

# **Federal Energy Regulatory Commission**



## **2004 Annual Report**

# **FEDERAL ENERGY REGULATORY COMMISSION**

## **2004 ANNUAL REPORT**

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## MEMBERS OF THE FEDERAL ENERGY REGULATORY COMMISSION



Pat Wood, III  
Chairman



Nora Mead Brownell  
Commissioner



Joseph T. Kelliher  
Commissioner



Sudeen G. Kelly  
Commissioner

# LETTER FROM THE CHAIRMAN

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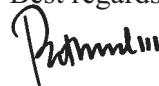
To the Senate and House of Representatives:

I am pleased to submit to the Congress the Federal Energy Regulatory Commission's annual report, covering the fiscal year from October 1, 2003, through September 30, 2004.

This is the 84th 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.

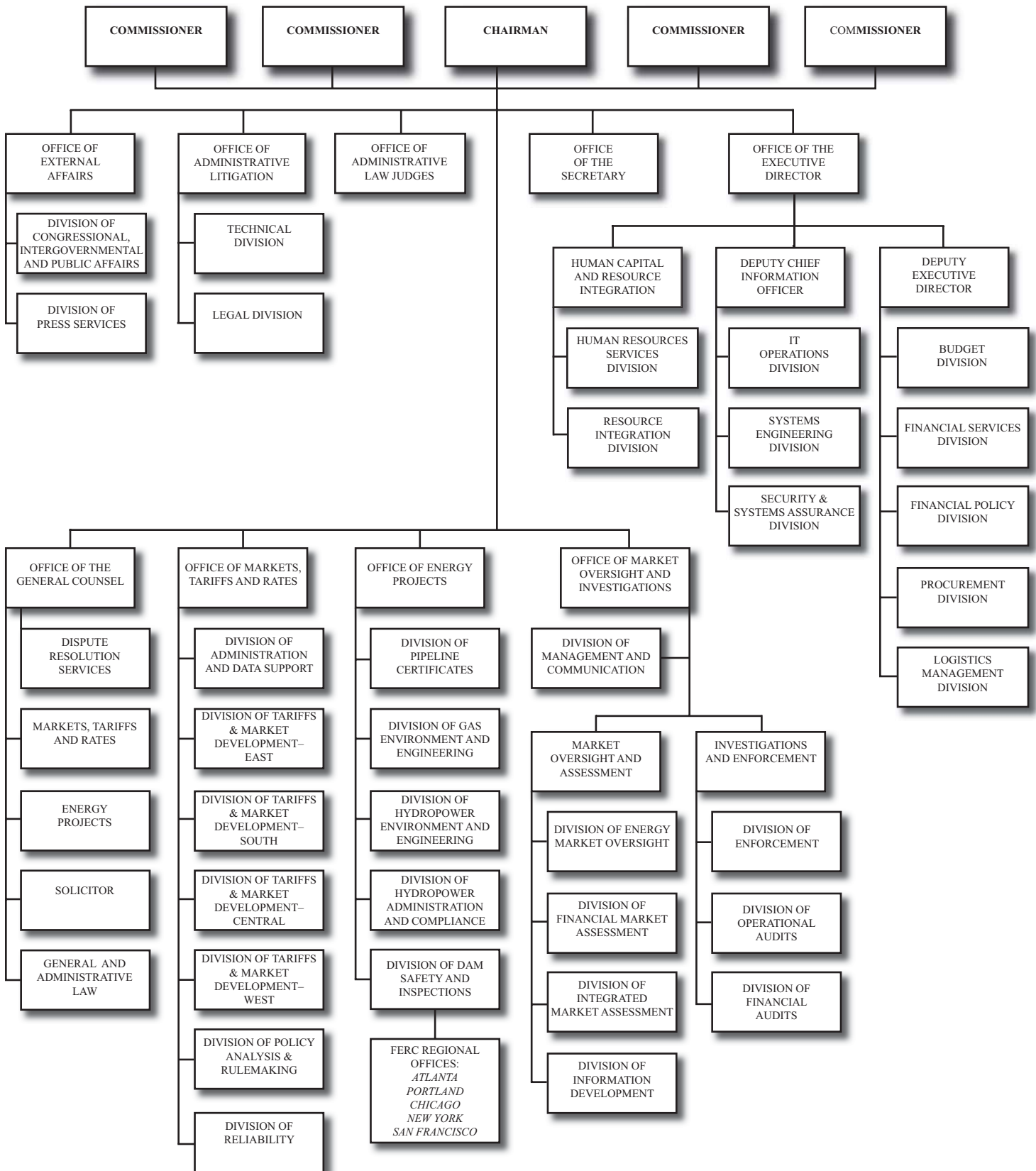
For fiscal year 2004, Congress appropriated \$204,400,000 to support Commission activities. Under the authority of the Omnibus Budget Reconciliation Act of 1986 and other laws, the Commission recovers all of its costs from regulated industries through fees and annual charges. Revenues generated from 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.

Best regards,



Pat Wood, III  
Chairman

# 2004 FERC ORGANIZATIONAL CHART



## 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 more than 1,600 hydropower projects that utilize approximately 2,600 dams. These projects generate in excess of 22 gigawatts of electricity, representing more than five percent of all electric power produced 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, 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, liquefied natural gas terminals and related facilities and oversees the rates, terms and conditions of sales for resale and transportation of natural gas in interstate commerce. Pipeline and terminal 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, 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. 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 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.



**Shoshone Falls powerhouse and falls located on the Snake River in Idaho. Idaho Power holds the license for the project. A new license, issued in 2004, requires environmental protection and enhancement measures, including aesthetic flows over the falls. *Photo courtesy of Alan Mitchnick.***

## VISION

Dependable, affordable energy through sustained competitive markets.

## MISSION

The Federal Energy Regulatory Commission regulates and oversees energy industries in the economic and environmental interest of the American public.

## GOALS AND OBJECTIVES

**GOAL 1: Promote a Secure, High-Quality, Environmentally Responsible Infrastructure through Consistent Policies.**

**Objective 1.1:** Expedite Appropriate Infrastructure Development to Ensure Sufficient Energy Supplies.

- Identify projects with high public interest benefits and facilitate their speedy completion, consistent with the Commission's statutory mandates and due process.
- Implement power plant interconnection rules; complete small plant interconnection rules.
- Firmly establish regional electric system expansion planning, with a variety of technology solutions to meet reliability, security and market needs.
- Implement integrated licensing process and interagency agreements facilitating hydropower licensing, pipeline certification and liquefied natural gas (LNG) facility authorization.

**Objective 1.2:** Provide for Timely Cost Recovery to Infrastructure Investors.

- Establish clear cost recovery process for transmission investment.
- Ensure that revenue levels and rate designs for regulated company services are just and reasonable and support long-term competitive markets, through formula rate or other administratively efficient means, when possible.
- Encourage balanced innovative proposals that provide incentives for appropriate infrastructure investment.

**Objective 1.3:** Address Landowner and Environmental Concerns Fairly.

- Encourage potential applicants for licenses or certificates to utilize the Commission's collaborative pre-filing process.
- Incorporate reasonable environmental conditions into permits, licenses and certificates and ensure compliance with conditions.

**Objective 1.4:** Protect the Reliability, Security and Safety of the Energy Infrastructure.

- Oversee the development and enforcement of mandatory grid-reliability standards to protect the bulk power supply.
- Complete the establishment of the Commission's Reliability Division.



- Serve as the lead U.S. agency on the siting and authorization of LNG facilities, hydroelectric facilities, and interstate natural gas pipelines, and ensure adherence to prudent safety practices.
- Work with other agencies and industry to address and improve infrastructure security.
- Allow prompt recovery of prudently incurred expenses to safeguard reliability, security and safety of the energy infrastructure.

## **Goal 2: Foster Nationwide Competitive Energy Markets as a Substitute for Traditional Regulation.**

### **Objective 2.1: Advance Competitive Market Institutions Across the Entire Country.**

- Encourage continued development of cost-effective wholesale regional power markets in ISO-New England, New York ISO, PJM Interconnection, Midwest ISO, Southwest Power Pool and California, and further development of Regional Transmission Organizations (RTOs) in Southeastern and Western (outside California) regions.
- Support creation of regional state committees to advise Independent System Operators (ISOs) and RTOs. Coordinate operation of ISOs and RTOs to reduce or eliminate seams issues.
- Promote transparency of competitive electric and gas markets.
- Ensure that mergers and consolidations are consistent with the public interest.

### **Objective 2.2: Establish Balanced, Self-Enforcing Market Rules.**

- Complete revisions to market-based ratemaking policy to prevent exercise of market power.
- Work with states to support robust programs for customer demand-side participation in energy markets.
- Encourage standardized business rules and practices to maximize market efficiency, ease market entry and reduce transactions costs, relying on North American Energy Standards Board (NAESB), North American Electric Reliability Council (NERC) and the RTO/ISO where appropriate.
- Provide regulatory certainty through clear market rules and case specific decisions.
- Prevent undue preference and self dealing in affiliate transactions.
- Ensure renewable energy resources are accommodated in interconnection and transmission rules.

## **Goal 3: Protect Customers and Market Participants through Vigilant and Fair Oversight of Both Traditionally Regulated and Transitioning Energy Markets.**

### **Objective 3.1: Provide Vigilant and Effective Oversight of Market Operations.**

- Promote understanding of energy market operations and technologies through maintaining expert skills, keeping abreast of trends and innovations, and reporting findings as appropriate.
- Assess and report on market and infrastructure conditions using objective benchmarks.
- Encourage effective RTO and ISO market monitoring units.
- Identify and remedy problems with market structure and operations, and periodically review market rules for consistency with long-term market development.

**Objective 3.2:** Prevent Market Manipulation and Enforce Commission Rules.

- Investigate statutory and rule violations, and impose appropriate remedies.
- Use expedited dispute resolution to accelerate settlements and minimize customer expense.
- Act swiftly on third-party complaints, using litigation before Administrative Law Judges as needed to determine factual issues.
- Advocate enhanced penalty authority.

## Management Initiatives Supporting all Goals and Objectives.

### Human Capital

- Implement the Human Capital Plan to meet challenges of new Commission roles and changing workforce demographics.
- Use the right mix of internal workforce and contracted services from the private sector to meet the agency's statutory mandates efficiently and effectively.

### Information Technology

- Complete the implementation of e-government initiatives to expedite interactions with customers.
- Build effective electronic workload/time-management and case-processing systems to expedite work processes.

### Agency Resources

- Integrate budget, business plan, and performance measurement to improve performance and accountability.
- Generate accurate and timely financial information to support operating, budget, and policy decisions.

### Communication

- Reach out to groups affected by agency actions in a timely manner.
- Build strong partnerships with all stakeholders, legislators and regulators.

# INFORMATION TECHNOLOGY

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## GOALS

The Commission plans to continue implementing and to expand FERC Online, its set of e-government initiatives that expedite interactions with customers. FERC Online provides the integrated receipt, storage, disposition, publication, and dissemination of documents and information related to the conduct of FERC business with regulated industries and the public as well as workload tracking and business planning support for regulatory activities.

During FY 2005 the Commission plans to complete the availability of all services planned for FERC Online by deploying eService (providing automated electronic distribution by the Commission of documents to parties in Commission proceedings), eTariff (improving the means for utilities to file tariffs with the Commission electronically and the ability of the public to retrieve those tariffs), and ATMS (providing an integrated, Commission-wide Activity Tracking Management System that will cut across all business units in the Commission). The Commission plans to continue to improve and extend those services already available by improving Virtual Agenda (which provides FERC orders electronically to staff at different stages of the Commission's decision-making process and to the public as final orders, and enables electronic notational voting by the Commission) printing and searching features, working on extending documents that can be electronically filed with the Commission to include those with non-public information, and improving the usability of the Commission's eSubscription service (individuals subscribe to specific dockets and are notified by email about future correspondence).

## ACHIEVEMENTS

During FY 2004, the Commission continued to implement and extend FERC Online and:

- Deployed the Virtual Agenda system.
- Completed development and began testing the first release of eService.
- Deployed an eTariff prototype application.
- Deployed eForms updates to allow the quarterly filing of financial data previously filed only annually with Form Nos. 1, 2, and 6.
- Deployed eLibrary releases to improve performance, reliability, and usability; began digitizing legacy microfilmed documents in order to reduce our cost of operations; and completed development and began testing of releases to streamline the Commission's process for publishing notices and making those notices easier to use online.
- Completed development and began testing of the first phase of the Activity Tracking Management System.
- Improved the ability of the public to query and retrieve Electric Quarterly Report market data collection information.
- Continued to focus on and improve the usability of the FERC public website, [www.ferc.gov](http://www.ferc.gov), and improve the speed with which the Commission publishes content to the site.

## GOALS

The Commission's Office of Market Oversight and Investigations works to assure the public and market participants that the Commission will identify and remedy energy market problems, remedy improper behavior and maintain just and reasonable rates. Such actions promote competitive energy markets, improve efficiency and benefit energy customers. The two main objectives in meeting the goal of full and fair market oversight are to:

- Provide vigilant and effective oversight of market operations; and
- Prevent market manipulation and enforce Commission rules.

Going forward, the market oversight and investigations function will need to increase its efforts in two areas:

- **DETAILED MONITORING OF INDIVIDUAL ELECTRIC MARKETS.** Wholesale electric markets differ considerably from region to region. Dedicated staff specializing in each individual market is required to understand how each market works, to identify potential problems, and to respond to individual behavior problems.
- **FULLY DEVELOPED AUDIT FUNCTION.** Auditing represents an essential intermediate function between market oversight and enforcement. While the Commission has developed an initial market audit capability, more is necessary. Audits are more focused on particular companies and practices than the Commission's broader oversight function. Through its audits, the Commission can investigate many forms of behavior that affect markets without violating rules or requiring a full enforcement effort. The auditing function will also let the Commission follow the performance of regional transmission organizations much more closely in the future. A strong auditing function will enhance the Commission's tool kit for monitoring energy markets and help establish the Commission's presence throughout the industry.

## ACHIEVEMENTS

### **Quick, Cogent Response to Emerging Market Issues**

The Commission analyzed key market events in detail, such as the New England Gas – Electric Market Events study. In January 2004, natural gas prices rose to unprecedented highs in New England. The Commission's investigation found the high prices were consistent with market fundamentals (late-season cold weather, low storage pressure, limited gas supplies). A detailed examination of thousands of transactions available from electronic exchanges showed no symptoms of market manipulation. High prices were paid for just a small fraction of the gas sold in the market during this period.

### **Improving Market Performance**

The Commission identified two major problems in market operation: the validity of published price indices and the abuse of affiliate relationships between market and energy affiliates and their transmission providers.

## OVERSIGHT AND INVESTIGATIONS

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To address the first issue, the Commission initiated an effort to promote price transparency in competitive electric and gas markets. The Commission issued its Policy Statement on Natural Gas and Electric Price Indices setting out standards for natural gas and electricity price index developers and the companies that report transaction data to index developers. Furthermore, the Commission issued two orders adopting behavior rules for market participants. Both of these orders adopt a behavior rule requiring that, to the extent a company reports natural gas or electricity transaction data to price index developers, they must report such transactions in accordance with the policy statement standards.

In order to address potential problems of affiliate abuse between market and energy affiliates and their transmission providers, the Commission issued an order on standards of conduct. The Commission's statutory mandate proscribes unduly discriminatory service and the order guides the behavior of transmission providers toward their affiliates who compete with non-affiliates for access to transmission capacity and compete in wholesale commodity markets.

### MARKET OVERSIGHT

Regular reports now provide the Commission with timely updates on energy market developments. These include:

- The *Market Surveillance Report* is a comprehensive report on new and ongoing developments in the natural gas and electric power markets, delivered at each closed Commission meeting in FY 2004.
- The annual *State of the Markets Report* is an overall evaluation of how well energy markets are working in each region of the country. The Commission issued its first full public report in January 2004.
- Semi-annual prospective assessments of natural gas and electric power markets highlight key issues in each industry prior to the peak heating and cooling seasons, respectively. The Commission issued two assessments, one for Summer and one for Winter, in public Commission meetings during FY 2004.

These reports give the Commission a comprehensive overview of market events and an early warning of new market developments.

### DEVELOPING MARKET INFORMATION

To assure public confidence in the Nation's energy markets, the Commission must provide trustworthy analyses based on strong empirical evidence, and make fair and farsighted decisions. This requires access to relevant and timely information about electric and natural gas markets. To do this the Commission has maintained, updated, and expanded data systems, largely consisting of the resources available through its state-of-the-art Market Monitoring Center. The Commission supplements those resources by improving access to RTO/ISO data, engaging states and other federal agencies in market oversight, and continuing to develop and enhance the Electric Quarterly Report (EQR). The EQR collects data on all electricity transactions from jurisdictional companies that occur within a quarter of a year. Companies report the transactions within a month of the quarter's end and the Commission makes the results public. During FY 2004, the Commission continued to upgrade and standardize its flagship market data collection by issuing Order 2001-E, which increased standardization of the data in order to make analysis more useful. This order and continually educating EQR filers have resulted in an increasingly useful report. It has become the source of data for many market analyses.

### PARTNERSHIP WITH MARKET MONITORING UNITS

During FY 2004, the Commission focused on developing strong partnerships with Market Monitoring Units (MMUs) associated with regional transmission organization (RTO) markets. The Commission's relationships with the MMUs is changing due to the December 2003 behavior rules that indicated a need to coordinate more closely on matters of market intervention. The Commission, along with the MMUs, is implementing procedural changes designed to increase interaction between the Commission and the MMUs.

In addition to the behavior rule, the Commission is developing an RTO report card to help measure the performance of RTOs and Independent System Operators (ISOs). RTOs and ISOs are responsible for reliable and efficient operation of electric systems and markets over significant areas of the country, encompassing two-thirds of the \$10 trillion U.S. economy. Since they operate under Commission-approved tariffs, the Commission must ensure that they are publicly accountable for their performance. To address the challenge of assessing RTO/ISO performance, the Commission is creating a series of common performance measures for RTOs and ISOs that focus on aspects of the business that are important to the public and that the RTOs and ISOs can improve. These measures will focus on cost management, reliable service, business processes and corporate governance. An initial set of business measures has been developed for the first test of the RTO report card. The Commission plans to issue a report on its findings in FY 2005. Over the next two years, the Commission will refine the measures as necessary.

### MARKET INVESTIGATIONS

The Commission opened 320 investigations in FY 2004. Despite the lack of significant statutory remedies, such as meaningful civil penalty authority, several of the investigations resulted in successful settlements that led to significant financial remedies. Some settlements also included strict compliance programs. Some notable examples are:

- **CALIFORNIA REFUND PROCEEDING SETTLEMENTS.** The Commission has been instrumental in settlements of refund proceedings that arose from the California energy crisis of 2000 and 2001. These settlements will result in \$628 million in refunds to consumers. The companies were Williams (\$140 million), Dynegy (\$281 million) and Duke (\$207 million).
- **ANOMALOUS BIDDING INVESTIGATION.** The Commission investigated inconsistent bidding behavior and practices in the California markets, settling with four companies for a total of \$77.5 million in disgorged profits.

**FERC's Market Monitoring Center  
allows Commission personnel to  
monitor energy markets.**

*FERC photo.*



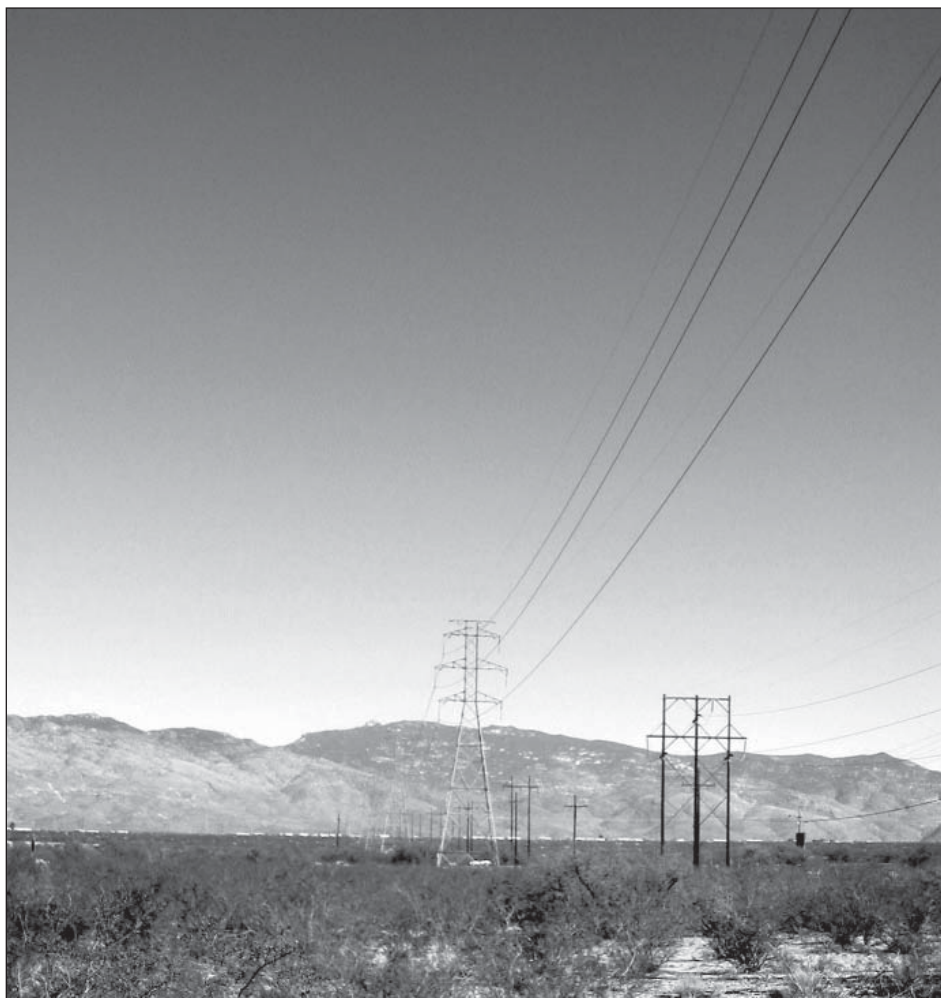
## OVERSIGHT AND INVESTIGATIONS

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- **GAS STORAGE INFORMATION INVESTIGATION.** This investigation centered on companies sharing non-public natural gas storage information data with affiliates and favored customers. Settlements were reached with three companies imposing \$8.1 million in refunds and civil penalties and strict compliance stipulations to thwart future violations. The companies were Dominion Resources, Inc. (\$4.5 million in refunds and \$500,000 civil penalty), Nicor (\$600,000 civil penalty) and Columbia Gas Transmission (\$2.5 million civil penalty).

These cases, among others, demonstrate the Commission's ability to investigate market abuses and its continuing commitment to effectively police tariff and rule violations despite its limited statutory remedies.

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**Transmission lines near Tucson, Arizona.**  
*Photo courtesy of Tucson Electric Power Company.*

## GOALS

One of the Commission's continuing priorities is making wholesale natural gas and electric power markets operate well in order to support a strong, stable national economy. To accomplish this objective, the Commission continues to:

- Encourage cost-effective market design elements that promote adequate energy supplies and infrastructure development;
- Advance competitive market institutions; and
- Establish clear, self-enforcing and pro-customer market rules across the Nation's regional bulk power markets that balance the interests of all market participants.

Another priority, especially in the wake of the August 2003 blackout, is to promote electricity grid reliability. The Commission assists in creating a more reliable electric system by:

- Fostering regional coordination and planning of the interstate grid through independent system operators and regional transmission organizations;
- Adopting transmission policies that provide price signals for the most reliable and efficient operation and expansion of the grid; and
- Providing pricing incentives at the wholesale level for investment in grid improvements and ensuring opportunities for cost recovery in wholesale transmission rates.

The Commission continues to seek ways to enhance regulated oil and natural gas pipeline transportation services while safeguarding against the exercise of market power. The Commission pursues policies that:

- Encourage fair, transparent, non-preferential rules for the development of new energy infrastructure; and
- Prevent undue preference and self-dealing in affiliate transactions.

## ACHIEVEMENTS

### ENERGY INFRASTRUCTURE

#### RELIABILITY OF THE ELECTRICITY GRID

Immediately after the August 2003 power blackout that affected parts of the Midwest, Northeast and Canada, the Commission participated in the Joint U.S.-Canada Power System Outage Task Force. The electric system investigation was co-chaired with the Department of Energy and Natural Resources Canada, and was a collaborative endeavor with industry, coordinated through the North American Electric Reliability Council (NERC). The investigation resulted in the following work products during FY 2004 to explain what happened and why, and possible solutions to avoid such future blackouts:

- An interim report on the blackout followed by a *Final Report on the August 14, 2003 Blackout in the United States and Canada: Causes and Recommendations*; and
- An interim report on *Utility Vegetation Management* and its role in causing the blackout, the *Utility Vegetation Management Final Report*, and a report to Congress on utility vegetation management practices, with recommendations for needed practices and guidance.



In January 2004, the Commission established a reliability group within the Office of Markets, Tariffs and Rates. The group has undertaken many specific tasks that will have a substantial impact on improving the Nation's bulk power system reliability. These include:

- Participating in NERC's reliability and readiness audits of the transmission operations and reliability coordinators in the U.S. and Canada;
- Supporting the re-issuance of NERC standards with specific, definable terms that may be used to judge the performance of the participating utilities;
- Working with the Nuclear Regulatory Commission on issues of grid reliability and nuclear plant safety;
- Developing reports to identify best practices, standardized operations, and area deficiencies for control area operators and for certification of operators, reliability coordinators, and operator support staff;
- Identifying best practices available to the industry to ensure reliability of the interconnected power system along with identification of "gaps" within the industry;
- Initiating development and implementation of cyber security tools and practices to prevent the disruption of the bulk power supply;
- Coordinating reliability efforts with other federal and state agencies, such as the National Association of Regulatory Utility Commissioners, Department of Energy, Environmental Protection Agency, Nuclear Regulatory Commission, and Canadian provincial regulators; and
- Holding a technical conference on July 15, 2004 to address what steps have been taken to prevent a blackout recurrence.

The Commission also took a number of actions to implement recommendations from the Blackout Final Report, including:

- Issuing a policy statement related to bulk power system reliability, in which the Commission recognized that many aspects of system reliability are within the purview of the states and stated the necessity for all those with responsibility for the bulk electric system to work together to achieve the common goal of a reliable electric system;
- Announcing its intent to work closely with the states to address various reliability-related issues of mutual concern;
- Directing all designated transmission owners to file reports with the Commission explaining their vegetation management practices for designated transmission facilities and rights-of-way;
- Working with the leadership of the National Association of Regulatory Utility Commissioners to analyze reports to look for significant patterns and potential problems in the vegetation management practices of the electric industry;
- Holding a joint workshop in May 2004 with the U.S.-Canada Power System Outage Task Force focusing on steps needed to get enforceable reliability standards; and
- Proposing development of a regulator-approved mechanism for funding NERC and the regional reliability councils – after consulting with numerous parties including NERC, the regional reliability councils, states, utilities, and other industry participants – to ensure their independence from the parties they oversee.

## POWER PLANT INTERCONNECTION RULES

In March 2004, the Commission issued an order on rehearing (Order No. 2003-A) that reaffirmed, with only minor adjustments, its July 2003 final rule establishing generic procedures for the interconnection of generators larger than 20 megawatts to the electric transmission grid (Order No. 2003). The rule established standard procedures to accomplish interconnection as well as a standard agreement covering the terms and conditions between transmission providers and generators regarding the facilities needed to interconnect large generators to the transmission grid. Order No. 2003-A also clarified the Commission's pricing policies regarding recovery of costs associated with interconnecting generators to the transmission grid. During FY 2004, compliance filings were processed to update the open access transmission tariffs of jurisdictional public utilities to include provisions for the interconnection of large generators consistent with the final rule. Implementation of the rule will reduce the time and cost associated with interconnection, help protect reliability, increase energy supplies, reduce incentives for transmission owners to favor affiliated generation, and encourage efficient generation and transmission siting decisions.

A companion interconnection rule for small generators was proposed in July 2003. The proposal will provide benefits similar to those for large generator interconnection. It also should increase the number and diversity of new generation resources, including the use of non-polluting, renewable energy sources, which often are smaller-capacity projects.



**Commissioner Nora Mead Brownell attended a July 2004 event celebrating the expansion of California's Path 15 transmission bottleneck. With Commissioner Brownell, from the left, are Trans-Elect President Robert Mitchell, California Public Utilities Commission President Michael Peevey and Kevin Coughlin, advisor to Mr. Peevey. A helicopter lifts a transmission tower in the background. Photo courtesy Trans-Elect.**

## **RELIABILITY COMPENSATION POLICY**

In February 2004 the Commission held a technical conference to explore issues related to appropriate pricing and infrastructure development incentives in circumstances when generators are required to operate due to local reliability issues but may not be receiving adequate compensation under current market rules. In a May 2004 order the Commission announced a generic reliability compensation policy, which set out a process to implement market designs that, while protecting against the exercise of market power, provide for appropriate price signals that: (1) allow an opportunity for recovery of an adequate revenue stream by generators so that they have incentive to remain in the market; and (2) provide incentives to attract new infrastructure investment. The Commission indicated that use of improved market design features is the preferred choice for solving reliability compensation issues, where possible.

The Commission further indicated that whether a reliability compensation issue requires a market design fix, an infrastructure investment response, or both, the choice of remedy should demonstrate that the proposed solution: (1) can be implemented; (2) is feasible; and (3) is expected (with a high degree of probability) to solve the problem or problems. The demonstration must include a showing that the revenue produced by the proposed solution is adequate to actually solve the problem at hand and that the proposed solution includes safeguards to prevent the unwarranted exercise of market power beyond the recovery of such revenue.

## **RTO/ISO ACCOUNTING, FINANCIAL REPORTING AND COST RECOVERY PRACTICES**

In September 2004, the Commission issued a Notice of Inquiry in order to explore whether changes to regional transmission organization/independent system operator (RTO/ISO) accounting, financial reporting, and cost recovery practices are necessary to provide greater transparency and more effective oversight of transactions and business functions, and to ensure the rates charged by RTOs/ISOs and their member transmission-owning public utilities are just and reasonable. Comments are due in early FY 2005 and will help determine whether:

- The Commission needs to adopt new regulations to better account for RTO and ISO cost information;
- RTOs and ISOs have appropriate incentives to be cost efficient; and
- The Commission's rate review methods for RTOs and ISOs are sufficient.

# COMPETITIVE MARKETS

## **DEVELOPMENT OF COST-EFFECTIVE WHOLESALE REGIONAL POWER MARKETS**

Several significant steps in the development and expansion of RTOs were accomplished in FY 2004:

- The Southwest Power Pool (SPP) filed to establish an RTO encompassing the States of Kansas and Oklahoma, and parts of the States of Missouri, New Mexico, Texas, Louisiana and Arkansas. In February 2004 the Commission granted RTO status to SPP conditioned upon fulfillment of certain requirements. SPP participants are currently in the process of implementing important elements of efficient market development and operations. The Commission also established a field office in Little Rock, Arkansas, to permit a daily interface between staff and SPP RTO market participants and regulators.
- ISO New England, on behalf of entities in the region, filed to establish an RTO for the six-state New England region. In March 2004 the Commission granted ISO-NE RTO status subject to the fulfillment of certain requirements and the outcome of a limited hearing.

- The Commission approved a filing by PJM RTO to establish “PJM South” within its RTO by adding Dominion Virginia Power as a member. PJM RTO also successfully integrated American Electric Power and Dayton Power into its RTO at the close of the fiscal year.
- Three more electric utilities (First Energy, Ameren, and Northern Indiana Public Service) were added to the Midwest ISO during the fiscal year and Illinois Power joined Midwest ISO at the close of the fiscal year. In addition, the development, coordination and testing of market platform elements continues at the Midwest ISO in preparation of commencement of operations as an RTO in FY 2005.

### RESOLUTION OF SEAMS ISSUES

The Commission continues to facilitate discussions between industry and states regarding seams issues that occur at RTO and ISO boundaries. Seams issues are trade barriers and inefficiencies resulting from equipment limitations and differences in market rules and designs, operating and scheduling protocols, and other control-area practices that inhibit or preclude the ability to transact capacity and energy between regions. Power products and differences in pricing and market rules can differ significantly between ISO and RTO markets and result in reduced competition between suppliers across regional boundaries. Resolving seams differences between regions can lower the cost of transacting power sales between regions, permit dispatch of lower cost power and, ultimately, lower costs to customers. Activity during the fiscal year to revise rules and improve market pricing at the seams include:

- A Northeast Seams Initiative designed to reduce the seams among the RTOs and ISOs located in the MidAtlantic and Northeastern regions of the country and neighboring systems in Canada. This initiative is intended to harmonize market rules, eliminate seams and develop larger markets among ISO-New England, the New York ISO, PJM RTO, and the Ontario Independent Market Operator.



**At the stroke of midnight on September 30, 2004, American Electric Power (AEP) and Dayton Power and Light successfully integrated into the PJM system. In the PJM control for the event were, from left: Craig Glazer, PJM; Patrick Clarey, FERC; Karl Pfirrmann, PJM; Carl English, AEP; Craig Baker, AEP; Holly Koeppel, AEP; Phillip G. Harris, PJM; James Mahoney, Dayton Power & Light Company; Pat Wood, III, Chairman of the FERC; Jim Hinton, PJM; and Ken Laughlin, PJM. Photo courtesy PJM.**

- Midwest ISO and PJM RTO continue to work toward creating seamless operations to serve wholesale electricity customers in 22 states, the District of Columbia and parts of Canada. The joint efforts are intended to improve coordination of inter-regional congestion management, operational data exchange, real-time communications, emergency protocols, system planning, and market monitoring. In addition, the Commission held hearings and interested parties have developed proposals for eliminating transmission charges for power originating in one region and transmitted to another region (“through and out rates”). Implementation of the new pricing will take effect in FY 2005 after Commission review of the merits of the competing proposals. This will enhance opportunities for more efficient trading while permitting recovery of costs of operating the transmission grid.

### **MARKET-BASED RATES POLICY**

In an April 2004 order and an order on rehearing in July 2004, the Commission adopted a new generation market power analysis to be applied to market-based rate applications. Two new indicative screens were adopted, one which analyzes whether an applicant’s supply is pivotal at the time of system peak use, and one which evaluates an applicant’s market share in relation to seasonal market supply and demand. Taken together, the Commission is able to measure the potential for the exercise of market power in both peak and off peak hours, both unilaterally and in conjunction with other sellers. Should an applicant fail one or both of the indicative screens, it has the option to provide additional, more detailed information or to propose mitigation measures. Public utilities with authorization to charge market-based rates, as well as entities requesting initial authorization, were required to file updated information during FY 2004. This would allow the Commission to use the new indicative screens to determine whether market-based rate authorization should continue. Commission action on these filings will continue into FY 2005.

### **AFFILIATE TRANSACTIONS POLICY GUIDANCE**

The Commission issued policy guidance on the showing that must be made to support the reasonableness of wholesale power sales contracts between affiliates and solicitation principles to support asset transfers between affiliates. This will ensure that transactions with affiliates do not receive preferential treatment or result in self-dealing. In an order issued in February 2004, the Commission announced that it would require all future cost-based power sales contracts between affiliates to satisfy the same standards that are applicable to affiliate market-based sales. The policy (referred to as the Edgar standard based on a 1991 Commission affiliate sales case decision) requires a showing that the utility will not pay more than a non-affiliate would pay for comparable power. In orders issued in July 2004, the Commission established new guidelines for approval of transfers of jurisdictional facilities between affiliates. The Commission announced that the Edgar standard would be applied in all future asset transfer applications involving affiliate generation. The Commission also established solicitation principles that should be satisfied in support of power procurement processes that involve affiliate participation. The principles include: (1) transparency; (2) precise product definitions; (3) standardized evaluation criteria; and (4) independent third-party oversight of the process.

In June 2004 the Commission held a technical conference to explore the solicitation process for power procurement, including solicitations whereby utilities sell to their affiliates.

## GOALS

The Commission's challenge is to continue to promote a secure, high-quality, environmentally responsible energy infrastructure through consistent policies. The objectives for meeting these challenges include:

- Expediting appropriate infrastructure development to ensure sufficient energy supplies;
- Addressing landowner and environmental concerns fairly; and
- Promoting measures to improve the security and safety of the energy infrastructure.

## NATURAL GAS INFRASTRUCTURE

The primary focus of the natural gas industry in FY 2004 has been on the development of new Liquefied Natural Gas (LNG) import terminals in the United States. Between 1992 and 2002, low natural gas prices and plentiful domestic supply resulted in no new LNG import terminals proposed in the lower 48 states. Beginning in 2003, however, higher prices and concerns about domestic production declines brought renewed interest in LNG. The Commission began to feel the impact of this trend, and in FY 2004 the Commission staff was reviewing proposals for the construction of eleven new import terminals and expansion of two existing terminals.

The Commission expects an increase in storage expansion projects to improve and maintain the integrity of the overall natural gas transmission network. In addition, there will be a continued pattern of pipeline



**Construction of a natural gas pipeline owned by Cheyenne Plains Gas Pipeline Company, LLC. The 380-mile interstate pipeline begins in northern Colorado near Cheyenne, Wyoming and ends near Greensburg, Kansas.**

*Photo courtesy of Stephen Bacon, El Paso Western Pipelines.*

system modeling to reflect the impact on existing infrastructure vis-à-vis takeaway capacity from new LNG terminals and capacity constraints associated with delivering Rocky Mountain gas to market.

The expeditious processing of certificate applications, while ensuring due process for those affected by natural gas projects, remains an ongoing goal for the Commission. The Commission has continued to encourage early stakeholder involvement in project development through the use of tools such as the Pre-Filing Process and the gas outreach program. The environmental review process includes numerous opportunities for stakeholder involvement. The Commission has expanded those opportunities by: (1) strongly encouraging the applicants to develop and implement deliberate public involvement programs as part of the project development process; (2) giving stakeholders access to information earlier in the process; and (3) holding additional, issue-specific meetings in the project areas.

In FY 2004, 16 projects used the Pre-Filing Process to engage stakeholders in the identification and resolution of stakeholder concerns before the filing of a certificate application with the Commission. The staff's leadership in these efforts allowed for more efficient and concise Commission deliberations for those projects ripe for decision. Overall processing time for applications requiring an Environmental Impact Statement (EIS) dropped from 469 days in FY 2003 to 448 days in FY 2004.

The gas pipeline industry continues to aggressively pursue new markets. In this 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. Others with environmental concerns also question the need and any associated impacts. Processing these contested proposals requires significant resources, and the Commission remains fully committed to ensuring that multiple competing interests and timeliness issues are not only addressed, but that any decision authorizing the construction and operation of facilities reflects a balancing of these concerns. To that end, the Commission ensures that reasonable, but effective conditions and environmental mitigative measures are placed in certificate authorizations.

## HYDROELECTRIC INFRASTRUCTURE

Twenty applications to relicense existing facilities were filed in FY 2004. These applications, along with others that will be filed over the next 10 years represent over 40 projects with installed capacities in excess of 100 megawatts. Many of these applications are for regionally important cases that affect the full spectrum of environmental concerns ranging from shoreline development (marinas vs. residential development vs. public access) to conflicting uses of instream flows for water supply, irrigation interests, whitewater boating and endangered fish species.

The Commission has two goals in the licensing process. One is to ensure that the end product of the licensing process balances the multitude of competing interests and represents the most comprehensive development of the waterway as required by the Federal Power Act. The second goal is to facilitate the timely completion of the licensing process. In meeting these goals the Commission is confronted with many challenges. One challenge is to ensure that entities with an interest in the outcome of the process (federal and state resource agencies, private citizens, developmental interests, environmental organizations, Indian tribes, and hydropower developers) are afforded an opportunity to fully participate in the process. Another challenge is to ensure that the licensing process occurs in parallel with processes required by other laws. Two key examples are the state water quality certification and endangered species consultation processes that can sometimes delay license issuance for several years.

The Commission has effectively met these challenges through encouraging the use of settlement agreements. In ever increasing numbers, stakeholders are formulating settlement agreements designed to

comprehensively address a wide variety of issues. The Commission's adoption of these settlements has clearly sent a message that development of such comprehensive agreements empowers the groups to find local solutions to local problems.

Most importantly, the Commission promulgated the Integrated Licensing Process through a rule issued in July 2003. It is designed to meet the challenges of ensuring that interested stakeholder groups are fully engaged in the preparation of the license application and ensuring that the many state and federal processes are undertaken in concert with the licensing process. Extensive outreach efforts throughout 2004 have culminated in almost one-third of eligible licensees choosing this new process.

To further the Commission's commitment to promoting effective relationships with Native American tribal governments as well as the President's commitment to working with tribal governments on a government-to-government basis, the Commission's first tribal liaison was announced in FY 2004. The tribal liaison will be responsible for establishing effective relationships with tribal governments before and during Commission proceedings, ensuring that tribal concerns are timely and adequately addressed, providing guidance to Commission staff on tribal governments and culture, and informing tribes of Commission statutes and processes.

## ACHIEVEMENTS

### NATURAL GAS PIPELINES

#### CERTIFICATION

In FY 2004, the Commission certificated 20 major pipeline projects, resulting in 5.7 billion cubic feet (Bcf) per day of additional capacity; 91,000 horsepower of compression; and 611 miles of new pipeline. With regard to storage facilities, the Commission authorized three storage projects and two LNG projects, resulting in 0.99 Bcf of peak day deliverability; and 7 Bcf of storage capacity and 2.1 Bcf per day of deliverability from LNG storage facilities. In addition to the authorized LNG capacity, six other LNG proposals, representing approximately 44 Bcf of storage capacity, are currently under analysis.

The additional pipeline capacity (or throughput) provided by the new pipeline projects certificated in FY 2004 represent a 9.3 percent increase in the market share for natural gas. The new LNG projects represents 3.3 percent of the national daily consumption. The enhanced seasonal operations provided by the storage expansions provide 7 percent more deliverability into the pipeline grid.

During FY 2004, the Commission staff completed the environmental review of 397 gas pipeline and LNG filings, including 47 environmental assessments (EAs) and four environmental impact statements (EISs). Concurrently, the Commission staff continued work on 17 additional EAs and 18 additional EISs, primarily for new LNG import terminal both onshore and offshore. The EIS for the Cheyenne Plains Project and the EA for TransColorado Expansion Project were completed in record-setting times and in full coordination with stakeholder groups, Indian tribes and others. The consequent Commission decision resulted in the addition of needed transportation capacity out of the Rocky Mountain production areas. The completion of the EISs for the Freeport LNG Project and for the AES and Calypso pipelines entering the U.S. from proposed LNG facilities in the Bahamas enabled timely Commission decisions on these key projects.



# ENERGY PROJECTS

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## COMPLIANCE REVIEWS

In FY 2004, Commission staff conducted 203 inspections of natural gas pipelines to ensure compliance with environmental regulations and certificate conditions. Of the 79 projects that were inspected, three involved more environmental issues and affected populated areas and were inspected at least once every four weeks during construction, and at least once following the completion of construction.

## SECURITY AND SAFETY OF NATURAL GAS INFRASTRUCTURE

In response to an increase in LNG facility development, the Commission undertook and participated in a number of initiatives. An Interagency Agreement between the Commission, the U.S. Coast Guard, and the U.S. Department of Transportation's Office of Pipeline Safety was signed in February 2004 to ensure the seamless and coordinated review of safety and security aspects of LNG facilities. In addition, in accordance with the agreement signed by the Commission regarding the review of offshore LNG facilities under the Deepwater Port Act, the Commission cooperates actively with the U.S. Coast Guard in the environmental review of three applications involving associated onshore pipelines.

With increased stakeholder concern about LNG safety, the Commission adopted methodologies for modeling LNG spills on water and on May 14, 2004, issued its study in Docket No. AD04-6-000 titled *Consequence Assessment Methods for Incidents Involving Releases from Liquefied Natural Gas Carriers*. The study established the basis for further research and analysis of the site-specific issues at each proposed facility. In FY 2004, the environmental and safety analysis of the Freeport LNG project included the first-time application of the study.

Further, as part of the Commission's commitment to enhancing and maintaining its LNG expertise, a new branch consisting of LNG engineers was established within the Office of Energy Projects to provide leadership and focus on this important component of the Commission's work. The new branch issued a contract in September 2004 to commence a review of its entire LNG review process, focusing on the cryogenic design review and inspection program.



**Dominion's Cove Point liquefied natural gas import facility on the Chesapeake Bay in Cove Point, Maryland. © 2002 Cameron Davidson**

As part of its continuing inspection program, Commission staff conducted 10 biennial inspections of jurisdictional LNG peak-shaving and import facilities, placing increased emphasis on plant security measures and improvements. In addition, the Commission staff conducted a review of specific safety and security issues at each of the four existing LNG import facilities and the 12 peakshaving facilities under its jurisdiction.

Lastly, in FY 2004 the staff continued its involvement with the National Association of State Fire Marshals (NASFM). This organization represents those who are among the “first responders” to any natural gas pipeline emergency. The staff was successful in getting agreement from NASFM’s Government Strategy Committee to expand its education efforts to include LNG terminals and engage in pilot partnering programs with several LNG facilities.

### **INFRASTRUCTURE POLICY GROUP**

During FY 2004, the infrastructure policy group completed a staff report to Congress entitled *New England Natural Gas Infrastructure*. The report, required by the Pipeline Safety Act of 2002, was conducted to determine if there was adequate interstate pipeline capacity and storage in New England to meet the increasing demand from gas-fired electric generation and other uses. In addition, the group conducted a regional study on the energy infrastructure in the Northeast and held a conference in New York City.

### **COMMUNICATION AND PARTNERS**

In FY 2004, the Commission continued its partnership efforts in ensuring that energy matters spanning the North American continent are addressed in concert. These efforts included:

- Signing a Memorandum of Understanding with the Canadian National Energy Board (NEB) regarding the coordination of projects involving the common border between the United States and Canada;
- Signing an Interagency Agreement with the U.S. Department of Transportation and the United States Coast Guard in an effort to coordinate review of land and marine safety and security issues at the nation’s LNG import terminals; and
- Continuing to organize and participate in trilateral meetings between the Commission, the NEB, and the Mexican Comision Reguladora de Energia to discuss regulatory issues of mutual concern.

The Commission also participated in the:

- National Energy Plan (NEP) group for streamlining energy projects;
- NEP task force to provide efficient federal response to a pipeline from Alaska;
- Department of Energy/Canada Energy Consultative Mechanism to discuss cross-border gas and electric issues;
- NEP North American Energy Working Group to foster communication and cooperation among the governments and energy sectors of the United States, Canada, and Mexico;
- Connecticut State Task Force reviewing siting and need for natural gas and electric projects; and
- Interstate Oil and Gas Compact Commission.

# ENERGY PROJECTS

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## IMPROVED INFORMATION AVAILABILITY AND OUTREACH

In FY 2004, the Commission continued its outreach program to collect and disseminate information on ways for applicants, citizens, and state and other federal agencies, to identify and resolve disputes before natural gas companies file their applications. The Commission staff actively sought out opportunities to educate stakeholders about Commission processes. In addition to attending open houses and public meetings on specific projects, the staff participated in a variety of conferences and seminars to facilitate the dissemination of policies, practices, and procedures to stakeholder groups with wide-ranging interests. Specifically, the Commission staff sponsored a workshop in Phoenix, Arizona, in August 2004 to provide Native Americans and the pipeline industry with a forum to discuss issues surrounding natural gas pipeline construction and operation.

Since 1992, the Commission has actively promoted outreach through its industry training sessions. Commission staff conducted four sessions of its Environmental Report Preparation (ERP) Seminars and Post-Certificate Environmental Compliance Seminars.

The Commission staff furthered the goals of the e-Government initiative by developing the capability of disseminating Geographic Information Systems (GIS) data to Commission staff thereby enhancing the value of having maps filed electronically. Commission staff has been coordinating with the Interstate Natural Gas Association of America, other pipeline industry representatives, and other federal agencies in developing appropriate GIS data filing specifications to ensure that all parties realize the benefits of using GIS in the processing of pipeline certificate applications.

**The St. Lawrence project, licensed to the New York Power Authority, received a license in record time due to extensive collaboration among interested parties.**

**The project is part of an international hydroelectric facility that spans the U.S.-Canadian border.**

*Photo courtesy of the New York Power Authority.*



# HYDROPOWER LICENSING, ADMINISTRATION, COMPLIANCE AND SAFETY

## LICENSING

### RELICENSING EFFORTS

During FY 2004, the Commission acted on a total of 46 applications, which included a total of 44 license applications and two surrender applications. These applications represented an installed capacity of more than 2,000 megawatts. The Commission also initiated the processing of 20 relicense proposals, eight of which have an installed capacity in excess of 100 megawatts.

The Commission's practice of approving comprehensive settlements and incorporating the terms of the settlements recommended by stakeholder groups into the license has encouraged stakeholders to formulate such agreements. In essence, through this practice, the Commission has empowered the various stakeholder groups to resolve, in large part, the issues during the licensing process through reaching consensus.

The following are examples of licenses issued in FY 2004 that included settlement agreements. In October 2003, the Commission issued a license for the 912-MW St. Lawrence Hydropower Project located on the Canadian border on the St. Lawrence River near Massena, New York. The Commission approved a settlement agreement signed by more than 30 stakeholder groups and included provisions in the project license that addressed issues from power allocation to multimillion-dollar fish and wildlife enhancement measures. For the 278-MW Lake Gaston Project, located on the border of North Carolina and Virginia, the Commission in March 2004 issued a license and approved a settlement agreement. The settlement agreement, signed by 14 parties, addressed a myriad of issues designed to, among other things, enhance the water quality and fishery in approximately 130 miles of the Roanoke River. A settlement agreement signed by the licensee and seven federal fish and wildlife agencies that set forth a number of fishery protection and enhancement measures was made part of the license issued in November 2003, for the 185-MW North Umpqua Project located on the North Umpqua River in Oregon. For the 22-MW Bull Run Project on the Sandy River in Oregon, 22 stakeholder groups signed a settlement agreement, approved by the Commission in May 2004, providing for the removal of two power generating developments as well as a variety of measures to protect and enhance populations of listed salmon species. In August 2004, the Commission licensed five Snake River Projects, with a combined capacity of more than 264-MW that affect more than 120 miles of the Snake River in Idaho. These licenses included settlement provisions agreed to by the Department of the Interior and the licensee that were designed to protect listed species. A license for the 85-MW Bear River Project in Idaho was issued in December 2003, incorporating terms of a comprehensive settlement agreement, signed by 14 agencies and nongovernmental organizations, that provided for significant recreational and fishery enhancements.

### INTEGRATED LICENSING PROCESS

In FY 2004, the Commission successfully implemented the Integrated Licensing Process (ILP) which, among other things, merges the pre-filing consultation with the development of the environmental analysis under the National Environmental Policy Act (NEPA). Throughout FY 2004, the Commission

## ENERGY PROJECTS

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has undertaken numerous outreach efforts to educate the industry, resource agencies, Indian tribes, nongovernmental organizations, citizen groups and other stakeholder groups on the ILP. Regional workshops and intensive project-specific conferences with multiple stakeholder groups were undertaken to encourage the use of the ILP. As a result, approximately one third of the eligible projects have proposed to use the ILP. These projects include Canaan (New Hampshire/Vermont), Tacoma-Ames (Colorado), Mystic Lake (Montana), Packwood Lake (Washington), Morgan Falls (Georgia), De Sabla (California), and Smith Mountain (Virginia).

To ensure the successful implementation of the new process, the Commission revised its “Guide to Hydropower Licensing and 5 Megawatt Exemption” to include guidance on the ILP. In addition, on March 12, 2004, the Commission issued a notice soliciting panel members for the study dispute component of the ILP. Finally, the Commission developed the framework for an effectiveness study to monitor the extent the ILP achieves its goals of reducing processing time and costs while ensuring appropriate environmental protection.

### TRIBAL POLICY STATEMENT

At the same time the Commission issued the rule implementing the ILP, it also issued a Tribal Policy Statement. With regard to the licensing process, the policy statement set forth the Commission’s expectations that the Indian tribes be afforded every opportunity to become fully engaged in the licensing process through consultation with the Commission staff. In FY 2004, consultation began for more than 45 relicensing cases due to be filed over the next three years. In addition, the Commission held more than 40 meetings with tribes for 15 licensing actions.

**A marina near the New York Power Authority’s Long Sault Dam provides recreational opportunities for the public.**

*Photo courtesy of the New York Power Authority.*



### **HYDRO LICENSING STATUS WORKSHOP**

In December 2003, the Commission sponsored the third in a series of workshops on hydropower licensing proceedings that are five years or older. Interested stakeholders were invited to discuss, on a project-specific basis, procedural impediments that precluded the Commission from taking final action. At least in part due to the actions spurred by the first two workshops, the number of prolonged cases dropped from 51 identified in the first workshop to 21 cases discussed in the last workshop. As with the other workshops, this last workshop identified a key source of licensing delay in the applicant's receipt of necessary state certifications and permits. For the workshop planned for December 2004, the Commission has lowered the threshold to include those cases that will be three years and older.

### **INTERAGENCY ESA WORKSHOPS**

In addition to state certifications and permits, consultation pursuant to the Endangered Species Act (ESA) was also identified as an impediment to processing some of the licensing cases presented during the above-mentioned workshop. In an effort to address this issue, the Commission established workshops with federal fish and wildlife agencies, primarily in the western part of the country where most ESA consultations occur. This effort has included multiple conferences designed to address a variety of issues, such as better coordination of project processing schedules as well as developing procedures and training programs designed to make the process more efficient for the Commission, license applicants and resource agencies. These workshops have substantially reduced delays.

### **NONCONVENTIONAL HYDROPOWER DEVELOPMENT**

During FY 2004, interest in nonconventional hydropower development has grown. The Commission has more than 15 preliminary permit applications for proposals to develop wave action and tidal action hydropower facilities. There are currently three different proposals where applicants are proceeding with development of license applications. These proposals include AquaEnergy Group Ltd.'s (AquaEnergy) preparation of a license application for the Makah Bay Wave Energy Project. It is a pilot project designed to test the relatively new and developing wave energy technology off the coast of Washington State which, according to the proposal, would consist of up to four, 250-kW units. Similarly, Verdant Power is proposing to install what can best be described as underwater windmills, capable of producing 16-kW of energy, in the East River in New York City. It has been estimated that the total expansion potential of this site could range from 5 to 10 megawatts. Lastly, Energetech proposes to build a 500-kW wave action facility off the coast of Rhode Island.

## **ADMINISTRATION AND COMPLIANCE**

### **AUTHORIZING FEASIBILITY STUDIES FOR NEW HYDROPOWER PROJECTS**

In FY 2004, the Commission continued to receive a large number of preliminary permit applications. A preliminary permit may be issued to an applicant for up to three years so they can study a particular site and determine if they want to develop it in the future. It gives the permittee priority over the site during the life of the permit. During FY 2004, the Commission authorized feasibility studies, through the issuance of preliminary permits, for 950-MW of hydropower capacity.

# ENERGY PROJECTS

## ASSISTANCE PROGRAMS

Commission staff met in Columbia, Tennessee, with plant operators and city managers in December 2003 to discuss public safety at a boat launch at the Old Columbia Project No. 11351, and the requirements necessary to resume project operation.

In January and February 2004, Commission staff met with the licensee of the Swinging Bridge Project No. 10482, located on the Mongaup River in New York, on two occasions to discuss issues at the project related to recreation. During the first meeting, trespassing and other concerns of adjacent landowners were addressed. At the second meeting, town officials and local developers joined the licensee and Commission staff to assist in further analyzing the recreational issues at the project. During these meetings, staff explained the Commission's policies and license requirements concerning public recreation at the project.

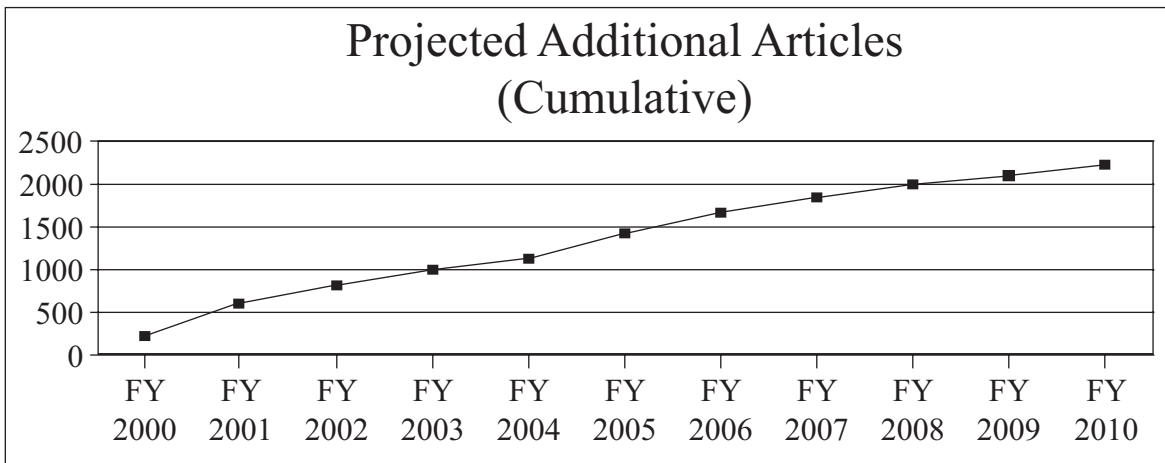
The staff met with representatives of the Grand River Dam Authority, licensee for the Pensacola Project No. 1494 in Oklahoma, in March 2004 to discuss various administrative and compliance matters. During the meeting, the licensee's representatives and Commission staff engaged in discussions on how to effectively work together to fulfill both the licensee's and the Commission's responsibilities.

At the 2004 Boating and Water Safety Congress held in April 2004, Commission staff focused on improving the safety of the nation's waterways and continued to build upon working relationships with its licensees. Commission staff held discussions with participants from the U.S. Army Corps of Engineers, U.S. Coast Guard, and non-governmental organizations such as the American Canoe Association, the National SAFE KIDS Campaign, and the National Safe Boating Council. They discussed various issues concerning water safety, docks, and security at reservoirs. Other issues discussed were shoreline management, public safety, and recreation at licensed projects

During a June 2004 meeting with property owners and developers at the Lake of the Ozarks, the project reservoir for the Osage Project No. 459 in Missouri, staff provided licensee guidance concerning adjacent landowners' use of project lands and waters.

## COMPLIANCE WORKLOAD PROJECTION

The issuance of 220 new licenses between FY 2000 and 2010 will add about 2,200 more license articles, requiring numerous compliance filings and amendment applications. The annual workload receipts in this area have become increasingly complex as agencies and the public participate more fully and vigorously in setting license requirements and negotiate settlements and agreements that are incorporated as conditions of the license. As a result, average annual workload receipts are expected to increase about 15 percent each year.



## COMPLIANCE PLANS AND REPORTS

Licenses include conditions that will protect and enhance environmental resources. These conditions require licensees to prepare and file plans or reports with the Commission that 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. In FY 2004, the Commission completed reviews of about 1,000 of these applications. For example, in June 2004 the Commission approved project-specific anadromous fish agreements and habitat conservation plans regarding the operation of Rocky Reach Project No. 2145 and Rock Island Project No. 943, which are licensed to Public Utility District No. 1 of Chelan County, Washington, and the Wells Project No. 2149, which is licensed to Public Utility District No. 1 of Douglas County, Washington. The approvals provide increased minimum flows and spills at each project to assist migrating salmon and steelhead trout.

### COMPLIANCE REVIEWS

In FY 2004, the Commission completed more than 300 reviews of non-compliance reports related to environmental requirements and completed 20 reviews of reports of non-compliance incidents related to engineering. The Commission is increasing its capability regarding the use of state-of-the-art modeling techniques. For example, flow modeling will enable the Commission to resolve more efficiently various flooding scenarios, and better demonstrate the relationship between licensed projects and unavoidable upstream or downstream flooding events.

### EFFECTIVENESS OF ENVIRONMENTAL MEASURES

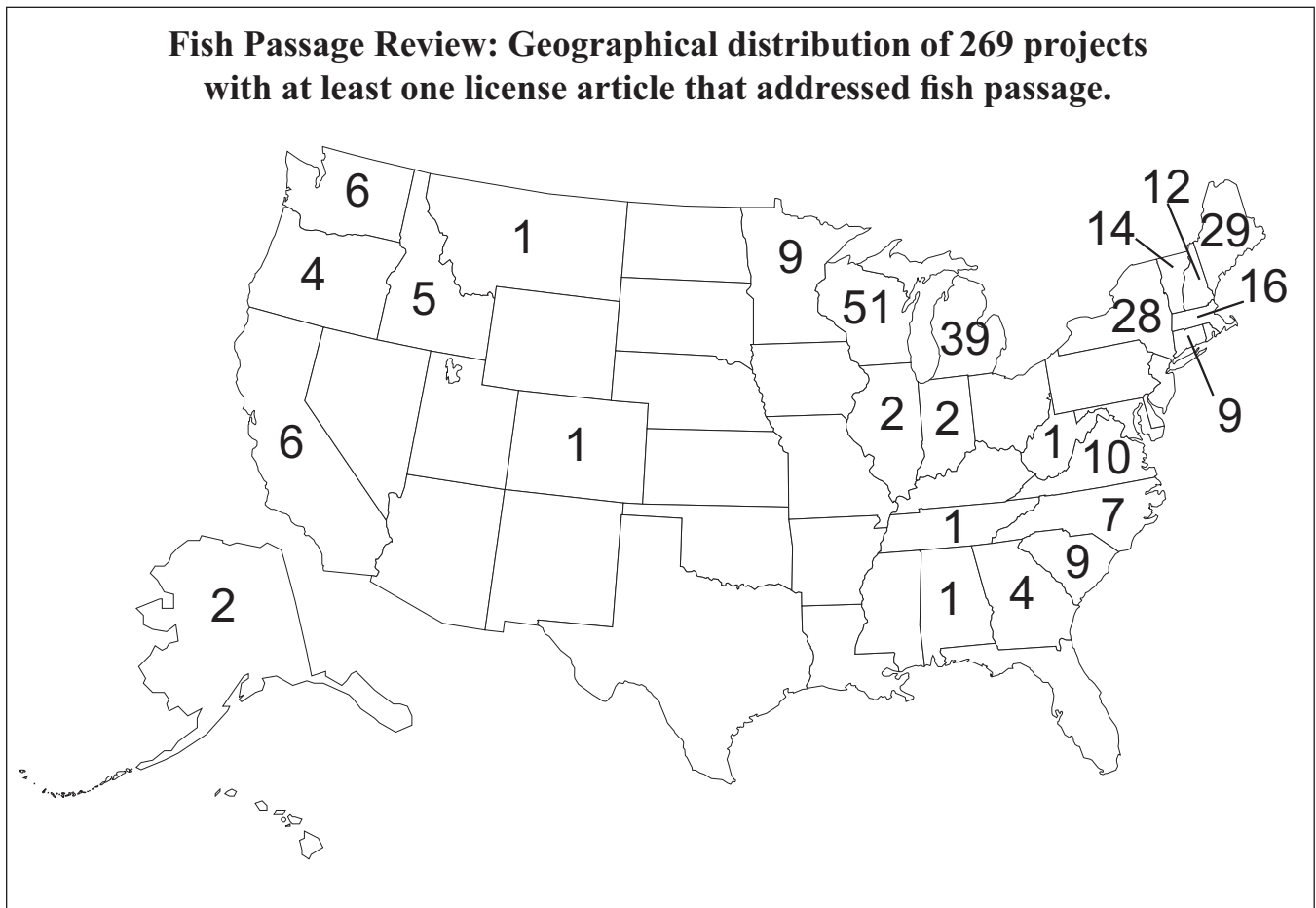
In FY 2004, the Commission continued to review the results of its monitoring efforts to evaluate whether the environmental measures in licenses were providing the appropriate levels of protection, mitigation, and enhancement for environmental resources. The Commission issued a final report entitled *Mitigation Effectiveness Studies at Hydropower Projects: Fish Passage* and a draft report entitled *Mitigation Effectiveness Studies at Hydropower Projects: Recreation*. The final fish passage report analyzed 269 licensed projects with requirements concerning upstream and/or downstream fish passage (See map next page for geographical distribution of projects.)

## FISH PASSAGE REVIEW

### GEOGRAPHICAL DISTRIBUTION OF 269 PROJECTS WITH AT LEAST ONE LICENSE ARTICLE ADDRESSING FISH PASSAGE

The draft recreation report analyzed recreation reports filed by our licensees to evaluate the effectiveness of the recreational measures required in licenses. This review found the total number of visitors to recreation facilities at licensed projects increased from 103.4 million visitors in 1996 to 105.7 million visitors in 2002, a total increase of 2.2 percent (see chart for list of top 10 projects in 2002). These reviews will allow for improvements to environmental measures included in future licenses and, consequently, to the hydropower program objective of improving the environmental performance of hydropower projects.





## JURISDICTIONAL REVIEW

The Commission's jurisdictional review program entails evaluating the jurisdictional status of all hydroelectric projects with licenses expiring within five years. In addition, staff evaluates the jurisdictional status of proposed projects, as well as licensed and unlicensed operating hydropower projects. Staff completed jurisdictional reviews for eight projects.

## HEADWATER BENEFITS STUDIES

During FY 2004, pursuant to section 10(f) of the FPA, staff completed the determination of headwater benefits for the Yakima River basin using the Commission's Headwater Benefits Energy Gains computer model and issued assessments for PacifiCorp's Naches Project.

In FY 2004, about \$6 million was collected in headwater benefits assessments for energy benefits provided by federal headwater storage projects in several river basins. Headwater benefits assessments are returned to the U.S. Treasury to offset headwater project construction costs.

## Safety

The Commission's dam safety program, through its many components, helps ensure dam safety, public safety, environmental resource protection, and reliability in the electric industry.

**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. Types of inspections are prelicense, construction, operation, instrumentation, exemption, and special. The Commission’s Division of Dam Safety and Inspections with its five regional offices conducts the inspections.

**RESOLVING SAFETY DEFICIENCIES**

During FY 2004, the Commission was actively resolving safety deficiencies at 65 dams and overseeing remedial and other construction at 110 projects totaling \$1.3 billion in construction costs. Most notable is the construction progress of the \$275 million backup dam at the Saluda Project in Columbia, South Carolina.

**PERFORMANCE MONITORING**

Applying instrumentation to dams and related water-retaining structures, to monitor otherwise undetectable changes in these structures, is a critical component of the Commission’s dam safety program. By applying the correct technology and instrumentation to each unique situation for early detection and evaluation of deficiencies, serious problems are identified, evaluated, and corrected before they fully develop. In FY 2004, the Commission entered its second year of implementation of an important aspect of its performance monitoring program called potential failure modes analysis. This program helps safeguard important hydropower infrastructure, and provides cost-effective, targeted results.

<b>Top Ten Hydropower Developments for Daytime Visitors in 2002</b>			
<b>Project Name</b>	<b>Project Number</b>	<b>State</b>	<b>Daytime Visitors</b>
Santee-Cooper	199	SC	17,173,000
Niagara Power Project	2216	NY	7,708,100
Pensacola	1494	OK	4,000,000
Tallapoosa River	349	AL	2,535,883
Rock Island	943	WA	2,213,560
Snoqualmie Falls	2493	WA	1,606,500
Roanoke Rapids/Gaston	2009	NC/VA	1,589,830
Coosa (Logan Martin)	2146	AL	1,438,400
Osage Project	459	MO	1,423,159
Coosa (Weiss)	2146	AL	1,366,647

## ENERGY PROJECTS

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### **PROVIDING DAM SAFETY ASSISTANCE TO FEDERAL AND STATE AGENCIES**

The Commission is an active member of the Interagency Committee on Dam Safety, the U.S. Society on Dams, and the Association of State Dam Safety Officials, and shares its dam safety expertise internationally as well. During FY 2004, the Commission also provided dam inspection and evaluation services to the Nuclear Regulatory Commission and the Department of Energy, and assisted the Director of the Federal Emergency Management Agency in implementing the National Dam Safety Program.

### **EMERGENCY ACTION PLANNING**

During FY 2004, Commission staff developed and held a workshop on Security and Emergency Preparedness at Dams. The importance of a well-functioning Emergency Action Plan (EAP) has been heightened because of the threat of terrorist attacks on infrastructure. The EAP role has now been expanded to further provide a secondary line of defense against terrorist attacks. In the event that a security plan at a project does not thwart an attack, the project EAP serves as an additional mechanism to protect the public. The



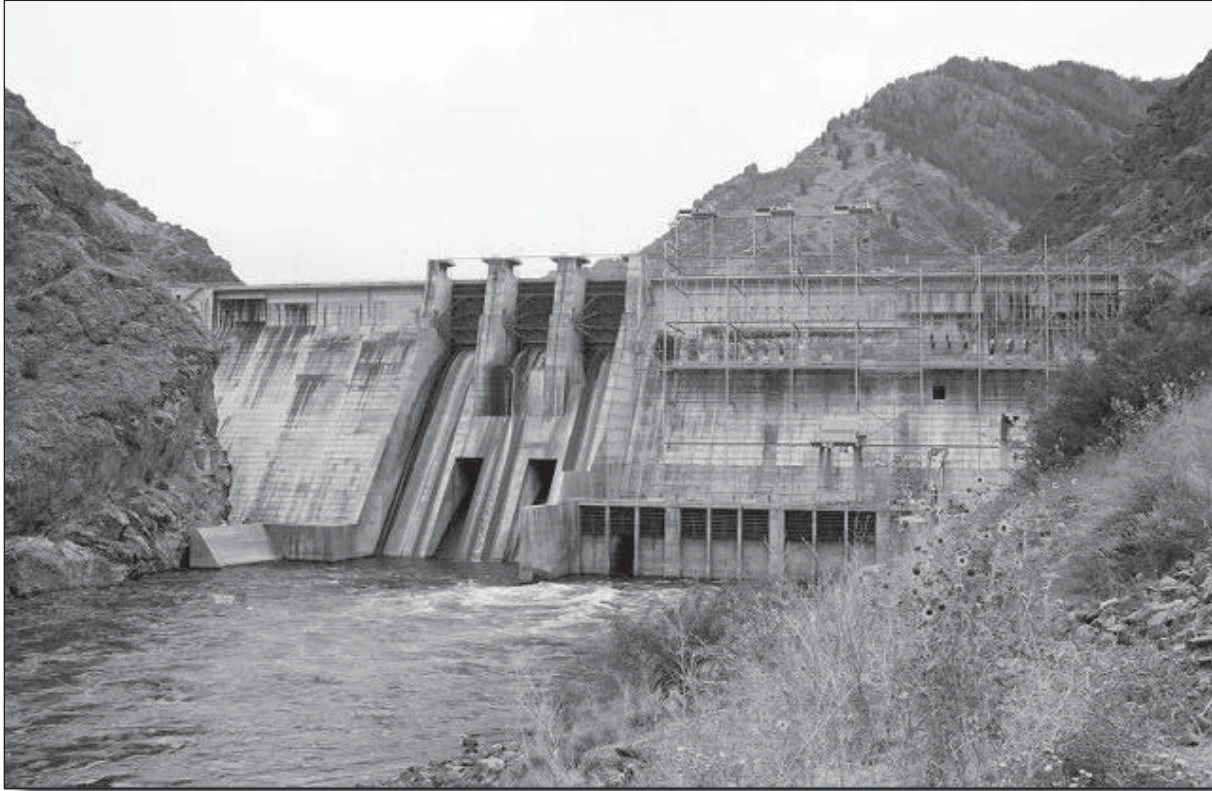
**From left — Chairman Pat Wood, III, James Landreth, South Carolina Electric & Gas (SCE&G), Gus Tjoumas, Director of the Commission’s Dam Safety Program and Commissioner Joseph Kelliher visit the Saluda Dam in South Carolina. The dam, which is licensed to SCE&G, is undergoing remediation to ensure that it can withstand the impact of a major earthquake.**

*Photo courtesy of Lawrence Crocker.*

importance of emergency management personnel working closely with the dam owner to complete the EAP test continues to be a point of emphasis and program development. 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 hold training courses and informational meetings with state emergency managers to search for ways to further develop coordination between dam owners and emergency management personnel to improve any potential response to an emergency, and encourage an exchange of emergency action plan information among dam owners.

### **SECURITY AT DAMS**

During FY 2004, the Commission furthered the FERC Hydropower Security Program by creating and launching the Dam Assessment Methodology for Security and Vulnerability Risk (DAMSVR), in coordination with other federal agencies. The Commission distributes the methodology that identifies and assesses vulnerabilities at dams. There are already 191 registered organizations using DAMSVR in five countries. The Commission continued security efforts with the Federal Bureau of Investigations and the Office of Homeland Security. Staff participated in workgroups, including the Interagency Forum on Infrastructure Protection, a Security Task Force of the National Dam Safety Review Board, and the FERC Hydro Security Task Force, comprised of FERC staff and licensee representatives, to assist in developing a unified and effective national response to security at dams.



**Hells Canyon dam and powerhouse located on the Snake River  
in Idaho. Idaho Power Company holds the license for the project.**

*Photo by Alan Creamer.*

# HYDROELECTRIC POWER TABLE

(Projects For Which Licenses Will Expire Between January 1, 2004 and December 31, 2009)

License Expiration Date	Licensee	FERC Project No.	State	County	River	Installation {KW}	Period of Years	Facilities Under License	Subj. Fed.
3/31/2004	PUD No. 1 Chelan, WA	637	GA	Harris	Chattahoochee	129300	50	DM PH	Y
3/31/2004	S. D. Warren Company	2984	CA	Tuolumne	M Fk Stanislaus	63990	50	DM PH	N
4/10/2004	Midwest Hydro Inc	287	CA	Tuolumne	M Fk Stanislaus	87900	50	DM PH	Y
4/30/2004	United Water Cons Dist	2153	ID	Fremont	Buffalo R	250	24	DM PH	Y
4/30/2004	Merimil Limited Partnership	2574	UT	Iron	Parowan CR	600	30	DM PH	N
4/30/2004	Madison Paper Industries	2364	ME	Cumberland	Presumpscot R	1800	20	DM PH	Y
4/30/2004	Madison Paper Industries	2365	WI	Marathon	Wisconsin R	3050	22	DM PH	Y
6/30/2004	Wisconsin Public Service	1979	WI	Lincoln	Wisconsin R	4200	30	DM PH	Y
7/31/2004	Norway City of Michigan	2720	MI	Marinette	Menominee R	5636	20	DM PH	N
7/31/2004	Idaho Power Co	2726	ME	Kennebec	Kennebec R	6915	35	DM PH	Y
9/30/2004	PPL Holtwood, LLC	487	ME	Somerset	Kennebec R	9000	40	DM PH	Y
9/30/2004	Barton Village Inc	7725	ME	Somerset	Kennebec R	16977	40	DM PH	Y
10/31/2004	Fall River Rural Elec Coop	1413	CA	Calaveras	Stanislaus R	17100	50	DM PH	N
10/31/2004	Pacific Gas & Electric Co	2105	OR	Lackamas	Willamette R	17500	50	DM PH	Y
11/16/2004	Portland General Elec Co	477	OR	Clackamas	Bull Run R	21000	30	DM PH	Y
11/30/2004	International Paper Co	4914	PA	Pike	Wallenpaup'K	44000	24	DM PH	Y
12/30/2004	City of Parowan, UT	1273	WA	Chelan	Chelan R	48000	30	DM PH	N
12/31/2004	Oakdale & S San Joaquin	2005	CA	Plumas	N Fk Feather R	342628	50	DM PH	Y
12/31/2004	Oakdale & S San Joaquin	2067	VT	Orleans	Clyde R	1300	20	DM PH	N
12/31/2004	Pacific Gas & Electric Co	2130	IL	La Salle	Fox R	3680	25	DM PH	Y
12/31/2004	Georgia Power Co	2177	ID	Gooding	Malad R	21770	25	DM PH	N
12/31/2004	Mosinee Paper Mills Co	2207	CA	Ventura	Piru CR	1420	50	DM PH	Y
12/31/2004	Portland General Electric Co	2233	WI	Brown	Fox R	1078	20	DM PH	Y
2/28/2005	Tapoco Inc	2169	NC	Blount	Tennessee	326500	50	DM PH	Y
2/28/2005	Southern Calif Edison Co	382	CA	Kern	Kern R	12000	30	DM PH	Y
3/31/2005	Northern States Power Co	2181	WI	Dunn	Red Cedar R	5400	50	DM PH	Y
3/31/2005	Northern States Power Co	2697	WI	Dunn	Red Cedar R	6000	20	DM PH	Y
3/31/2005	Southern Calif Edison Co	2174	CA	Fresno	Rancheria Cr	10800	50	DM PH	Y
4/30/2005	Alabama Electric Coop	2586	AL	Covington	Conecuh R	8250	25	DM PH	Y
4/30/2005	Pacific Gas & Electric Co	178	CA	Kern	Kern R	9540	30	DM PH	Y
5/31/2005	City of Marshall, Michigan	6514	MI	Calhoun	Kalamazoo R	319	20	DM PH	N
5/31/2005	Grand River Dam Auth	2183	OK	Mayes	Neosho R	100000	50	DM PH	N
6/30/2005	N. E. W. Hydro Inc Et Al	7264	WI	Outagamie	Fox R	1390	20	DM PH	N
6/30/2005	FPL Energy Maine Hydro	2194	ME	York	Saco R	4000	50	DM PH	Y
7/1/2005	Pacificorp	2630	OR	Jackson	N Fk Rogue R	36760	25	DM PH	Y
7/31/2005	Duke Power	2603	NC	Macon	Little Tennessee	1040	25	DM PH	N
7/31/2005	Duke Power	2602	NC	Jackson	Tuckasegee R	225	25	DM PH	N
7/31/2005	Duke Power	2601	NC	Swain	Oconaluftee R	980	25	DM PH	N
7/31/2005	Idaho Power Co	1971	ID	Adams	Snake R	1166900	50	DM PH	Y
8/1/2005	Duke Power	2619	NC	Cherokee	Hiwassee R	1800	25	DM PH	Y
10/4/2005	Norquest Seafoods, Inc.	620	AK	Aleutian Div	Indian Cr	60	30	DM PH	N
10/31/2005	Erie Boulevard Hydropower	7387	NY	St Lawrence	Raquette R	2700	20	DM PH	Y
10/31/2005	Grant CTY PUD 2	2114	WA	Grant	Columbia R	1755000	50	DM PH	N
11/10/2005	Louisville Gas And El Co	289	KY	Jefferson	Ohio R	80320	30	DM PH	Y
12/31/2005	Public Service Co of NH	1893	NH	Merrimack	Merrimack R	29700	25	DM PH	Y
1/31/2006	Duke Power	2686	NC	Jackson	Tuckasegee R	24600	25	DM PH	N
1/31/2006	Duke Power	2698	NC	Jackson	Tuckasegee	26175	25	DM PH	N
2/14/2006	Monroe City Corporation	632	UT	Sevier	Monroe Cr	250	28	DM PH	N
2/28/2006	Duke Power	2692	NC	Macon	Nantahala R	43200	25	DM PH	Y
2/28/2006	Pacificorp	2082	OR	Klamath	Klamath R	151000	50	DM PH	Y

# HYDROELECTRIC POWER TABLE

License Expiration Date	Licensee	FERC Project No.	State	County	River	Installation {KW}	Period of Years	Facilities Under License	Subj. Fed.
2/28/2006	Union Electric Co	459	MO	Miller	Osage R	176200	25	DM PH	Y
3/31/2006	SC Public Service Authority	199	SC	Berkeley	Santee R	134520	27	DM PH	Y
4/12/2006	N Y St Elec & Gas Corp	2738	NY	Clinton	Saranac R	38950	26	DM PH	Y
4/30/2006	Cowlitz Co PUD No 1	2213	WA	Skamania	Lewis R	70000	50	DM PH	N
4/30/2006	Puget Sound Pwr and Lt Co	2150	WA	Whatcom	Baker R	162400	50	DM PH	Y
4/30/2006	Pacificcorp	2111	WA	Skamania	Lewis R	240000	50	DM PH	Y
4/30/2006	Pacificcorp	935	WA	Clark	Lewis R	136000	23	DM PH	Y
6/30/2006	Chelan Co PUD No 1	2145	WA	Douglas	Columbia R	1237400	50	DM PH	N
8/31/2006	Portland General Elec Co	2195	OR	Clackamas	Clackamas R	136600	50	DM PH	Y
11/30/2006	Erie Boulevard Hydropower	7321	NY	Franklin	Salmon R	1000	20	DM PH	N
12/31/2006	City & County of Denver	2204	CO	Grand	Williams Fk R	3000	50	DM PH	N
1/31/2007	CA Dept of Water Res	2100	CA	Butte	Feather R	762850	50	DM PH	N
2/28/2007	Holyoke City of MA	7758	MA	Hampden	Holyoke Cnl	760	20	PH	N
3/27/2007	Pacific Gas & Electric Co	606	CA	Shasta	Cow Cr	4440	30	DM PH	Y
3/31/2007	Flambeau Hydro, LLC	9185	WI	Burnett	Clam R	1200	20	DM PH	N
4/30/2007	Garkane Power Assoc, Inc.	2219	UT	Garfield	W Fk Boulder	4300	50	DM PH	Y
4/30/2007	Chugach Elec Assn ,Inc	2170	AK	Seward Div	Cooper Cr	15000	50	DM PH	Y
6/9/2007	Flambeau Hydro, LLC	9184	WI	Burnett	Yellow R	1076	20	DM PH	N
7/31/2007	Pacific Gas & Electric Co	2155	CA	El Dorado	S Fk American R	7000	45	DM PH	Y
7/31/2007	Alabama Power Co	618	AL	Elmore	Coosa R	100000	27	DM PH	Y
7/31/2007	Alabama Power Co	82	AL	Chilton	Coosa R	170000	32	DM PH	Y
7/31/2007	Sacramento M U D	2101	CA	Placer	Gerle Cr	640950	50	DM PH	N
7/31/2007	Alabama Power Co	2146	AL	Elmore	Coosa R	690900	50	DM PH	Y
8/1/2007	Avista Corp	2545	ID	Spokane	Spokane R	1366000	35	DM PH	Y
8/29/2007	Alaska Power & Tel Co	1051	AK	Skagway-Yak	Dewey Cr	943	30	DM PH	N
8/31/2007	Alabama Power Co	2165	AL	Tuscaloosa	Black Warrior	203250	50	DM PH	Y
8/31/2007	South Carolina Elec & Gas	516	SC	Newberry	Saluda R	207300	23	DM PH	Y
8/31/2007	New York Power Authority	2216	NY	Niagara	Niagara R	2755500	50	DM PH	Y
11/30/2007	Wolverine Power Corp	2785	MI	Midland	Tittabawassee	3300	20	DM PH	Y
11/30/2007	Southern Calif Edison Co	2085	CA	Fresno	San Joaquin R	150938	50	DM PH	Y
12/31/2007	Montana Power, L.L.C.	2543	MT	Missoula	Clark Fk R	3200	40	DM PH	Y
3/31/2008	Sitka City of & Borough AK	2230	AK	Sitka Division	Medvetcha R	7540	50	DM PH	N
4/30/2008	Hyrum City Corp Utah	946	UT	Cache	Blacksmith Fk	400	27	DM PH	N
4/30/2008	Ottumwa City of Iowa	925	IA	Wapello	Des Moines R	3250	26	DM PH	N
4/30/2008	Progress Energy Carolinas	2206	NC	Stanly	Pee Dee R	108600	50	DM PH	Y
4/30/2008	Alcoa Generating	2197	NC	Davidson	Yadkin R	209520	50	DM PH	Y
6/15/2008	Virginia Elec & Pwr Co	906	VA	Amherst	James R	7500	30	DM PH	Y
8/9/2008	Crisp County Power Comm	659	GA	Worth	Flint R	15200	30	DM PH	N
8/31/2008	Duke Power	2232	NC	Alexander	Catawba R	804940	50	DM PH	Y
9/30/2008	Pend Oreille Cty PUD 1	2225	WA	Pend Oreille	Sullivan Cr	0	50	DM PH	N
11/30/2008	Eugene City of OR	2242	OR	Linn	Mckenzie R	124500	50	DM PH	N
2/28/2009	Georgia Power Co	2237	GA	Fulton	Chattahoochee	16800	50	DM PH	Y
2/28/2009	Eagle & Phenix Hydro Co	2655	AL	Muscogee	Chattahoochee	27660	50	DM PH	Y
2/28/2009	Southern Calif Edison Co	2175	CA	Fresno	Big Cr	150150	50	DM PH	Y
2/28/2009	Southern Calif Edison Co	120	CA	Fresno	San Joaquin R	165675	32	DM PH	Y
2/28/2009	Southern Calif Edison Co	67	CA	Fresno	Big Cr	373320	38	DM PH	Y
3/31/2009	Oroville-Wyandotte Dist	2088	CA	Butte	S Fk Feather R	104100	50	DM PH	N
5/31/2009	Augusta Canal Authority	9988	GA	Richmond	Augusta Cnl	2050	20	DM PH	Y
7/31/2009	Public Service Co of NH	7528	NH	Coos	Connecticut R	1100	25	DM PH	N
8/31/2009	Boulder, City of	1005	CO	Boulder	Boulder Cr	20000	28	DM PH	Y
10/11/2009	Pacific Gas & Electric Co	803	CA	Butte	Butte Cr	26650	30	DM PH	Y
10/31/2009	Littleville Power Co Inc	2801	MA	Berkshire	Housatonic R	1140	30	DM PH	N

# HYDROELECTRIC POWER TABLE

License Expiration Date	Licensee	FERC Project No.	State	County	River	Installation {KW}	Period of Years	Facilities Under License	Subj. Fed.
12/31/2009	Moss, Richard	6885	CA	Mono	Middle Cr/Birch Cr	175	50	DM PH	N
12/31/2009	PP&L Montana, L.L.C.	2301	MT	Stillwater	W Rosebud Cr	10000	33	DM PH	Y

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



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