH RIVER	151000	DM PH	52	N
20060228	NANTAHALA PWR AND LT CO	2692	NC	CLAY	NANTAHALA RIVER	43200	DM PH	25	N
20060228	UNION ELECTRIC CO	459	MO	BENTON	OSAGE	176200	DM PH	25	Y
20060331	SOUTH CAROLINA PUBLIC AUTHORITY	199	SC	BERKELEY	SANTEE RIVER	134520	DM PH	27	N
20060412	N Y ST ELEC & GAS CORP	2738	NY	CLINTON	SARANAC RIVER	38950	DM PH	26	N
20060430	PUGET SOUND PWR AND LT CO	2150	WA	SKAGIT	BAKER RIVER	162400	DM PH	50	N
20060430	PACIFICORP	2111	WA	CLARK	LEWIS RIVER	240000	DM PH	50	N
20060430	COWLITZ CO PUD NO 1	2213	WA	COWLITZ	LEWIS RIVER	70000	DM PH	50	N
20060430	PACIFICORP	935	WA	CLARK	LEWIS RIVER	135000	DM PH	23	N
20060630	CHELAN CO PUD 1	2145	WA	DOUGLAS	COLUMBIA R	1236600	DM PH	50	N
20060831	PORTLAND GENERAL ELEC CO	2195	OR	CLACKAMAS	CLACKAMAS RIVER	91900	DM PH	50	N
20060831	PORTLAND GENERAL ELEC CO	135	OR	CLACKAMAS	OAK GROVE FORK	40825	DM PH	26	Y
20061130	ERIE BOULEVARD HYDROPOWER, L.P.	7321	NY	FRANKLIN	SALMON RIVER	1000	DM PH	20	N
20061231	CITY & COUNTY OF DENVER	2204	CO	GRAND	WILLIAMS FORK RIVER	3000	DM PH	43	N
20061231	MONTANA POWER CO	2543	MT	MISSOULA	CLARK FORK	3200	DM PH	38	N

*INCLUDES TYPES OF FACILITIES AT EACH PROJECT, BUT NOT TOTAL NUMBER OF EACH TYPE (E.G. A PROJECT MAY CONSIST OF MULTIPLE POWERHOUSES OR DAMS). DM DAM, RS RESERVOIR, CL CANAL, TU TUNNEL, FM FLUME, PI PIPELINE, PK PENSTOCK, PH POWERHOUSE, TR TURBINE, GN GENERATOR(S), TC TAILRACE, TL TRANSMISSION LINE OR CONNECTION THERETO.

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