MATTHEW I. KAHAL

Since 2001, Mr. Kahal has worked as an independent consulting economist, specializing in energy economics, public utility regulation and utility financial studies. Over the past three decades, his work has encompassed electric utility integrated resource planning (IRP), power plant licensing, environmental compliance and utility financial issues. In the financial area he has conducted numerous cost of capital studies and addressed other financial issues for electric, gas, telephone and water utilities. Mr. Kahal's work in recent years has expanded to electric power markets, mergers and various aspects of regulation.

Mr. Kahal has provided expert testimony in approximately 400 cases before state and federal regulatory commissions, Federal courts and the U.S. Congress. His testimony has covered need for power, integrated resource planning, cost of capital, purchased power practices and contracts, merger economics, industry restructuring and various other regulatory and public policy issues.

Education:

B.A. (Economics) - University of Maryland, 1971.

M.A. (Economics) - University of Maryland, 1974.

Ph.D. candidacy - University of Maryland, completed all course work and qualifying examinations.

Previous Employment:

1981-2001 - Exeter Associates, Inc. (founding Principal, Vice President and President).

1980-1981 - Member of the Economic Evaluation Directorate, The Aerospace Corporation, Washington, D.C. office.

1977-1980 - Economist, Washington, D.C. consulting firm.

1972-1977 - Research/Teaching Assistant and Instructor, Department of Economics, University of Maryland (College Park). Lecturer in Business and Economics, Montgomery College.

Professional Work Experience:

Mr. Kahal has more than thirty years experience managing and conducting consulting assignments relating to public utility economics and regulation. In 1981, he and five colleagues founded the firm of Exeter Associates, Inc. and for the next 20 years he served as a Principal and corporate officer in the firm. During that time, he supervised multi-million dollar support contracts with the State of Maryland and directed the technical work conducted both by Exeter professional staff and numerous subcontractors. Additionally, Mr. Kahal took the lead role at

Exeter in consulting to the firm's other governmental and private clients in the areas of financial analysis, utility mergers, electric restructuring and utility purchase power contracts.

At the Aerospace Corporation, Mr. Kahal served as an economic consultant to the Strategic Petroleum Reserve (SPR). In that capacity he participated in a detailed financial assessment of the SPR, and developed an econometric forecasting model of U.S. petroleum industry inventories. That study has been used to determine the extent to which private sector petroleum stocks can be expected to protect the U.S. from the impacts of oil import interruptions.

Before entering consulting, Mr. Kahal held faculty positions with the Department of Economics at the University of Maryland and with Montgomery College teaching courses on economic principles, business and economic development.

Publications and Consulting Reports:

Projected Electric Power Demands of the Baltimore Gas and Electric Company, Maryland Power Plant Siting Program, 1979.

Projected Electric Power Demands of the Allegheny Power System, Maryland Power Plant Siting Program, January 1980.

An Econometric Forecast of Electric Energy and Peak Demand on the Delmarva Peninsula, Maryland Power Plant Siting Program, March 1980 (with Ralph E. Miller).

A Benefit/Cost Methodology of the Marginal Cost Pricing of Tennessee Valley Authority Electricity, prepared for the Board of Directors of the Tennessee Valley Authority, April 1980.

An Evaluation of the Delmarva Power and Light Company Generating Capacity Profile and Expansion Plan, (Interim Report), prepared for the Delaware Office of the Public Advocate, July 1980, (with Sharon L. Mason).

Rhode Island-DOE Electric Utilities Demonstration Project, Third Interim Report on Preliminary Analysis of the Experimental Results, prepared for the Economic Regulatory Administration, U.S. Department of Energy, July 1980.

Petroleum Inventories and the Strategic Petroleum Reserve, The Aerospace Corporation, prepared for the Strategic Petroleum Reserve Office, U.S. Department of Energy, December 1980.

Alternatives to Central Station Coal and Nuclear Power Generation, prepared for Argonne National Laboratory and the Office of Utility Systems, U.S. Department of Energy, August 1981.

"An Econometric Methodology for Forecasting Power Demands," Conducting Need-for-Power Review for Nuclear Power Plants (D.A. Nash, ed.), U.S. Nuclear Regulatory Commission, NUREG-0942, December 1982.

State Regulatory Attitudes Toward Fuel Expense Issues, prepared for the Electric Power Research Institute, July 1983, (with Dale E. Swan).

"Problems in the Use of Econometric Methods in Load Forecasting," Adjusting to Regulatory, Pricing and Marketing Realities (Harry Trebing, ed.), Institute of Public Utilities, Michigan State University, 1983.

Proceedings of the Maryland Conference on Electric Load Forecasting, (editor and contributing author), Maryland Power Plant Siting Program, PPES-83-4, October 1983.

"The Impacts of Utility-Sponsored Weatherization Programs: The Case of Maryland Utilities," (with others), in Government and Energy Policy (Richard L. Itteilag, ed.), 1983.

Power Plant Cumulative Environmental Impact Report, contributing author, (Paul E. Miller, ed.) Maryland Department of Natural Resources, January 1984.

Projected Electric Power Demands for the Potomac Electric Power Company, three volumes with Steven L. Estomin), prepared for the Maryland Power Plant Siting Program, March 1984.

"An Assessment of the State-of-the-Art of Gas Utility Load Forecasting," (with Thomas Bacon, Jr. and Steven L. Estomin), published in the Proceedings of the Fourth NARUC Biennial Regulatory Information Conference, 1984.

"Nuclear Power and Investor Perceptions of Risk," (with Ralph E. Miller), published in The Energy Industries in Transition: 1985-2000 (John P. Weyant and Dorothy Sheffield, eds.), 1984.

The Financial Impact of Potential Department of Energy Rate Recommendations on the Commonwealth Edison Company, prepared for the U.S. Department of Energy, October 1984.

"Discussion Comments," published in Impact of Deregulation and Market Forces on Public Utilities: The Future of Regulation (Harry Trebing, ed.), Institute of Public Utilities, Michigan State University, 1985.

An Econometric Forecast of the Electric Power Loads of Baltimore Gas and Electric Company, two volumes (with others), prepared for the Maryland Power Plant Siting Program, 1985.

A Survey and Evaluation of Demand Forecast Methods in the Gas Utility Industry, prepared for the Public Utilities Commission of Ohio, Forecasting Division, November 1985, (with Terence Manuel).

A Review and Evaluation of the Load Forecasts of Houston Lighting & Power Company and Central Power & Light Company -- Past and Present, prepared for the Texas Public Utility Commission, December 1985, (with Marvin H. Kahn).

Power Plant Cumulative Environmental Impact Report for Maryland, principal author of three of the eight chapters in the report (Paul E. Miller, ed.), PPSP-CEIR-5, March 1986.

"Potential Emissions Reduction from Conservation, Load Management, and Alternative Power," published in Acid Deposition in Maryland: A Report to the Governor and General Assembly, Maryland Power Plant Research Program, AD-87-1, January 1987.

Determination of Retrofit Costs at the Oyster Creek Nuclear Generating Station, March 1988, prepared for Versar, Inc., New Jersey Department of Environmental Protection.

Excess Deferred Taxes and the Telephone Utility Industry, April 1988, prepared on behalf of the National Association of State Utility Consumer Advocates.

Toward a Proposed Federal Policy for Independent Power Producers, comments prepared on behalf of the Indiana Consumer Counselor, FERC Docket EL87-67-000, November 1987.

Review and Discussion of Regulations Governing Bidding Programs, prepared for the Pennsylvania Office of Consumer Advocate, June 1988.

A Review of the Proposed Revisions to the FERC Administrative Rules on Avoided Costs and Related Issues, prepared for the Pennsylvania Office of Consumer Advocate, April 1988.

Review and Comments on the FERC NOPR Concerning Independent Power Producers, prepared for the Pennsylvania Office of Consumer Advocate, June 1988.

The Costs to Maryland Utilities and Ratepayers of an Acid Rain Control Strategy -- An Updated Analysis, prepared for the Maryland Power Plant Research Program, October 1987, AD-88-4.

"Comments," in New Regulatory and Management Strategies in a Changing Market Environment (Harry M. Trebing and Patrick C. Mann, editors), Proceedings of the Institute of Public Utilities Eighteenth Annual Conference, 1987.

Electric Power Resource Planning for the Potomac Electric Power Company, prepared for the Maryland Power Plant Research Program, July 1988.

Power Plant Cumulative Environmental Impact Report for Maryland (Thomas E. Magette, ed.) authored two chapters, November 1988, PPRP-CEIR-6.

Resource Planning and Competitive Bidding for Delmarva Power & Light Company, October 1990, prepared for the Maryland Department of Natural Resources (with M. Fullenbaum).

Electric Power Rate Increases and the Cleveland Area Economy, prepared for the Northeast Ohio Areawide Coordinating Agency, October 1988.

An Economic and Need for Power Evaluation of Baltimore Gas & Electric Company's Perryman Plant, May 1991, prepared for the Maryland Department of Natural Resources (with M. Fullenbaum).

The Cost of Equity Capital for the Bell Local Exchange Companies in a New Era of Regulation, October 1991, presented at the Atlantic Economic Society 32nd Conference, Washington, D.C.

A Need for Power Review of Delmarva Power & Light Company's Dorchester Unit 1 Power Plant, March 1993, prepared for the Maryland Department of National Resources (with M. Fullenbaum)

The AES Warrior Run Project: Impact on Western Maryland Economic Activity and Electric Rates, February 1993, prepared for the Maryland Power Plant Research Program (with Peter Hall).

An Economic Perspective on Competition and the Electric Utility Industry, November 1994. Prepared for the Electric Consumers' Alliance.

PEPCO's Clean Air Act Compliance Plan: Status Report, prepared for the Maryland Power Plant Research Plan, January 1995 (w/Diane Mountain, Environmental Resources Management, Inc.).

The FERC Open Access Rulemaking: A Review of the Issues, prepared for the Indiana Office of Utility Consumer Counselor and the Pennsylvania Office of Consumer Advocate, June 1995.

A Status Report on Electric Utility Restructuring: Issues for Maryland, prepared for the Maryland Power Plant Research Program, November 1995 (with Daphne Psacharopoulos).

Modeling the Financial Impacts on the Bell Regional Holding Companies from Changes in Access Rates, prepared for MCI Corporation, May 1996.

The CSEF Electric Deregulation Study: Economic Miracle or the Economists' Cold Fusion?, prepared for the Electric Consumers' Alliance, Indianapolis, Indiana, October 1996.

Reducing Rates for Interstate Access Service: Financial Impacts on the Bell Regional Holding Companies, prepared for MCI Corporation, May 1997.

The New Hampshire Retail Competition Pilot Program: A Preliminary Evaluation, July 1997, prepared for the Electric Consumers' Alliance (with Jerome D. Mierzwa).

Electric Restructuring and the Environment: Issue Identification for Maryland, March 1997, prepared for the Maryland Power Plant Research Program (with Environmental Resource Management, Inc.)

An Analysis of Electric Utility Embedded Power Supply Costs, prepared for Power-Gen International Conference, Dallas, Texas, December 1997.

Market Power Outlook for Generation Supply in Louisiana, December 2000, prepared for the Louisiana Public Service Commission (with others).

A Review of Issues Concerning Electric Power Capacity Markets, prepared for the Maryland Power Plant Research Program, December 2001 (with B. Hobbs and J. Inon).
The Economic Feasibility of Air Emissions Controls at the Brandon Shores and Morgantown Coal-fired Power Plants, February 2005, (prepared for the Chesapeake Bay Foundation).

The Economic Feasibility of Power Plant Retirements on the Entergy System, September 2005 with Phil Hayet (prepared for the Louisiana Public Service Commission).

Expert Report on Capital Structure, Equity and Debt Costs, prepared for the Edmonton Regional Water Customers Group, August 30, 2006.

Maryland's Options to Reduce and Stabilize Electric Power Prices Following Restructuring, with Steven L. Estomin, prepared for the Power Plant Research Program, Maryland Department of Natural Resources, September 2006.

Expert Report of Matthew I. Kahal, on behalf of the U. S. Department of Justice, August 2008, Civil Action No. IP-99-1693C-MIS.

Conference and Workshop Presentations:

Workshop on State Load Forecasting Programs, sponsored by the Nuclear Regulatory Commission and Oak Ridge National Laboratory, February 1982 (presentation on forecasting methodology).

Fourteenth Annual Conference of the Michigan State University Institute for Public Utilities, December 1982 (presentation on problems in forecasting).

Conference on Conservation and Load Management, sponsored by the Massachusetts Energy Facilities Siting Council, May 1983 (presentation on cost-benefit criteria).

Maryland Conference on Load Forecasting, sponsored by the Maryland Power Plant Siting Program and the Maryland Public Service Commission, June 1983 (presentation on overforecasting power demands).

The 5th Annual Meetings of the International Association of Energy Economists, June 1983 (presentation on evaluating weatherization programs).

The NARUC Advanced Regulatory Studies Program (presented lectures on capacity planning for electric utilities), February 1984.

The 16th Annual Conference of the Institute of Public Utilities, Michigan State University (discussant on phase-in and excess capacity), December 1984.

U.S. Department of Energy Utilities Conference, Las Vegas, Nevada (presentation of current and future regulatory issues), May 1985.

The 18th Annual Conference of the Institute of Public Utilities, Michigan State University, Williamsburg, Virginia, December 1986 (discussant on cogeneration).

The NRECA Conference on Load Forecasting, sponsored by the National Rural Electric Cooperative Association, New Orleans, Louisiana, December 1987 (presentation on load forecast accuracy).

The Second Rutgers/New Jersey Department of Commerce Annual Conference on Energy Policy in the Middle Atlantic States, Rutgers University, April 1988 (presentation on spot pricing of electricity).

The NASUCA 1988 Mid-Year Meeting, Annapolis, Maryland, June 1988, sponsored by the National Association of State Utility Consumer Advocates (presentation on the FERC electricity avoided cost NOPRs).

The Thirty Second Atlantic Economic Society Conference, Washington, D.C., October 1991 (presentation of a paper on cost of capital issues for the Bell Operating Companies).

The NASUCA 1993 Mid-Year Meeting, St. Louis, Missouri, sponsored by the National Association of State Utility Consumer Advocates, June 1993 (presentation on regulatory issues concerning electric utility mergers).

The NASUCA and NARUC annual meetings in New York City, November 1993 (presentations and panel discussions on the emerging FERC policies on transmission pricing).

The NASUCA annual meetings in Reno, Nevada, November 1994 (presentation concerning the FERC NOPR on stranded cost recovery).

U.S. Department of Energy Utilities/Energy Management Workshop, March 1995 (presentation concerning electric utility competition).

The 1995 NASUCA Mid-Year Meeting, Breckenridge, Colorado, June 1995, (presentation concerning the FERC rulemaking on electric transmission open access).

The 1996 NASUCA Mid-Year Meeting, Chicago, Illinois, June 1996 (presentation concerning electric utility merger issues).

Conference on "Restructuring the Electric Industry," sponsored by the National Consumers League and Electric Consumers Alliance, Washington, D.C., May 1997 (presentation on retail access pilot programs).

The 1997 Mid-Atlantic Conference of Regulatory Utilities Commissioners (MARUC), Hot Springs, Virginia, July 1997 (presentation concerning electric deregulation issues).

Power-Gen '97 International Conference, Dallas, Texas, December 1997 (presentation concerning utility embedded costs of generation supply).

Consumer Summit on Electric Competition, sponsored by the National Consumers League and Electric Consumers' Alliance, Washington, D.C., March 2001 (presentation concerning generation supply and reliability).

National Association of State Utility Consumer Advocates, Mid-Year Meetings, Austin, Texas, June 16-17, 2002 (presenter and panelist on RTO/Standard Market Design issues).

Louisiana State Bar Association, Public Utility Section, October 2, 2002. (Presentation on Performance-Based Ratemaking and panelist on RTO issues). Baton Rouge, Louisiana.

Virginia State Corporation Commission/Virginia State Bar, Twenty Second National Regulatory Conference, May 10, 2004. (Presentation on Electric Transmission System Planning.) Williamsburg, Virginia.

Expert Testimony
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	Docket Number	Utility	Jurisdiction	Client	Subject
1.	27374 & 27375 October 1978	Long Island Lighting Company	New York Counties	Nassau & Suffolk	Economic Impacts of Proposed Rate Increase
2.	6807 January 1978	Generic	Maryland	MD Power Plant Siting Program	Load Forecasting
3.	78-676-EL-AIR February 1978	Ohio Power Company	Ohio	Ohio Consumers' Counsel	Test Year Sales and Revenues
4.	17667 May 1979	Alabama Power Company	Alabama	Attorney General	Test Year Sales, Revenues, Costs and Load Forecasts
5.	None April 1980	Tennessee Valley Authority	TVA Board	League of Women Voters	Time-of-Use Pricing
6.	R-80021082	West Penn Power Company	Pennsylvania	Office of Consumer Advocate	Load Forecasting, Marginal Cost pricing
7.	7259 (Phase I) October 1980	Potomac Edison Company	Maryland	MD Power Plant Siting Program	Load Forecasting
8.	7222 December 1980	Delmarva Power & Light Company.	Maryland	MD Power Plant Siting Program	Need for Plant, Load Forecasting
9.	7441 June 1981	Potomac Electric Power Company	Maryland	Commission Staff	PURPA Standards
10.	7159 May 1980	Baltimore Gas & Electric	Maryland	Commission Staff	Time-of-Use Pricing
11.	81-044-E-42T	Monongahela Power	West Virginia	Commission Staff	Time-of-Use Rates
12.	7259 (Phase II) November 1981	Potomac Edison Company	Maryland	MD Power Plant Siting Program	Load Forecasting, Load Management
13.	1606 September 1981	Blackstone Valley Electric and Narragansett	Rhode Island	Division of Public Utilities	PURPA Standards
14.	RID 1819 April 1982	Pennsylvania Bell	Pennsylvania	Office of Consumer Advocate	Rate of Return
15.	82-0152 July 1982	Illinois Power Company	Illinois	U.S. Department of Defense	Rate of Return, CWIP

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	Docket Number	Utility	Jurisdiction	Client	Subject
16.	7559 September 1982	Potomac Edison Company	Maryland	Commission Staff	Cogeneration
17.	820150-EU September 1982	Gulf Power Company	Florida	Federal Executive Agencies	Rate of Return, CWIP
18.	82-057-15 January 1983	Mountain Fuel Supply Company	Utah	Federal Executive Agencies	Rate of Return, Capital Structure
19.	5200 August 1983	Texas Electric Service Company	Texas	Federal Executive Agencies	Cost of Equity
20.	28069 August 1983	Oklahoma Natural Gas	Oklahoma	Federal Executive Agencies	Rate of Return, deferred taxes, capital structure, attrition
21.	83-0537 February 1984	Commonwealth Edison Company	Illinois	U.S. Department of Energy	Rate of Return, capital structure, financial capability
22.	84-035-01 June 1984	Utah Power & Light Company	Utah	Federal Executive Agencies	Rate of Return
23.	U-1009-137 July 1984	Utah Power & Light Company	Idaho	U.S. Department of Energy	Rate of Return, financial condition
24.	R-842590 August 1984	Philadelphia Electric Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
25.	840086-EI August 1984	Gulf Power Company	Florida	Federal Executive Agencies	Rate of Return. CWIP
26.	84-122-E August 1984	Carolina Power & Light Company	South Carolina	South Carolina Consumer Advocate	Rate of Return, CWIP, load forecasting
27.	CGC-83-G & CGC-84-G October 1984	Columbia Gas of Ohio	Ohio	Ohio Division of Energy	Load forecasting
28.	R-842621 October 1984	Western Pennsylvania Water Company	Pennsylvania	Office of Consumer Advocate	Test year sales
29.	R-842710 January 1985	ALLTEL Pennsylvania Inc.	Pennsylvania	Office of Consumer Advocate	Rate of Return
30.	ER-504 February 1985	Allegheny Generating Company	FERC	Office of Consumer Advocate	Rate of Return

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	Docket Number	Utility	Jurisdiction	Client	Subject
31.	R-842632 March 1985	West Penn Power Company	Pennsylvania	Office of Consumer Advocate	Rate of Return, conservation, time-of-use rates
32.	83-0537 & 84-0555 April 1985	Commonwealth Edison Company	Illinois	U.S. Department of Energy	Rate of Return, incentive rates, rate base
33.	Rulemaking Docket No. 11, May 1985	Generic	Delaware	Delaware Commission Staff	Interest rates on refunds
34.	29450 July 1985	Oklahoma Gas & Electric Company	Oklahoma	Oklahoma Attorney General	Rate of Return, CWIP in rate base
35.	1811 August 1985	Bristol County Water Company	Rhode Island	Division of Public Utilities	Rate of Return, capital Structure
36.	R-850044 & R-850045 August 1985	Quaker State & Continental Telephone Companies	Pennsylvania	Office of Consumer Advocate	Rate of Return
37.	R-850174 November 1985	Philadelphia Suburban Water Company	Pennsylvania	Office of Consumer Advocate	Rate of Return, financial conditions
38.	U-1006-265 March 1986	Idaho Power Company	Idaho	U.S. Department of Energy	Power supply costs and models
39.	EL-86-37 & EL-86-38 September 1986	Allegheny Generating Company	FERC	PA Office of Consumer Advocate	Rate of Return
40.	R-850287 June 1986	National Fuel Gas Distribution Corp.	Pennsylvania	Office of Consumer Advocate	Rate of Return
41.	1849 August 1986	Blackstone Valley Electric	Rhode Island	Division of Public Utilities	Rate of Return, financial condition
42.	86-297-GA-AIR November 1986	East Ohio Gas Company	Ohio	Ohio Consumers' Counsel	Rate of Return
43.	U-16945 December 1986	Louisiana Power & Light Company	Louisiana	Public Service Commission	Rate of Return, rate phase-in plan
44.	Case No. 7972 February 1987	Potomac Electric Power Company	Maryland	Commission Staff	Generation capacity planning, purchased power contract
45.	EL-86-58 & EL-86-59 March 1987	System Energy Resources and Middle South Services	FERC	Louisiana PSC	Rate of Return

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	Docket Number	Utility	Jurisdiction	Client	Subject
46.	ER-87-72-001 April 1987	Orange & Rockland	FERC	PA Office of Consumer Advocate	Rate of Return
47.	U-16945 April 1987	Louisiana Power & Light Company	Louisiana	Commission Staff	Revenue requirement update phase-in plan
48.	P-870196 May 1987	Pennsylvania Electric Company	Pennsylvania	Office of Consumer Advocate	Cogeneration contract
49.	86-2025-EL-AIR June 1987	Cleveland Electric Illuminating Company	Ohio	Ohio Consumers' Counsel	Rate of Return
50.	86-2026-EL-AIR June 1987	Toledo Edison Company	Ohio	Ohio Consumers' Counsel	Rate of Return
51.	87-4 June 1987	Delmarva Power & Light Company	Delaware	Commission Staff	Cogeneration/small power
52.	1872 July 1987	Newport Electric Company	Rhode Island	Commission Staff	Rate of Return
53.	WO 8606654 July 1987	Atlantic City Sewerage Company	New Jersey	Resorts International	Financial condition
54.	7510 August 1987	West Texas Utilities Company	Texas	Federal Executive Agencies	Rate of Return, phase-in
55.	8063 Phase I October 1987	Potomac Electric Power Company	Maryland	Power Plant Research Program	Economics of power plant site selection
56.	00439 November 1987	Oklahoma Gas & Electric Company	Oklahoma	Smith Cogeneration	Cogeneration economics
57.	RP-87-103 February 1988	Panhandle Eastern Pipe Line Company	FERC	Indiana Utility Consumer Counselor	Rate of Return
58.	EC-88-2-000 February 1988	Utah Power & Light Co. PacifiCorp	FERC	Nucor Steel	Merger economics
59.	87-0427 February 1988	Commonwealth Edison Company	Illinois	Federal Executive Agencies	Financial projections
60.	870840 February 1988	Philadelphia Suburban Water Company	Pennsylvania	Office of Consumer Advocate	Rate of Return

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	Docket Number	Utility	Jurisdiction	Client	Subject
61.	870832 March 1988	Columbia Gas of Pennsylvania	Pennsylvania	Office of Consumer Advocate	Rate of Return
62.	8063 Phase II July 1988	Potomac Electric Power Company	Maryland	Power Plant Research Program	Power supply study
63.	8102 July 1988	Southern Maryland Electric Cooperative	Maryland	Power Plant Research Program	Power supply study
64.	10105 August 1988	South Central Bell Telephone Co.	Kentucky	Attorney General	Rate of Return, incentive regulation
65.	00345 August 1988	Oklahoma Gas & Electric Company	Oklahoma	Smith Cogeneration	Need for power
66.	U-17906 September 1988	Louisiana Power & Light Company	Louisiana	Commission Staff	Rate of Return, nuclear power costs Industrial contracts
67.	88-170-EL-AIR October 1988	Cleveland Electric Illuminating Co.	Ohio	Northeast-Ohio Areawide Coordinating Agency	Economic impact study
68.	1914 December 1988	Providence Gas Company	Rhode Island	Commission Staff	Rate of Return
69.	U-12636 & U-17649 February 1989	Louisiana Power & Light Company	Louisiana	Commission Staff	Disposition of litigation proceeds
70.	00345 February 1989	Oklahoma Gas & Electric Company	Oklahoma	Smith Cogeneration	Load forecasting
71.	RP88-209 March 1989	Natural Gas Pipeline of America	FERC	Indiana Utility Consumer Counselor	Rate of Return
72.	8425 March 1989	Houston Lighting & Power Company	Texas	U.S. Department of Energy	Rate of Return
73.	EL89-30-000 April 1989	Central Illinois Public Service Company	FERC	Soyland Power Coop, Inc.	Rate of Return
74.	R-891208 May 1989	Pennsylvania American Water Company	Pennsylvania	Office of Consumer Advocate	Rate of Return

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	Docket Number	Utility	Jurisdiction	Client	Subject
75.	89-0033 May 1989	Illinois Bell Telephone Company	Illinois	Citizens Utility Board	Rate of Return
76.	881167-EI May 1989	Gulf Power Company	Florida	Federal Executive Agencies	Rate of Return
77.	R-891218 July 1989	National Fuel Gas Distribution Company	Pennsylvania	Office of Consumer Advocate	Sales forecasting
78.	8063, Phase III Sept. 1989	Potomac Electric Power Company	Maryland	Depart. Natural Resources	Emissions Controls
79.	37414-S2 October 1989	Public Service Company of Indiana	Indiana	Utility Consumer Counselor	Rate of Return, DSM, off-system sales, incentive regulation
80.	October 1989	Generic	U.S. House of Reps. Comm. on Ways & Means	NA	Excess deferred income tax
81.	38728 November 1989	Indiana Michigan Power Company	Indiana	Utility Consumer Counselor	Rate of Return
82.	RP89-49-000 December 1989	National Fuel Gas Supply Corporation	FERC	PA Office of Consumer Advocate	Rate of Return
83.	R-891364 December 1989	Philadelphia Electric Company	Pennsylvania	PA Office of Consumer Advocate	Financial impacts (surrebuttal only)
84.	RP89-160-000 January 1990	Trunkline Gas Company	FERC	Indiana Utility Consumer Counselor	Rate of Return
85.	EL90-16-000 November 1990	System Energy Resources, Inc.	FERC	Louisiana Public Service Commission	Rate of Return
86.	89-624 March 1990	Bell Atlantic	FCC	PA Office of Consumer Advocate	Rate of Return
87.	8245 March 1990	Potomac Edison Company	Maryland	Depart. Natural Resources	Avoided Cost
88.	000586 March 1990	Public Service Company of Oklahoma	Oklahoma	Smith Cogeneration Mgmt.	Need for Power

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	Docket Number	Utility	Jurisdiction	Client	Subject
89.	38868 March 1990	Indianapolis Water Company	Indiana	Utility Consumer Counselor	Rate of Return
90.	1946 March 1990	Blackstone Valley Electric Company	Rhode Island	Division of Public Utilities	Rate of Return
91.	000776 April 1990	Oklahoma Gas & Electric Company	Oklahoma	Smith Cogeneration Mgmt.	Need for Power
92.	890366 May 1990, December 1990	Metropolitan Edison Company	Pennsylvania	Office of Consumer Advocate	Competitive Bidding Program Avoided Costs
93.	EC-90-10-000 May 1990	Northeast Utilities	FERC	Maine PUC, et. al.	Merger, Market Power, Transmission Access
94.	ER-891109125 July 1990	Jersey Central Power & Light	New Jersey	Rate Counsel	Rate of Return
95.	R-901670 July 1990	National Fuel Gas Distribution Corp.	Pennsylvania	Office of Consumer Advocate	Rate of Return Test year sales
96.	8201 October 1990	Delmarva Power & Light Company	Maryland	Depart. Natural Resources	Competitive Bidding, Resource Planning
97.	EL90-45-000 April 1991	Entergy Services, Inc.	FERC	Louisiana PSC	Rate of Return
98.	GR90080786J January 1991	New Jersey Natural Gas	New Jersey	Rate Counsel	Rate of Return
99.	90-256 January 1991	South Central Bell Telephone Company	Kentucky	Attorney General	Rate of Return
100.	U-17949A February 1991	South Central Bell Telephone Company	Louisiana	Louisiana PSC	Rate of Return
101.	ER90091090J April 1991	Atlantic City Electric Company	New Jersey	Rate Counsel	Rate of Return
102.	8241, Phase I April 1991	Baltimore Gas & Electric Company	Maryland	Dept. of Natural Resources	Environmental controls

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	Docket Number	Utility	Jurisdiction	Client	Subject
103.	8241, Phase II May 1991	Baltimore Gas & Electric Company	Maryland	Dept. of Natural Resources	Need for Power, Resource Planning
104.	39128 May 1991	Indianapolis Water Company	Indiana	Utility Consumer Counselor	Rate of Return, rate base, financial planning
105.	P-900485 May 1991	Duquesne Light Company	Pennsylvania	Office of Consumer Advocate	Purchased power contract and related ratemaking
106.	G900240 P910502 May 1991	Metropolitan Edison Company Pennsylvania Electric Company	Pennsylvania	Office of Consumer Advocate	Purchased power contract and related ratemaking
107.	GR901213915 May 1991	Elizabethtown Gas Company	New Jersey	Rate Counsel	Rate of Return
108.	91-5032 August 1991	Nevada Power Company	Nevada	U.S. Dept. of Energy	Rate of Return
109.	EL90-48-000 November 1991	Entergy Services	FERC	Louisiana PSC	Capacity transfer
110.	000662 September 1991	Southwestern Bell Telephone	Oklahoma	Attorney General	Rate of Return
111.	U-19236 October 1991	Arkansas Louisiana Gas Company	Louisiana	Louisiana PSC Staff	Rate of Return
112.	U-19237 December 1991	Louisiana Gas Service Company	Louisiana	Louisiana PSC Staff	Rate of Return
113.	ER91030356J October 1991	Rockland Electric Company	New Jersey	Rate Counsel	Rate of Return
114.	GR91071243J February 1992	South Jersey Gas Company	New Jersey	Rate Counsel	Rate of Return
115.	GR91081393J March 1992	New Jersey Natural Gas Company	New Jersey	Rate Counsel	Rate of Return
116.	P-870235 et al. March 1992	Pennsylvania Electric Company	Pennsylvania	Office of Consumer Advocate	Cogeneration contracts

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	Docket Number	Utility	Jurisdiction	Client	Subject
117.	8413 March 1992	Potomac Electric Power Company	Maryland	Dept. of Natural Resources	IPP purchased power contracts
118.	39236 March 1992	Indianapolis Power & Light Company	Indiana	Utility Consumer Counselor	Least-cost planning Need for power
119.	R-912164 April 1992	Equitable Gas Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
120.	ER-91111698J May 1992	Public Service Electric & Gas Company	New Jersey	Rate Counsel	Rate of Return
121.	U-19631 June 1992	Trans Louisiana Gas Company	Louisiana	PSC Staff	Rate of Return
122.	ER-91121820J July 1992	Jersey Central Power & Light Company	New Jersey	Rate Counsel	Rate of Return
123.	R-00922314 August 1992	Metropolitan Edison Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
124.	92-049-05 September 1992	US West Communications	Utah	Committee of Consumer Services	Rate of Return
125.	92PUE0037 September 1992	Commonwealth Gas Company	Virginia	Attorney General	Rate of Return
126.	EC92-21-000 September 1992	Entergy Services, Inc.	FERC	Louisiana PSC	Merger Impacts (Affidavit)
127.	ER92-341-000 December 1992	System Energy Resources	FERC	Louisiana PSC	Rate of Return
128.	U-19904 November 1992	Louisiana Power & Light Company	Louisiana	Staff	Merger analysis, competition competition issues
129.	8473 November 1992	Baltimore Gas & Electric Company	Maryland	Dept. of Natural Resources	QF contract evaluation
130.	IPC-E-92-25 January 1993	Idaho Power Company	Idaho	Federal Executive Agencies	Power Supply Clause

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	Docket Number	Utility	Jurisdiction	Client	Subject
131.	E002/GR-92-1185 February 1993	Northern States Power Company	Minnesota	Attorney General	Rate of Return
132.	92-102, Phase II March 1992	Central Maine Power Company	Maine	Staff	QF contracts prudence and procurements practices
133.	EC92-21-000 March 1993	Entergy Corporation	FERC	Louisiana PSC	Merger Issues
134.	8489 March 1993	Delmarva Power & Light Company	Maryland	Dept. of Natural Resources	Power Plant Certification
135.	11735 April 1993	Texas Electric Utilities Company	Texas	Federal Executives Agencies	Rate of Return
136.	2082 May 1993	Providence Gas Company	Rhode Island	Division of Public Utilities	Rate of Return
137.	P-00930715 December 1993	Bell Telephone Company of Pennsylvania	Pennsylvania	Office of Consumer Advocate	Rate of Return, Financial Projections, Bell/TCI merger
138.	R-00932670 February 1994	Pennsylvania-American Water Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
139.	8583 February 1994	Conowingo Power Company	Maryland	Dept. of Natural Resources	Competitive Bidding for Power Supplies
140.	E-015/GR-94-001 April 1994	Minnesota Power & Light Company	Minnesota	Attorney General	Rate of Return
141.	CC Docket No. 94-1 May 1994	Generic Telephone	FCC	MCI Comm. Corp.	Rate of Return
142.	92-345, Phase II June 1994	Central Maine Power Company	Maine	Advocacy Staff	Price Cap Regulation Fuel Costs
143.	93-11065 April 1994	Nevada Power Company	Nevada	Federal Executive Agencies	Rate of Return
144.	94-0065 May 1994	Commonwealth Edison Company	Illinois	Federal Executive Agencies	Rate of Return
145.	GR94010002J June 1994	South Jersey Gas Company	New Jersey	Rate Counsel	Rate of Return

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146.	WR94030059 July 1994	New Jersey-American Water Company	New Jersey	Rate Counsel	Rate of Return
147.	RP91-203-000 June 1994	Tennessee Gas Pipeline Company	FERC	Customer Group	Environmental Externalities (oral testimony only)
148.	ER94-998-000 July 1994	Ocean State Power	FERC	Boston Edison Company	Rate of Return
149.	R-00942986 July 1994	West Penn Power Company	Pennsylvania	Office of Consumer Advocate	Rate of Return, Emission Allowances
150.	94-121 August 1994	South Central Bell Telephone Company	Kentucky	Attorney General	Rate of Return
151.	35854-S2 November 1994	PSI Energy, Inc.	Indiana	Utility Consumer Counsel	Merger Savings and Allocations
152.	IPC-E-94-5 November 1994	Idaho Power Company	Idaho	Federal Executive Agencies	Rate of Return
153.	November 1994	Edmonton Water	Alberta, Canada	Regional Customer Group	Rate of Return (Rebuttal Only)
154.	90-256 December 1994	South Central Bell Telephone Company	Kentucky	Attorney General	Incentive Plan True-Ups
155.	U-20925 February 1995	Louisiana Power & Light Company	Louisiana	PSC Staff	Rate of Return Industrial Contracts Trust Fund Earnings
156.	R-00943231 February 1995	Pennsylvania-American Water Company	Pennsylvania	Consumer Advocate	Rate of Return
157.	8678 March 1995	Generic	Maryland	Dept. Natural Resources	Electric Competition Incentive Regulation (oral only)
158.	R-000943271 April 1995	Pennsylvania Power & Light Company	Pennsylvania	Consumer Advocate	Rate of Return Nuclear decommissioning Capacity Issues
159.	U-20925 May 1995	Louisiana Power & Light Company	Louisiana	Commission Staff	Class Cost of Service Issues

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160.	2290 June 1995	Narragansett Electric Company	Rhode Island	Division Staff	Rate of Return
161.	U-17949E June 1995	South Central Bell Telephone Company	Louisiana	Commission Staff	Rate of Return
162.	2304 July 1995	Providence Water Supply Board	Rhode Island	Division Staff	Cost recovery of Capital Spending Program
163.	ER95-625-000 et al. August 1995	PSI Energy, Inc.	FERC	Office of Utility Consumer Counselor	Rate of Return
164.	P-00950915 et al. September 1995	Paxton Creek Cogeneration Assoc.	Pennsylvania	Office of Consumer Advocate	Cogeneration Contract Amendment
165.	8702 September 1995	Potomac Edison Company	Maryland	Dept. of Natural Resources	Allocation of DSM Costs (oral only)
166.	ER95-533-001 September 1995	Ocean State Power	FERC	Boston Edison Co.	Cost of Equity
167.	40003 November 1995	PSI Energy, Inc.	Indiana	Utility Consumer Counselor	Rate of Return Retail wheeling
168.	P-55, SUB 1013 January 1996	BellSouth	North Carolina	AT&T	Rate of Return
169.	P-7, SUB 825 January 1996	Carolina Tel.	North Carolina	AT&T	Rate of Return
170.	February 1996	Generic Telephone	FCC	MCI	Cost of capital
171.	95A-531EG April 1996	Public Service Company of Colorado	Colorado	Federal Executive Agencies	Merger issues
172.	ER96-399-000 May 1996	Northern Indiana Public Service Company	FERC	Indiana Office of Utility Consumer Counselor	Cost of capital
173.	8716 June 1996	Delmarva Power & Light Company	Maryland	Dept. of Natural Resources	DSM programs
174.	8725 July 1996	BGE/PEPCO	Maryland	Md. Energy Admin.	Merger Issues

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	Docket Number	Utility	Jurisdiction	Client	Subject
175.	U-20925 August 1996	Entergy Louisiana, Inc.	Louisiana	PSC Staff	Rate of Return Allocations Fuel Clause
176.	EC96-10-000 September 1996	BGE/PEPCO	FERC	Md. Energy Admin.	Merger issues competition
177.	EL95-53-000 November 1996	Entergy Services, Inc.	FERC	Louisiana PSC	Nuclear Decommissioning
178.	WR96100768 March 1997	Consumers NJ Water Company	New Jersey	Ratepayer Advocate	Cost of Capital
179.	WR96110818 April 1997	Middlesex Water Co.	New Jersey	Ratepayer Advocate	Cost of Capital
180.	U-11366 April 1997	Ameritech Michigan	Michigan	MCI	Access charge reform/financial condition
181.	97-074 May 1997	BellSouth	Kentucky	MCI	Rate Rebalancing financial condition
182.	2540 June 1997	New England Power	Rhode Island	PUC Staff	Divestiture Plan
183.	96-336-TP-CSS June 1997	Ameritech Ohio	Ohio	MCI	Access Charge reform Economic impacts
184.	WR97010052 July 1997	Maxim Sewerage Corp.	New Jersey	Ratepayer Advocate	Rate of Return
185.	97-300 August 1997	LG&E/KU	Kentucky	Attorney General	Merger Plan
186.	Case No. 8738 August 1997	Generic (oral testimony only)	Maryland	Dept. of Natural Resources	Electric Restructuring Policy
187.	Docket No. 2592 September 1997	Eastern Utilities	Rhode Island	PUC Staff	Generation Divestiture
188.	Case No.97-247 September 1997	Cincinnati Bell Telephone	Kentucky	MCI	Financial Condition

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189.	Docket No. U-20925 November 1997	Entergy Louisiana	Louisiana	PSC Staff	Rate of Return
190.	Docket No. D97.7.90 November 1997	Montana Power Co.	Montana	Montana Consumers Counsel	Stranded Cost
191.	Docket No. EO97070459 November 1997	Jersey Central Power & Light Co.	New Jersey	Ratepayer Advocate	Stranded Cost
192.	Docket No. R-00974104 November 1997	Duquesne Light Co.	Pennsylvania	Office of Consumer Advocate	Stranded Cost
193.	Docket No. R-00973981 November 1997	West Penn Power Co.	Pennsylvania	Office of Consumer Advocate	Stranded Cost
194.	Docket No. A-1101150F0015 November 1997	Allegheny Power System DQE, Inc.	Pennsylvania	Office of Consumer Advocate	Merger Issues
195.	Docket No. WR97080615 January 1998	Consumers NJ Water Company	New Jersey	Ratepayer Advocate	Rate of Return
196.	Docket No. R-00974149 January 1998	Pennsylvania Power Company	Pennsylvania	Office of Consumer Advocate	Stranded Cost
197.	Case No. 8774 January 1998	Allegheny Power System DQE, Inc.	Maryland	Dept. of Natural Resources MD Energy Administration	Merger Issues
198.	Docket No. U-20925 (SC) March 1998	Entergy Louisiana, Inc.	Louisiana	Commission Staff	Restructuring, Stranded Costs, Market Prices
199.	Docket No. U-22092 (SC) March 1998	Entergy Gulf States, Inc.	Louisiana	Commission Staff	Restructuring, Stranded Costs, Market Prices
200.	Docket Nos. U-22092 (SC) and U-20925(SC) May 1998	Entergy Gulf States and Entergy Louisiana	Louisiana	Commission Staff	Standby Rates
201.	Docket No. WR98010015 May 1998	NJ American Water Co.	New Jersey	Ratepayer Advocate	Rate of Return
202.	Case No. 8794 December 1998	Baltimore Gas & Electric Co.	Maryland	MD Energy Admin./Dept. Of Natural Resources	Stranded Cost/ Transition Plan

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203.	Case No. 8795 December 1998	Delmarva Power & Light Co.	Maryland	MD Energy Admin./Dept. Of Natural Resources	Stranded Cost/ Transition Plan
204.	Case No. 8797 January 1998	Potomac Edison Co.	Maryland	MD Energy Admin./Dept. Of Natural Resources	Stranded Cost/ Transition Plan
205.	Docket No. WR98090795 March 1999	Middlesex Water Co.	New Jersey	Ratepayer Advocate	Rate of Return
206.	Docket No. 99-02-05 April 1999	Connecticut Light & Power	Connecticut	Attorney General	Stranded Costs
207.	Docket No. 99-03-04 May 1999	United Illuminating Company	Connecticut	Attorney General	Stranded Costs
208.	Docket No. U-20925 (FRP) June 1999	Entergy Louisiana, Inc.	Louisiana	Staff	Capital Structure
209.	Docket No. EC-98-40-000, et al. May 1999	American Electric Power/ Central & Southwest	FERC	Arkansas PSC	Market Power Mitigation
210.	Docket No. 99-03-35 July 1999	United Illuminating Company	Connecticut	Attorney General	Restructuring
211.	Docket No. 99-03-36 July 1999	Connecticut Light & Power Co.	Connecticut	Attorney General	Restructuring
212.	WR99040249 Oct. 1999	Environmental Disposal Corp.	New Jersey	Ratepayer Advocate	Rate of Return
213.	2930 Nov. 1999	NEES/EUA	Rhode Island	Division Staff	Merger/Cost of Capital
214.	DE99-099 Nov. 1999	Public Service New Hampshire	New Hampshire	Consumer Advocate	Cost of Capital Issues
215.	00-01-11 Feb. 2000	Con Ed/NU	Connecticut	Attorney General	Merger Issues
216.	Case No. 8821 May 2000	Reliant/ODEC	Maryland	Dept. of Natural Resources	Need for Power/Plant Operations

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217.	Case No. 8738 July 2000	Generic	Maryland	Dept. of Natural Resources	DSM Funding
218.	Case No. U-23356 June 2000	Entergy Louisiana, Inc.	Louisiana	PSC Staff	Fuel Prudence Issues Purchased Power
219.	Case No. 21453, et al July 2000	SWEPCO	Louisiana	PSC Staff	Stranded Costs
220.	Case No. 20925 (B) July 2000	Entergy Louisiana	Louisiana	PSC Staff	Purchase Power Contracts
221.	Case No. 24889 August 2000	Entergy Louisiana	Louisiana	PSC Staff	Purchase Power Contracts
222.	Case No. 21453, et al. February 2001	CLECO	Louisiana	PSC Staff	Stranded Costs
223.	P-00001860 and P-0000181 March 2001	GPU Companies	Pennsylvania	Office of Consumer Advocate	Rate of Return
224.	CVOL-0505662-S March 2001	ConEd/NU	Connecticut Superior Court	Attorney General	Merger (Affidavit)
225.	U-20925 (SC) March 2001	Entergy Louisiana	Louisiana	PSC Staff	Stranded Costs
226.	U-22092 (SC) March 2001	Entergy Gulf States	Louisiana	PSC Staff	Stranded Costs
227.	U-25533 May 2001	Entergy Louisiana/ Gulf States	Louisiana Interruptible Service	PSC Staff	Purchase Power
228.	P-00011872 May 2001	Pike County Pike	Pennsylvania	Office of Consumer Advocate	Rate of Return
229.	8893 July 2001	Baltimore Gas & Electric Co.	Maryland	MD Energy Administration	Corporate Restructuring
230.	8890 September 2001	Potomac Electric/Connectivity	Maryland	MD Energy Administration	Merger Issues

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231.	U-25533 August 2001	Entergy Louisiana / Gulf States	Louisiana	Staff	Purchase Power Contracts
232.	U-25965 November 2001	Generic	Louisiana	Staff	RTO Issues
233.	3401 March 2002	New England Gas Co.	Rhode Island	Division of Public Utilities	Rate of Return
234.	99-833-MJR April 2002	Illinois Power Co.	U.S. District Court	U.S. Department of Justice	New Source Review
235.	U-25533 March 2002	Entergy Louisiana/ Gulf States	Louisiana	PSC Staff	Nuclear Uprates Purchase Power
236.	P-00011872 May 2002	Pike County Power & Light	Pennsylvania	Consumer Advocate	POLR Service Costs
237.	U-26361, Phase I May 2002	Entergy Louisiana/ Gulf States	Louisiana	PSC Staff	Purchase Power Cost Allocations
238.	R-00016849C001 et al. June 2002	Generic	Pennsylvania	Pennsylvania OCA	Rate of Return
239.	U-26361, Phase II July 2002	Entergy Louisiana/ Entergy Gulf States	Louisiana	PSC Staff	Purchase Power Contracts
240.	U-20925(B) August 2002	Entergy Louisiana	Louisiana	PSC Staff	Tax Issues
241.	U-26531 October 2002	SWEPCO	Louisiana	PSC Staff	Purchase Power Contract
242.	8936 October 2002	Delmarva Power & Light	Maryland	Energy Administration Dept. Natural Resources	Standard Offer Service
243.	U-25965 November 2002	SWEPCO/AEP	Louisiana	PSC Staff	RTO Cost/Benefit
244.	8908 Phase I November 2002	Generic	Maryland	Energy Administration Dept. Natural Resources	Standard Offer Service
245.	02S-315EG November 2002	Public Service Company of Colorado	Colorado	Fed. Executive Agencies	Rate of Return

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246.	EL02-111-000 December 2002	PJM/MISO	FERC	MD PSC	Transmission Ratemaking
247.	02-0479 February 2003	Commonwealth Edison	Illinois	Dept. of Energy	POLR Service
248.	PL03-1-000 March 2003	Generic	FERC	NASUCA	Transmission Pricing (Affidavit)
249.	U-27136 April 2003	Entergy Louisiana	Louisiana	Staff	Purchase Power Contracts
250.	8908 Phase II July 2003	Generic	Maryland	Energy Administration Dept. of Natural Resources	Standard Offer Service
251.	U-27192 June 2003	Entergy Louisiana and Gulf States	Louisiana	LPSC Staff	Purchase Power Contract Cost Recovery
252.	C2-99-1181 October 2003	Ohio Edison Company	U.S. District Court	U.S. Department of Justice, et al.	Clean Air Act Compliance Economic Impact (Report)
253.	RP03-398-000 December 2003	Northern Natural Gas Co.	FERC	Municipal Distributors Group/Gas Task Force	Rate of Return
254.	8738 December 2003	Generic	Maryland	Energy Admin Department of Natural Resources	Environmental Disclosure (oral only)
255.	U-27136 December 2003	Entergy Louisiana, Inc.	Louisiana	PSC Staff	Purchase Power Contracts
256.	U-27192, Phase II October/December 2003	Entergy Louisiana & Entergy Gulf States	Louisiana	PSC Staff	Purchase Power Contracts
257.	WC Docket 03-173 December 2003	Generic	FCC	MCI	Cost of Capital (TELRIC)
258.	ER 030 20110 January 2004	Atlantic City Electric	New Jersey	Ratepayer Advocate	Rate of Return
259.	E-01345A-03-0437 January 2004	Arizona Public Service Company	Arizona	Federal Executive Agencies	Rate of Return
260.	03-10001 January 2004	Nevada Power Company	Nevada	U.S. Dept. of Energy	Rate of Return

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261.	R-00049255 June 2004	PPL Elec. Utility	Pennsylvania	Office of Consumer Advocate	Rate of Return
262.	U-20925 July 2004	Entergy Louisiana, Inc.	Louisiana	PSC Staff	Rate of Return Capacity Resources
263.	U-27866 September 2004	Southwest Electric Power Co.	Louisiana	PSC Staff	Purchase Power Contract
264.	U-27980 September 2004	Cleco Power	Louisiana	PSC Staff	Purchase Power Contract
265.	U-27865 October 2004	Entergy Louisiana, Inc. Entergy Gulf States	Louisiana	PSC Staff	Purchase Power Contract
266.	RP04-155 December 2004	Northern Natural Gas Company	FERC	Municipal Distributors Group/Gas Task Force	Rate of Return
267.	U-27836 January 2005	Entergy Louisiana/ Gulf States	Louisiana	PSC Staff	Power plant Purchase and Cost Recovery
268.	U-199040 et al. February 2005	Entergy Gulf States/ Louisiana	Louisiana	PSC Staff	Global Settlement, Multiple rate proceedings
269.	EF03070532 March 2005	Public Service Electric & Gas	New Jersey	Ratepayers Advocate	Securitization of Deferred Costs
270.	05-0159 June 2005	Commonwealth Edison	Illinois	Department of Energy	POLR Service
271.	U-28804 June 2005	Entergy Louisiana	Louisiana	LPSC Staff	QF Contract
272.	U-28805 June 2005	Entergy Gulf States	Louisiana	LPSC Staff	QF Contract
273.	05-0045-EI June 2005	Florida Power & Lt.	Florida	Federal Executive Agencies	Rate of Return
274.	9037 July 2005	Generic	Maryland	MD. Energy Administration	POLR Service
275.	U-28155 August 2005	Entergy Louisiana Entergy Gulf States	Louisiana	LPSC Staff	Independent Coordinator of Transmission Plan

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276.	U-27866-A September 2005	Southwestern Electric Power Company	Louisiana	LPSC Staff	Purchase Power Contract.
277.	U-28765 October 2005	Cleco Power LLC	Louisiana	LPSC Staff	Purchase Power Contract
278.	U-27469 October 2005	Entergy Louisiana Entergy Gulf States	Louisiana	LPSC Staff	Avoided Cost Methodology
279.	A-313200F007 October 2005	Sprint (United of PA)	Pennsylvania	Office of Consumer Advocate	Corporate Restructuring
280.	EM05020106 November 2005	Public Service Electric & Gas Company	New Jersey	Ratepayer Advocate	Merger Issues
281.	U-28765 December 2005	Cleco Power LLC	Louisiana	LPSC Staff	Plant Certification, Financing, Rate Plan
282.	U-29157 February 2006	Cleco Power LLC	Louisiana	LPSC Staff	Storm Damage Financing
283.	U-29204 March 2006	Entergy Louisiana Entergy Gulf States	Louisiana	LPSC Staff	Purchase power contracts.
284.	A-310325F006 March 2006	Alltel	Pennsylvania	Office of Consumer Advocate	Merger, Corporate Restructuring
285.	9056 March 2006	Generic	Maryland	Maryland Energy Administration	Standard Offer Service Structure
286.	C2-99-1182 April 2006	American Electric Power Utilities	U. S. District Court Southern District, Ohio	U. S. Department of Justice	New Source Review Enforcement (expert report)
287.	EM05121058 April 2006	Atlantic City Electric	New Jersey	Ratepayer Advocate	Power plant Sale
288.	ER05121018 June 2006	Jersey Central Power & Light Company	New Jersey	Ratepayer Advocate	NUG Contracts Cost Recovery
289.	U-21496, Subdocket C June 2006	Cleco Power LLC	Louisiana	Commission Staff	Rate Stabilization Plan
290.	GR0510085 June 2006	Public Service Electric & Gas Company	New Jersey	Ratepayer Advocate	Rate of Return (gas services)

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291.	R-000061366 July 2006	Metropolitan Ed. Company Penn. Electric Company	Pennsylvania	Office of Consumer Advocate	Rate of Return
292.	9064 September 2006	Generic	Maryland	Energy Administration	Standard Offer Service
293.	U-29599 September 2006	Cleco Power LLC	Louisiana	Commission Staff	Purchase Power Contracts
294.	WR06030257 September 2006	New Jersey American Water Company	New Jersey	Rate Counsel	Rate of Return
295.	U-27866/U-29702 October 2006	Southwestern Electric Power Company	Louisiana	Commission Staff	Purchase Power/Power Plant Certification
296.	9063 October 2006	Generic	Maryland	Energy Administration Department of Natural Resources	Generation Supply Policies
297.	EM06090638 November 2006	Atlantic City Electric	New Jersey	Rate Counsel	Power Plant Sale
298.	C-2000065942 November 2006	Pike County Light & Power	Pennsylvania	Consumer Advocate	Generation Supply Service
299.	ER06060483 November 2006	Rockland Electric Company	New Jersey	Rate Counsel	Rate of Return
300.	A-110150F0035 December 2006	Duquesne Light Company	Pennsylvania	Consumer Advocate	Merger Issues
301.	U-29203, Phase II January 2007	Entergy Gulf States Entergy Louisiana	Louisiana	Commission Staff	Storm Damage Cost Allocation
302.	06-11022 February 2007	Nevada Power Company	Nevada	U.S. Dept. of Energy	Rate of Return
303.	U-29526 March 2007	Cleco Power	Louisiana	Commission Staff	Affiliate Transactions
304.	P-00072245 March 2007	Pike County Light & Power	Pennsylvania	Consumer Advocate	Provider of Last Resort Service
305.	P-00072247 March 2007	Duquesne Light Company	Pennsylvania	Consumer Advocate	Provider of Last Resort Service

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306.	EM07010026 May 2007	Jersey Central Power & Light Company	New Jersey	Rate Counsel	Power Plant Sale
307.	U-30050 June 2007	Entergy Louisiana Entergy Gulf States	Louisiana	Commission Staff	Purchase Power Contract
308.	U-29956 June 2007	Entergy Louisiana	Louisiana	Commission Staff	Black Start Unit
309.	U-29702 June 2007	Southwestern Electric Power Company	Louisiana	Commission Staff	Power Plant Certification
310.	U-29955 July 2007	Entergy Louisiana Entergy Gulf States	Louisiana	Commission Staff	Purchase Power Contracts
311.	2007-67 July 2007	FairPoint Communications	Maine	Office of Public Advocate	Merger Financial Issues
312.	P-00072259 July 2007	Metropolitan Edison Co.	Pennsylvania	Office of Consumer Advocate	Purchase Power Contract Restructuring
313.	EO07040278 September 2007	Public Service Electric & Gas	New Jersey	Rate Counsel	Solar Energy Program Financial Issues
314.	U-30192 September 2007	Entergy Louisiana	Louisiana	Commission Staff	Power Plant Certification Ratemaking, Financing
315.	9117 (Phase II) October 2007	Generic (Electric)	Maryland	Energy Administration	Standard Offer Service Reliability
316.	U-30050 November 2007	Entergy Gulf States	Louisiana	Commission Staff	Power Plant Acquisition
317.	IPC-E-07-8 December 2007	Idaho Power Co.	Idaho	U.S. Department of Energy	Cost of Capital
318.	U-30422 (Phase I) January 2008	Entergy Gulf States	Louisiana	Commission Staff	Purchase Power Contract
319.	U-29702 (Phase II) February, 2008	Southwestern Electric Power Co.	Louisiana	Commission Staff	Power Plant Certification
320.	March 2008	Delmarva Power & Light	Delaware State Senate	Senate Committee	Wind Energy Economics
321.	U-30192 (Phase II) March 2008	Entergy Louisiana	Louisiana	Commission Staff	Cash CWIP Policy, Credit Ratings

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322.	U-30422 (Phase II) April 2008	Entergy Gulf States - LA	Louisiana	Commission Staff	Power Plant Acquisition
323.	U-29955 (Phase II) April 2008	Entergy Gulf States - LA Entergy Louisiana	Louisiana	Commission Staff	Purchase Power Contract
324.	GR-070110889 April 2008	New Jersey Natural Gas Company	New Jersey	Rate Counsel	Cost of Capital
325.	WR-08010020 July 2008	New Jersey American Water Company	New Jersey	Rate Counsel	Cost of Capital
326.	U-28804-A August 2008	Entergy Louisiana	Louisiana	Commission Staff	Cogeneration Contract
327.	IP-99-1693C-M/S August 2008	Duke Energy Indiana	Federal District Court	U.S. Department of Justice/ Environmental Protection Agency	Clean Air Act Compliance (Expert Report)
328.	U-30670 September 2008	Entergy Louisiana	Louisiana	Commission Staff	Nuclear Plant Equipment Replacement
329.	9149 October 2008	Generic	Maryland	Department of Natural Resources	Capacity Adequacy/Reliability
330.	IPC-E-08-10 October 2008	Idaho Power Company	Idaho	U.S. Department of Energy	Cost of Capital
331.	U-30727 October 2008	Cleco Power LLC	Louisiana	Commission Staff	Purchased Power Contract
332.	U-30689-A December 2008	Cleco Power LLC	Louisiana	Commission Staff	Transmission Upgrade Project
333.	IP-99-1693C-M/S February 2009	Duke Energy Indiana	Federal District Court	U.S. Department of Justice/EPA	Clean Air Act Compliance (Oral Testimony)
334.	U-30192, Phase II February 2009	Entergy Louisiana, LLC	Louisiana	Commission Staff	CWIP Rate Request Plant Allocation
335.	U-28805-B February 2009	Entergy Gulf States, LLC	Louisiana	Commission Staff	Cogeneration Contract
336.	P-2009-2093055, et al. May 2009	Metropolitan Edison Pennsylvania Electric	Pennsylvania	Office of Consumer Advocate	Default Service
337.	U-30958	Cleco Power	Louisiana	Commission Staff	Purchase Power Contract

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	July 2009				
338.	EO08050326 August 2009	Jersey Central Power Light Co.	New Jersey	Rate Counsel	Demand Response Cost Recovery
339.	GR09030195 August 2009	Elizabethtown Gas	New Jersey	New Jersey Rate Counsel	Cost of Capital
340.	U-30422-A August 2009	Entergy Gulf States	Louisiana	Staff	Generating Unit Purchase
341.	CV 1:99-01693 August 2009	Duke Energy Indiana	Federal District Court – Indiana	U. S. DOJ/EPA, *et al.*	Environmental Compliance Rate Impacts (Expert Report)
342.	4065 September 2009	Narragansett Electric	Rhode Island	Division Staff	Cost of Capital
343.	U-30689 September 2009	Cleco Power	Louisiana	Staff	Cost of Capital, Rate Design, Other Rate Case Issues
344.	U-31147 October 2009	Entergy Gulf States Entergy Louisiana	Louisiana	Staff	Purchase Power Contracts
345.	U-30913 November 2009	Cleco Power	Louisiana	Staff	Certification of Generating Unit
346.	M-2009-2123951 November 2009	West Penn Power	Pennsylvania	Office of Consumer Advocate	Smart Meter Cost of Capital (Surrebuttal Only)
347.	GR09050422 November 2009	Public Service Electric & Gas Company	New Jersey	Rate Counsel	Cost of Capital
348.	D-09-49 November 2009	Narragansett Electric	Rhode Island	Division Staff	Securities Issuances
349.	U-29702, Phase II November 2009	Southwestern Electric Power Company	Louisiana	Commission Staff	Cash CWIP Recovery
350.	U-30981 December 2009	Entergy Louisiana Entergy Gulf States	Louisiana	Commission Staff	Storm Damage Cost Allocation
351.	U-31196 (ITA Phase) February 2010	Entergy Louisiana	Louisiana	Staff	Purchase Power Contract
352.	ER09080668 March 2010	Rockland Electric	New Jersey	Rate Counsel	Rate of Return

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353.	GR10010035 May 2010	South Jersey Gas Co.	New Jersey	Rate Counsel	Rate of Return
354.	P-2010-2157862 May 2010	Pennsylvania Power Co.	Pennsylvania	Consumer Advocate	Default Service Program
355.	10-CV-2275 June 2010	Xcel Energy	U.S. District Court Minnesota	U.S. Dept. Justice/EPA	Clean Air Act Enforcement
356.	WR09120987 June 2010	United Water New Jersey	New Jersey	Rate Counsel	Rate of Return
357.	U-30192, Phase III June 2010	Entergy Louisiana	Louisiana	Staff	Power Plant Cancellation Costs
358.	31299 July 2010	Cleco Power	Louisiana	Staff	Securities Issuances
359.	App. No. 1601162 July 2010	EPCOR Water	Alberta, Canada	Regional Customer Group	Cost of Capital
360.	U-31196 July 2010	Entergy Louisiana	Louisiana	Staff	Purchase Power Contract
361.	2:10-CV-13101 August 2010	Detroit Edison	U.S. District Court Eastern Michigan	U.S. Dept. of Justice/EPA	Clean Air Act Enforcement
362.	U-31196 August 2010	Entergy Louisiana Entergy Gulf States	Louisiana	Staff	Generating Unit Purchase and Cost Recovery
363.	Case No. 9233 October 2010	Potomac Edison Company	Maryland	Energy Administration	Merger Issues
364.	2010-2194652 November 2010	Pike County Light & Power	Pennsylvania	Consumer Advocate	Default Service Plan

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365.	2010-2213369 April 2011	Duquesne Light Company	Pennsylvania	Consumer Advocate	Merger Issues
366.	U-31841 May 2011	Entergy Gulf States	Louisiana	Staff	Purchase Power Agreement
367.	11-06006 September 2011	Nevada Power	Nevada	U. S. Department of Energy	Cost of Capital
368.	9271 September 2011	Exelon/Constellation	Maryland	MD Energy Administration	Merger Savings
369.	4255 September 2011	United Water Rhode Island	Rhode Island	Division of Public Utilities	Rate of Return
370.	P-2011-2252042 October 2011	Pike County Light & Power	Pennsylvania	Consumer Advocate	Default service plan
371.	U-32095 November 2011	Southwestern Electric Power Company	Louisiana	Commission Staff	Wind energy contract
372.	U-32031 November 2011	Entergy Gulf States Louisiana	Louisiana	Commission Staff	Purchased Power Contract
373.	U-32088 January 2012	Entergy Louisiana	Louisiana	Commission Staff	Coal plant evaluation
374.	R-2011-2267958 February 2012	Aqua Pa.	Pennsylvania	Office of Consumer Advocate	Cost of capital
375.	P-2011-2273650 February 2012	FirstEnergy Companies	Pennsylvania	Office of Consumer Advocate	Default service plan
376.	U-32223 March 2012	Cleco Power	Louisiana	Commission Staff	Purchase Power Contract and Rate Recovery
377.	U-32148 March 2012	Entergy Louisiana Energy Gulf States	Louisiana	Commission Staff	RTO Membership
378.	ER11080469 April 2012	Atlantic City Electric	New Jersey	Rate Counsel	Cost of capital
379.	R-2012-2285985 May 2012	Peoples Natural Gas Company	Pennsylvania	Office of Consumer Advocate	Cost of capital
380.	U-32153 July 2012	Cleco Power	Louisiana	Commission Staff	Environmental Compliance Plan

Expert Testimony
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	Docket Number	Utility	Jurisdiction	Client	Subject
381.	U-32435 August 2012	Entergy Gulf States Louisiana LLC	Louisiana	Commission Staff	Cost of equity (gas)
382.	ER-2012-0174 August 2012	Kansas City Power & Light Company	Missouri	U. S. Department of Energy	Rate of return
383.	U-31196 August 2012	Entergy Louisiana/ Entergy Gulf States	Louisiana	Commission Staff	Power Plant Joint Ownership
384.	ER-2012-0175 August 2012	KCP&L Greater Missouri Operations	Missouri	U.S. Department of Energy	Rate of Return
385.	4323 August 2012	Narragansett Electric Company	Rhode Island	Division of Public Utilities and Carriers	Rate of Return (electric and gas)
386.	D-12-049 October 2012	Narragansett Electric Company	Rhode Island	Division of Public Utilities and Carriers	Debt issue
387.	GO12070640 October 2012	New Jersey Natural Gas Company	New Jersey	Rate Counsel	Cost of capital
388.	GO12050363 November 2012	South Jersey Gas Company	New Jersey	Rate Counsel	Cost of capital
389.	R-2012-2321748 January 2013	Columbia Gas of Pennsylvania	Pennsylvania	Office of Consumer Advocate	Cost of capital
390.	U-32220 February 2013	Southwestern Electric Power Co.	Louisiana	Commission Staff	Formula Rate Plan
391.	CV No. 12-1286 February 2013	PPL et al.	Federal District Court	MD Public Service Commission	PJM Market Impacts (deposition)
392.	EL13-48-000 February 2013	BGE, PHI subsidiaries	FERC	Joint Customer Group	Transmission Cost of Equity
393.	EO12080721 March 2013	Public Service Electric & Gas	New Jersey	Rate Counsel	Solar Tracker ROE
394.	EO12080726 March 2013	Public Service Electric & Gas	New Jersey	Rate Counsel	Solar Tracker ROE
395.	CV12-1286MJG March 2013	PPL, PSEG	U.S. District Court for the District of Md.	Md. Public Service Commission	Capacity Market Issues (trial testimony)
396.	U-32628	Entergy Louisiana and	Louisiana	Staff	Avoided cost methodology

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Expert Testimony
of Matthew I. Kahal

	Docket Number	Utility	Jurisdiction	Client	Subject
	April 2013	Gulf States Louisiana			
397.	U-32675 June 2013	Entergy Louisiana and Entergy Gulf States	Louisiana	Staff	RTO Integration Issues
398.	ER12111052 June 2013	Jersey Central Power & Light Company	New Jersey	Rate Counsel	Cost of capital
399.	PUE-2013-00020 July 2013	Dominion Virginia Power	Virginia	Apartment & Office Building Assoc. of Met. Washington	Cost of capital
400.	U-32766 August 2013	Cleco Power	Louisiana	Staff	Power plant acquisition
401.	U-32764 September 2013	Energy Louisiana and Energy Gulf States	Louisiana	Staff	Storm Damage Cost Allocation
402.	P-2013-237-1666 September 2013	Pike County Light and Power Co.	Pennsylvania	Office of Consumer Advocate	Default Generation Service

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

Projected Capital Spending Plus AFUDC
As of 2008
(000s $)

	That Year	Year End Cumulative
2006	$824	$824
2007	1,838	2,662
2008	39,073	42,560
2009	97,618	140,178
2010	157,702	297,880
2011	87,205	385,085
2012	57,914	442,999
2013	14,222	457,221

Source: Response to TC01-01-SP01, dated 1/11/2013, page 27 of 58.

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PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

Summer 2008 Economic Viability Study
Results of Alternation Scenarios and Sensitivities

Case	Scrubber Cost	Gas Price	Coal Price	Carbon Price	NPV Savings (millions $)
Base	$457 million	$11.00	$4.8	$7/ton	$(150)
Sensitivity 1	Base + 10%	Base	Base	Base	(124)
Sensitivity 2	Base – 10%	Base	Base	Base	(177)
Sensitivity 3	Base	12.1	Base	Base	(313)
Sensitivity 4	Base	9.9	Base	Base	+12
Sensitivity 5	Base	Base	5.3	Base	(56)
Sensitivity 6	Base	Base	4.3	Base	(244)
Sensitivity 7	Base	Base	Base	10.5	(124)
Sensitivity 8	Base	Base	Base	3.5	(180)
Scenario 1	Base + 16.4%	8.8	5.8	30.0	+459
Scenario 2	Base + 8.7%	9.9	5.3	20.0	+174
Scenario 4	Base – 2.26%	12.1	4.3	Base	(429)
Scenario 5	Base – 4.4%	13.2	3.9	0.0	(734)

Source: Response to TC01-01-SP01, dated 1/11/2013, page 56 of 58

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PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

Summer 2008 Economic Viability Study
NPV Customer Benefits from Merrimack Retirement Using Alternative Natural Gas Prices Projections[1]
(2012 NPV, $000s)

I. Case 1: $11.00 per MMBtu in 2011

Plant w/scrubber:	$2,405,313
Replacement Energy:	(2,423,151)
Replacement Capacity:	(171,688)
NPV Savings:	$(189,527)

II. Case 2: $10.00 per MMBtu in 2011

Plant w/scrubber:	$2,405,313
Replacement Energy:	(2,210,966)
Replacement Capacity:	(171,688)
NPV Savings:	+ $22,659

III. **Case 3: $9.00 per MMBtu in 2011**

Plant w/scrubber:	$2,405,313
Replacement Energy:	(1,998,781)
Replacement Capacity:	(171,688)
NPV Savings	+ $234,843

IV. Case 4: $8.00 per MMBtu in 2011

Plant w/scrubber:	$2,405,313
Replacement Energy:	(1,786,596)
Replacement Capacity:	(171,688)
NPV Savings	+$447,028

[1] Calculations are from running the Company's spreadsheet economic model, with NPV Savings values being the customer savings from Merrimack retirement. Figures do not account for recovery of any net book value at the Merrimack plant at date of retirement, nor does it reflect any savings value from keeping Merrimack in operation during 2012 and the first half of 2013.

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Public Service Company of New Hampshire
Docket No. DE 11-250

Data Request STAFF-02
Dated: 08/30/2012
Q-STAFF-002
Page 1 of 50

Witness: William H. Smagula
Request from: New Hampshire Public Utilities Commission Staff

Question:
With respect to the increase in estimated costs of the scrubber project to $457 million announced in 2008:

a. Please provide copies of all (i) communications, information and data of any kind and in any form presented at any time by any person, including but not limited to employees and outside consultants, to any PSNH or NU-affiliated management person(s) or board of directors/trustees (including but not limited to management and directors' committees and councils), including but not limited to power point presentations, documents, reports, analyses, evaluations and opinions, in any way concerning approving the $457 million estimate, making a decision about whether or not to proceed with the scrubber project, or otherwise reacting to the increase in estimated costs.

b. Please also provide copies of all minutes or other record of decisions by any PSNH or NU-affiliated management person(s) or board of directors/trustees (including but not limited to management and directors' committees and councils) in any way concerning making a decision about whether or not to proceed with the scrubber project or otherwise reacting to the increase in estimated costs.

Response:
On June 25, 2008, NU corporate management at a meeting of the Risk and Capital Committee was provided a detailed project description at an estimated cost of $457M for the purpose of capital project review and approval. The minutes of that meeting are attached. NU corporate management recommended approval of the project by the NU Chairman and CEO. The presentation to the Risk and Capital Committee as well as the presentation provided to the Board of Trustees at the July 14, 2008 meeting are both provided. Although both documents were labeled as confidential documents protected from disclosure by the attorney-client privilege, PSNH waives the privilege in this specific instance to facilitate the review of this project. On July 14, 2008, NU Board of Trustees approved the $457M for Merrimack Clean Air Project Estimate. PSNH Senior Management obtained NU corporate management approval of an advanced in-service date for the project of mid 2012. The recommendation and approval are attached.

NORTHEAST UTILITIES
RISK AND CAPITAL COMMITTEE
(Committee Meeting, June 25, 2008)

RECOMMEND APPROVAL OF CAPITAL FUNDING FOR THE PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE CLEAN AIR PROJECT BY THE CEO OF NU AND THE CHAIRMAN OF PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

Mr. Long directed the Committee's attention to the presentation entitled "Public Service Company of New Hampshire Clean Air Project" (the Clean Air Project) included in the material for the meeting and filed with the records thereof. He then reviewed the New Hampshire Mercury Reduction Act that mandates compliance to mercury emissions standards, and specifies the installation of scrubber technology at Merrimack Units 1 and 2 no later than July 1, 2013. The law stipulates that Public Service Company of New Hampshire (PSNH) must achieve no less than a removal of total mercury resulting in 80% capture of the total amount of mercury contained in the coal burned at all of PSNH's coal-fired units, which includes Schiller Station. Prior RaCC reviews of the Clean Air Project include a conceptual review on April 18, 2007, approval of an initial capital funding request on May 30, 2007, and approval of a revised initial capital funding request of $10 million and up to $35 million of commitment authority on September 24, 2007. An update on the Clean Air Project's schedule, cost, engineering activities, risk assessment and an economic analysis was also provided to the Committee on April 25, 2008.

Mr. Long stated that PSNH management is now seeking approval of funding for the entire Clean Air Project, currently estimated at $457 million, inclusive of funds spent to date. He noted that the cost estimates have been defined by a competitive bidding process, and that prices have escalated from original estimates made in 2006 due to much higher raw material pricing and higher costs of engineering services. The bid proposals indicate that an in-service date of mid-2012 is achievable if two key contracts can be given a limited notice to proceed by June 30. The earlier in-service date reduces the cost of the allowance for funds used during construction, and would allow

PSNH to take advantage of incentives built into the New Hampshire legislation for "early reductions" of mercury. Mr. Long stated that despite the capital cost increases, the Clean Air Project remains economic for customers. The continued operation of Merrimack Station with a scrubber will maintain fuel diversity and security of domestic fuel supply in the region, while providing PSNH customers with low cost energy. Messrs. Long and Vancho then reviewed the components of the $457 million cost estimate, including contingencies of $53 million, the cash flow and earnings projection, financial sensitivities, financial scenarios and key financial takeaways. During the review of the presentation, the Committee raised questions and discussed risks and other matters of concern. It was indicated that according to the Capital Approval Policy, since this project was greater than $50 million it would require Board of Trustees review at the July Board meeting. Messrs. Robb and Shivery left the meeting during this discussion.

After discussion, and upon motion made and seconded, the following preamble and resolutions were unanimously adopted:

WHEREAS, Public Service Company of New Hampshire ("PSNH") management provided the Committee with a capital project approval proposal for the PSNH Clean Air Project and have requested $457 million of capital funding, inclusive of funds spent to date; and

WHEREAS, this Committee has reviewed said proposal;

NOW THEREFORE, BE IT

RESOLVED, that this Committee finds the following capital funding by Public Service Company of New Hampshire ("PSNH") of the PSNH Clean Air Project as described in the material submitted to this meeting and ordered filed with its records thereof acceptable.

Project	Total Cost	Year of Completion
PSNH Clean Air Project	$457 million, inclusive of funds spent to date	2012

NORTHEAST UTILITIES
RISK AND CAPITAL COMMITTEE
(Committee Meeting, June 25, 2008)

RESOLVED, that this Committee recommends that the Chairman of the Board, President and Chief Executive Officer of Northeast Utilities and the Chairman of PSNH approve the capital funding by PSNH of the PSNH Clean Air Project, provided however that this Committee further recommends that a status update on the project be submitted to the Committee no less frequently than quarterly and the capital funding by PSNH set forth above shall not be exceeded without prior approval by the Committee.

Mrs. Kuhlman and Messrs. Hitchko, Large, Long and MacDonald left the meeting at this point.

Northeast
Utilities System

Clean Air Project
Merrimack Station

Public Service Company of New Hampshire

Clean Air Project

Capital Project Review and Approval

Northeast Utilities

Risk and Capital Committee

Gary Long/John MacDonald/Jim Vancho

June 25, 2008

Executive Summary

Clean Air Project
Merrimack Station

- New Hampshire legislation mandates compliance to mercury emissions standards set forth in the NH Mercury Reduction Act
  - Wet scrubber technology will reduce power plant mercury emissions required by New Hampshire law and is the technology specified by the law
  - There is no other technology which will guarantee capture of 80% of the mercury input of our coal fleet
- Cost estimates have been defined by a competitive bidding process
  - Prices have escalated from original estimates made in 2006 due to much higher raw material pricing and higher costs of engineering service
- Bid proposals indicate that an in-service date of mid-2012 is achievable if two key contracts can be given a limited notice to proceed by June 30
  - Earlier in-service date reduces cost (AFUDC), risk, and allows PSNH to take advantage of incentives built into the New Hampshire legislation for "early reductions" of mercury
- Despite the capital cost increases, the project remains economic for customers and provides a significant investment opportunity for PSNH
  - The NPV of Revenue Requirements of adding the Scrubber versus replacing Merrimack Station energy and capacity supply with market purchases is a benefit to customers of $132 Million
  - Busbar cost increases to $94.55/MWh in 2013
  - The scrubber avoids about $15 Million in sulfur credit purchases annually, included in the customer benefit above
  - Incremental Net Income estimated at $18.5 M in 2013 – first full year of operation

Docket No. DE 11-250
Attachment MIK-5

Background – Merrimack Station Benefits PSNH Customers

Clean Air Project
Merrimack Station

- Merrimack Station produces 3 million MWh of low cost power annually, about 35% of PSNH's total energy service requirement. The low cost energy produced at Merrimack Station off-sets the higher cost of market purchases in the overall energy service rate
- Operating Merrimack Station in a cost-effective manner has been one of the major reasons why PSNH's energy service rate is the lowest in the region, as much as 25% lower than the average of energy service supply that we track in NE
- Merrimack Station has control technology to satisfy NOx and particulate emissions requirements. With a scrubber, SO_2 and Mercury emissions will be controlled and Merrimack will be among the cleanest coal burning plants nationally
- Coal is the most abundant domestic fossil fuel resource in the United States supplying more than 50% of the nation's power generation fleet, but only 15% of New England's generation. Maintaining the use of this secure fuel resource is important for the diversity of the region's future energy supply
- Historically, coal has maintained a significant price advantage over oil or natural gas as fuel for the power generation sector. Operated as Regulated Generation, this cost savings flows directly to customers

Continued operation of Merrimack Station with a scrubber will maintain fuel diversity and security of domestic fuel supply in the ISO-NE region, while providing PSNH's customers with low cost energy.

Docket No. DE 11-250
Attachment MIK-5

Clean Air Project
Merrimack Station

Background - NH Clean Power Act

- The NHCPA, in 2002, was the first four-pollutant bill in the nation (SO_2, NOx, Mercury and CO_2)
- The New Hampshire Mercury Reduction Act, enacted in 2006, was the mercury reduction next-step envisioned by the original NHCPA
- The law was developed in a collaborative effort with PSNH, representatives from the environmental community, and the Executive and Legislative branches of state government
- The New Hampshire Mercury Reduction Act specifies the installation of scrubber technology at Merrimack 1 and 2 no later than July 1, 2013
- The law stipulates that PSNH must capture a minimum of 80% of the total amount of mercury contained in the coal burned at all of PSNH's coal-fired units (Merrimack and Schiller)
- Installation of scrubber technology holds the added benefit of significantly reducing SO_2 emissions from the Merrimack Station boilers (anticipated to be 90% reduction or greater)

Docket No. DE 11-250
Attachment MIK-5

The New Hampshire Mercury Reduction Act Specifics:

Clean Air Project
Merrimack Station

- "It is in the public interest to achieve significant mercury emissions reductions at the coal-burning electric power plants in the state as soon as possible. The requirements of this subdivision will prevent, at a minimum, 80 percent of the aggregate mercury content of the coal burned at these plants from being emitted into the air by no later than the year 2013"
- "The Department of Environmental Services has determined that the best known commercially available technology is a wet flue gas desulphurization system...as it achieves significant emissions reduction benefits, including but not limited to, cost effective reductions in sulfur dioxide, sulfur trioxide, small particulate matter and improved visibility (regional haze)"
- "The owner of the affected coal burning sources shall work to bring about early reductions (of mercury emissions) and shall be provided incentives to do so"
- "The installation of scrubber technology will not only reduce mercury emissions significantly but will do so without jeopardizing electric reliability and with reasonable costs to consumers"
- "The installation of such technology is in the public interest of the citizens of New Hampshire and the customers of the affected sources"
- "The mercury reduction requirements set forth in this subdivision represent a careful, thoughtful balancing of costs, benefits, and technological feasibility and therefore the requirements shall be viewed as an integrated strategy of non-severable components"

Docket No. DE 11-250
Attachment MIK-5

Estimate of Project Costs

Clean Air Project
Merrimack Station

Direct Project Costs

➢ Major Contract Islands: (firm price bids)	
• FGD System	$100M
• Material Handling	$45M
• Waste Water Treatment	$15M
• Chimney	$13M
➢ PSNH Project Costs	$30M
➢ Program Manager Costs (URS Washington Group)	
• Balance of Plant & Interconnection	$93M
• Engineering and Construction Management	$59M
TOTAL DIRECT PROJECT COSTS	**$355M**

➢ PSNH Project Contingency	$10M
➢ Program Manager Contingencies	
• Materials Escalation	$23M
• Contingency	$15M
• Scope Growth	$ 4M
TOTAL PROJECT CONTINGENCIES	**$53M**

➢ Power Advocate's Defined Costs Savings	
• Project cost deduction	($6M)
➢ Anticipated Value Engineering*	
• Scope reduction	($5M)
TOTAL ANTICIPATED COST REDUCTIONS	**($11M)**

➢ NU Corporate Costs	
• AFUDC	$55M
• Indirect Costs	$5M
TOTAL CORPORATE COSTS/AFUDC	**$60M**

Total Project Cost Estimate = $457M

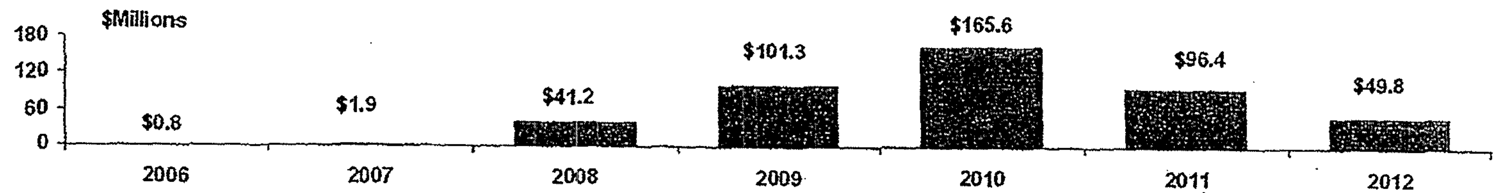
*Note: Alternative material handling proposal in consideration that would reuse existing station equipment and reduce project costs by about $5M

Docket No. DE 11-250
Attachment MJK-5

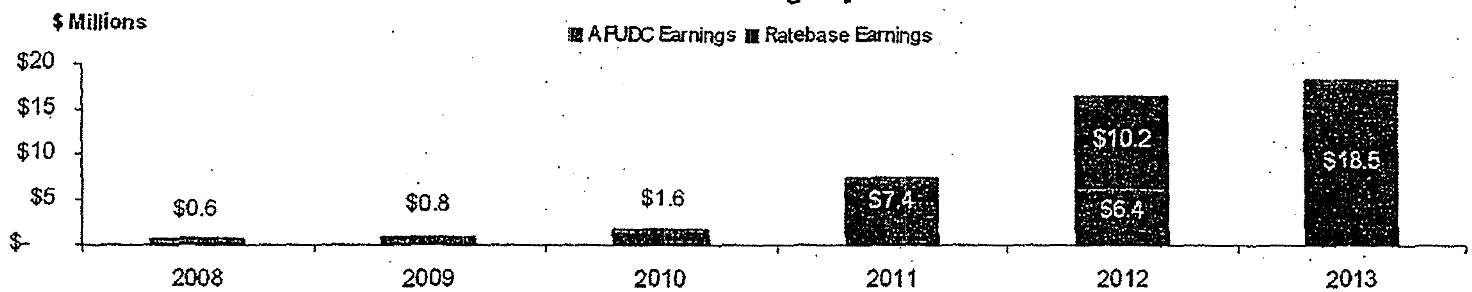
Cashflow and Earnings Projection

Clean Air Project
Merrimack Station

Capital Spending by Year



Estimated Earnings By Year



EPS	$.00	$.00	$.01	$.02	$.03	$.04

Assumptions:

- Base-case project costs are estimated at $457M
- Project expected to be in-service on June 30, 2012
- Assumes 9.81% ROE on 47.23% of Capital Structure
- Average Shares outstanding per 2009-2013 Forecast

Docket No. DE 11-250
Attachment MIK-5

Financial Sensitivities

Clean Air Project
Merrimack Station

- Base-case assumptions result in net customer benefit of $132 Million and a 2013 busbar cost of $94.55
- Net customer cost is most sensitive to expected future natural gas and coal prices

Assumption Category	Assumptions			2008 PV of Net Customer Cost 2012-2027 ($Mil) [($225) ($175) ($132) ($100) $0]				2013 Plant Busbar Cost ($/MWh) [$91 $92 $93 $94.55 $96 $97 $98]			
	Downside	Base	Upside								
Capital Cost	+10%	$457.5 mil	-10%	($159)	$(27)	$27	($105)	$92.31	$(2.24)	$2.24	$96.79
2012 Gas Prices, MMBTU[3]	-5%	$11.00	+5%	($213)	$(81)	$81	($51)				
2012 Coal Prices, MMBTU[3]	+5%	$4.82	-5%	($180)	$(48)	$48	($84)	$92.02	$(2.53)	$2.53	$97.08
2012 RGGI/Federal Carbon Costs per Ton[2,3]	+50%	[illegible]	-50%	($158)	$(26)	$26	($106)	$92.53	$(2.02)	$2.02	$96.57

White text in bars represents change in values;
Black text beside bars represents sensitivity result.

Docket No. DE 11-250
Attachment MIK-5

Notes:

1. NPV Net Customer Cost = (2008 Present Value of Merrimack Plant Revenue Requirements from 2012 to 2027) minus (2008 Present Value of Market Energy plus 2008 Present Value of Capacity Payments from 2012 to 2027).
2. Amounts presented reflect RGGI/federal (Lieberman-Warner) cost estimates. Impacts are equivalent at given prices since RGGI does not provide for carbon allowances but federal proposals are assumed to include Merrimack allocations starting at 67% (per Lieberman-Warner).
3. Fuel and carbon costs are escalated at 2.5% per annum off of the 2012 estimate.

Financial Scenarios

	Unlikely Low	Possible Low	Base	Possible High	Unlikely High
NPV - Net Customer Cost[1]	$210 MIL	$43.4 MIL	($132 MIL)	($296 MIL)	($461 MIL)
Monthly Residential Customer Cost Impact[4]	$1.61	$0.33	($1.01)	($2.28)	($3.54)
2013 Plant Busbar Cost ($/MWH)	$104.44	$100.77	$94.55	$89.52	$84.49
Net Inc - 2013 (First Full Year In-Service)	$21.5 MIL	$20.1 MIL	$18.5 MIL	$18.1 MIL	$17.7 MIL
Assumed Probability	5%	25%	[illegible]	25%	5%
Parameters					
Capital Costs, Millions	$532	$497	$457	$447	$437
2012 Gas Prices, MMBTU[3]	$9.90	$10.45	$11.00	$11.55	$12.10
2012 Coal Prices, MMBTU[3]	$5.30	$5.06	$4.82	$4.58	$4.34
2012 Carbon Costs, Ton (RGGI/Federal)[2,3]	$15/$45	$10/$30	$7/$21	$3.5/$10.6	$0/$0

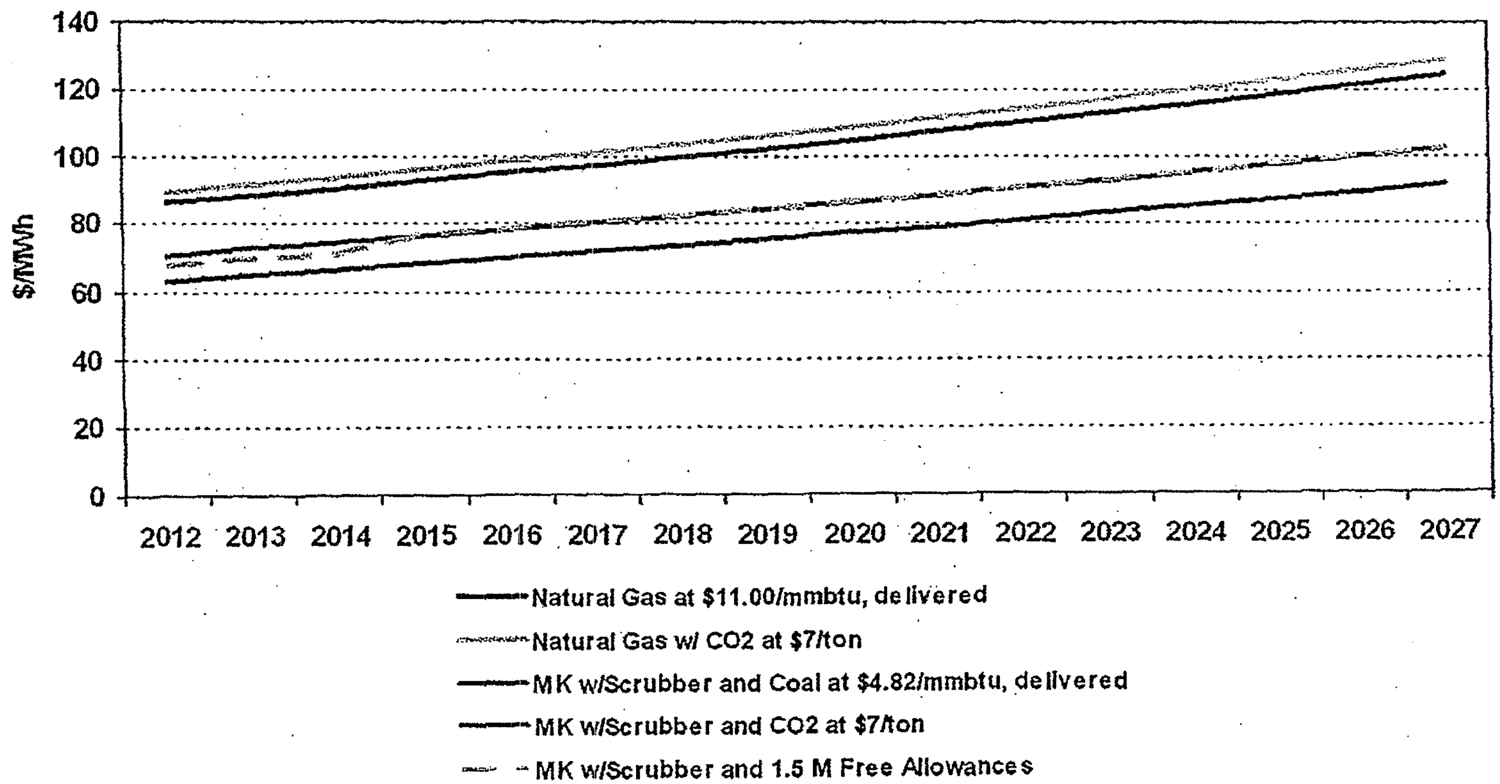
Case Legend

- **Unlikely Low** Case reflects project in-service delayed one year and cost overrun ($45M), cooling tower addition ($30M), minimal gas/coal spread
- **Possible Low** Case reflects project in-service on-time with cost overrun ($10M), cooling tower addition ($30M), decreased gas/coal spread
- **Base** Current assumptions
- **Possible High** Case reflects project in-service 6 months early ($10M), project costs as expected, benign carbon legislation, increased gas/coal spread
- **Unlikely High** Case reflects project in-service 6 months early ($10M) with lower than expected costs ($10M), no carbon legislation, maximum gas/coal spread

1. NPV Net Customer Cost = (2008 Present Value of Merrimack Plant Revenue Requirements from 2012 to 2027) minus (2008 Present Value of Market Energy plus 2008 Present Value of Capacity Payments from 2012 to 2027).
2. Amounts presented reflect RGGI/federal (Lieberman-Warner) cost estimates. Impacts are equivalent at given prices since RGGI does not provide for carbon allowances but federal proposals are assumed to include Merrimack allocations starting at 67% (per Lieberman-Warner).
3. Fuel and carbon costs are escalated at 2.5% per annum off of the 2012 estimate.
4. Based on NPV Net Customer Cost levelized over the period 2012-2027, and average residential usage of 500 kWh per month.

Economic Analysis Supports That Merrimack Station With Scrubber Will Be Dispatched

Clean Air Project
Merrimack Station



Docket No. DE 11-250
Attachment MIK-5

- Natural Gas plant heat rate of 7,620 Btu/kWh in a Combined Cycle unit
- SO_2 at $500/ton, NOx at $1,300/ton

Key Financial Takeaways

Clean Air Project
Merrimack Station

- Customer value of scrubber installation extremely sensitive to future expected natural gas/coal price spread
  - At assumed 2012 price levels and other base case parameters, a spread of approximately $5.29/mmbtu (escalating) is required to create customer benefits
- Impact of RGGI/Federal carbon legislation is not expected to render scrubber investment uneconomic to customers at current projected costs
  - Assumes any Federally imposed carbon legislation would grant carbon allowances to generators (approximately 67% of Merrimack's requirement)
  - Absent Federal allocations (or under RGGI), assuming all other base case assumptions, a 2012 carbon cost of $30/ton (escalating) or greater would eliminate customer value of scrubber installation
- Assuming base case fuel and carbon assumptions, capital cost estimates have meaningful headroom before rendering investment uneconomic
  - However, reductions in natural/gas coal spread and increases in carbon costs would put pressure on ability to construct within the current projection

Investment is essentially a long spread position on natural gas/coal with carbon and construction risk

Docket No. DE 11-250
Attachment MIK-5

Project Benefits are Accentuated by Advancing the In-Service Date to mid-2012

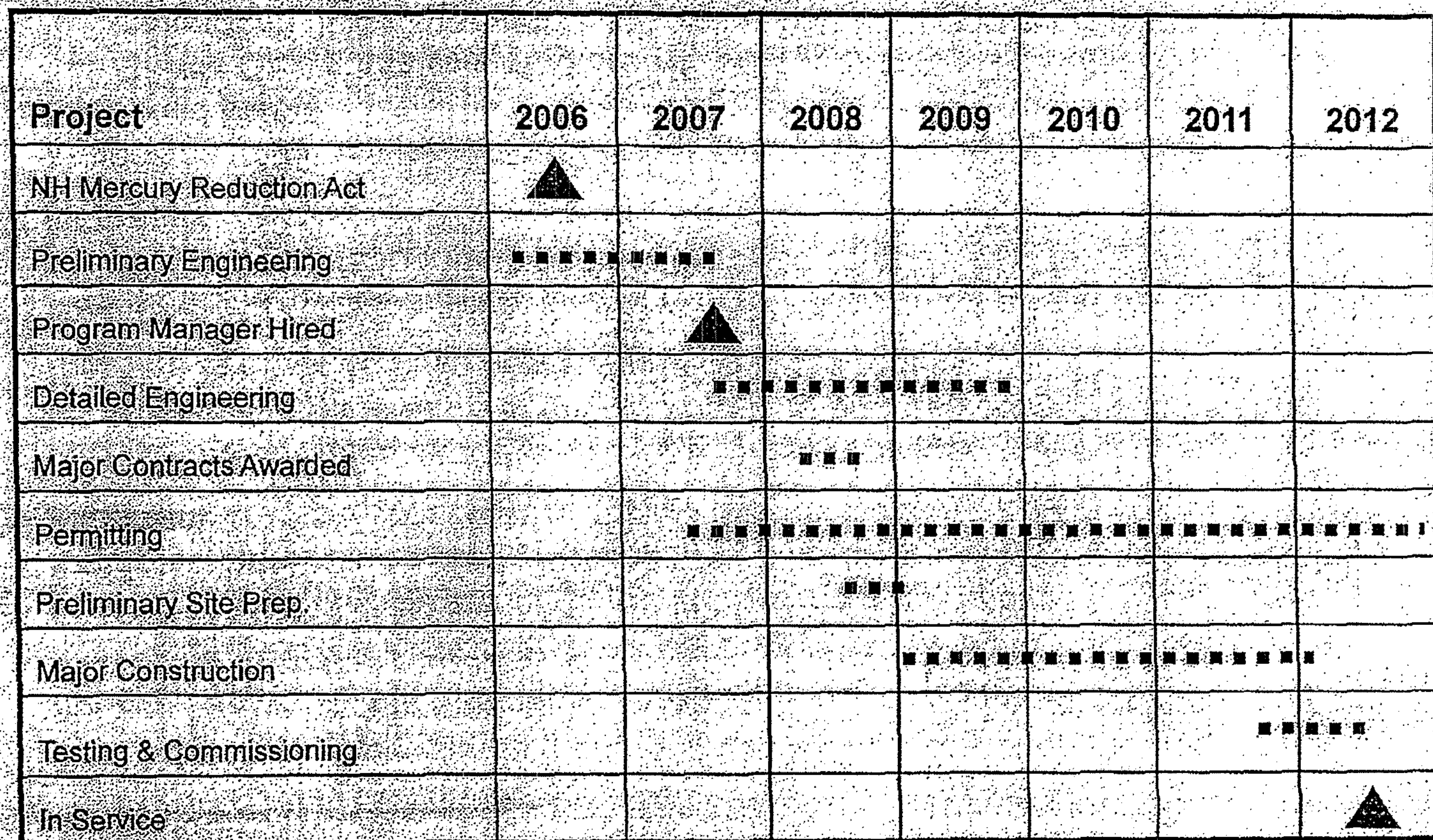
Clean Air Project
Merrimack Station

- Financial
  - Reduces AFUDC cost by $10 Million
  - Limits exposure to material or labor cost escalation for project elements not covered by firm price contracts
  - Generates real earnings one year sooner
- Environmental
  - Eliminates an additional 31,350 tons of SO_2
  - Eliminates an additional 229 pounds of Mercury
  - Reduces particulate emissions to less than 1% one year sooner
- Customer
  - Produces "early reduction mercury credits" that can be used for
    - Compliance in future years if operational issues with the scrubber arise
    - Conversion to fungible SO_2 allowances (estimated at 12,500 allowances)

Docket No. DE 11-250
Attachment MIK-5

Revised Project Schedule

Clean Air Project
Merrimack Station



Docket No. DE 11-250
Attachment MIK-5

Regional Barriers to Adding New Base Load Generation in New England Cause Merrimack to be Strategically Positioned for Re-Investment

Clean Air Project
Merrimack Station

- New base load power plants (coal, nuclear, IGCC) are not on the near or mid-term horizon for the region, making re-investment in environmental technology at existing assets the necessary strategy to maintain appropriate base-load supply
- Current market players are engaged in blocking opportunities for new, lower cost, regulated generation assets, making preservation of existing assets increasingly important
- ISO-NE market rules, and the current economic climate, make it nearly impossible for prospective generators to secure financing and overcome the substantial "barriers to entry" to build new generation in the region
- New England electric energy supply is highly dependent on natural gas, and costs are subject to corresponding commodity price volatility, and long-term price increases
- In addition to the support these barriers provide for continued operation of existing base-load plants:
  - Brattle Group analysis of future NE energy markets indicates that all coal generation, including Merrimack, will continue to operate economically
  - Operation of Merrimack Station on coal provides stability to the power supply in the region
  - Loss of PSNH's Merrimack Station would call into question the viability of operating the remaining generating assets as a fleet

Docket No. DE 11-250
Attachment MIK-5

Conclusion

Clean Air Project
Merrimack Station

- Installation of the scrubber is required by NH law to meet mercury emissions requirements
- Merrimack Clean Air Project capital costs have increased significantly since the original project costs estimates were prepared in 2006, and stand at $457M
- Under the base case and with varying assumptions, continued operation of Merrimack Station with the Clean Air Project remains economically beneficial for customers
- State law allows for recovery of prudently incurred costs to construct and operate the scrubber
- The project team is in place and prepared to execute contracts now and begin construction in earnest late this year, with a project in-service date of mid-2012
- The proposal to construct and operate a scrubber at Merrimack Station, in conformance with the NH Mercury Reduction Law, is in the best interest of PSNH's customers and shareholders

Docket No. DE 11-250
Attachment MIK-5

Appendix Materials

PSNH Clean Air Project

June 25, 2008

Docket No. DE 11-250
Attachment MIK-5

Risk Assessment, Major Risk Concerns

Clean Air Project
Merrimack Station

Risk Event	Risk Horizon	Potential Project Capital Cost Impact	Likelihood of Occurrence (%)	Expected Value Capital Cost Exposure	Mitigation Plan
Remaining bids received from vendors are significantly higher than expected related to material and handling costs. Note: The bids on the major equipment have been received.	2008	$10 million	20%	$2 million	Currently carrying out the procurement schedule. The Purchasing area is trying to stimulate competition during the bid process. Lastly as the required implementation date allows for some slippage in the schedule.
Lack of sufficient, qualified construction labor results in increased costs to import labor resources, schedule delays to wait for resources to become available.	2009-12	$50 million	10%	$5 million	WGI will initiate the National Maintenance Agreement. Meetings have been held with the union trades to discuss the project and labor requirements up front.
Inability to lock in firm prices during contracting phase exposes the project to price volatility and currency risk.	2008-9	$25 million	20%	$5 million	The RFP is being structured for fixed/lump sum pricing. The contract will be negotiated to try and include these parameters.

Docket No. DE 11-250
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Risk Assessment, Major Risk Concerns

Clean Air Project
Merrimack Station

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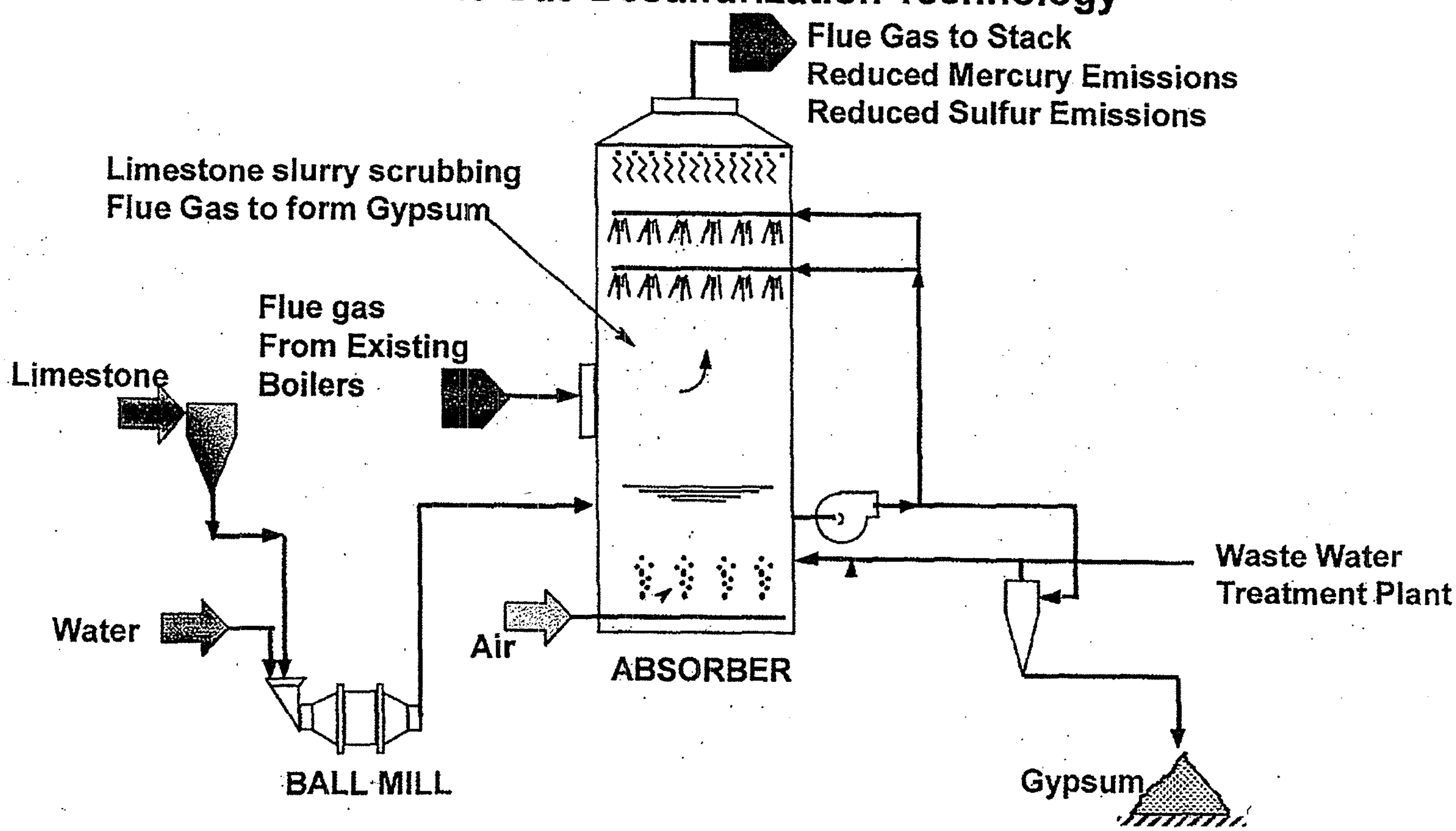
Vendors unable to meet project design criteria resulting in non-conforming bids. Note: bids received with mercury criteria. Risk relates to remaining design specifications.	2008-9	$25 million	25%	$6.25 million	In the event this occurs, an acceptable outcome will be negotiated during the procurement process.
Inability to design appropriate plant integration plans resulting in MK1 bypass, boiler implosion and noise issues.	2008-9	$12.5 million	50%	$6.25 million	PSNH contracted with experienced contract program manager in Scrubber installations. Additionally, NU personnel will be reviewing design specifications for reasonableness.
Scope definition changes drastically during construction resulting in additional expenditures and/or potential schedule delays.	2008-12	$18.75 million	20%	$3.75 million	PSNH team will work closely with WGI & EPC contractors to minimize the impact.
Proposed design is inadequate and does not meet operability/reliability/ constructability requirements resulting in complete redesign.	2008-9	$12.5 million	30%	$3.75 million	PSNH contracted with experienced contract program manager in Scrubber installations. Additionally, NU personnel will be reviewing design specifications for reasonableness.

Docket No. DE 11-250
Attachment MIK-5

Scrubber Schematic

Clean Air Project
Merrimack Station

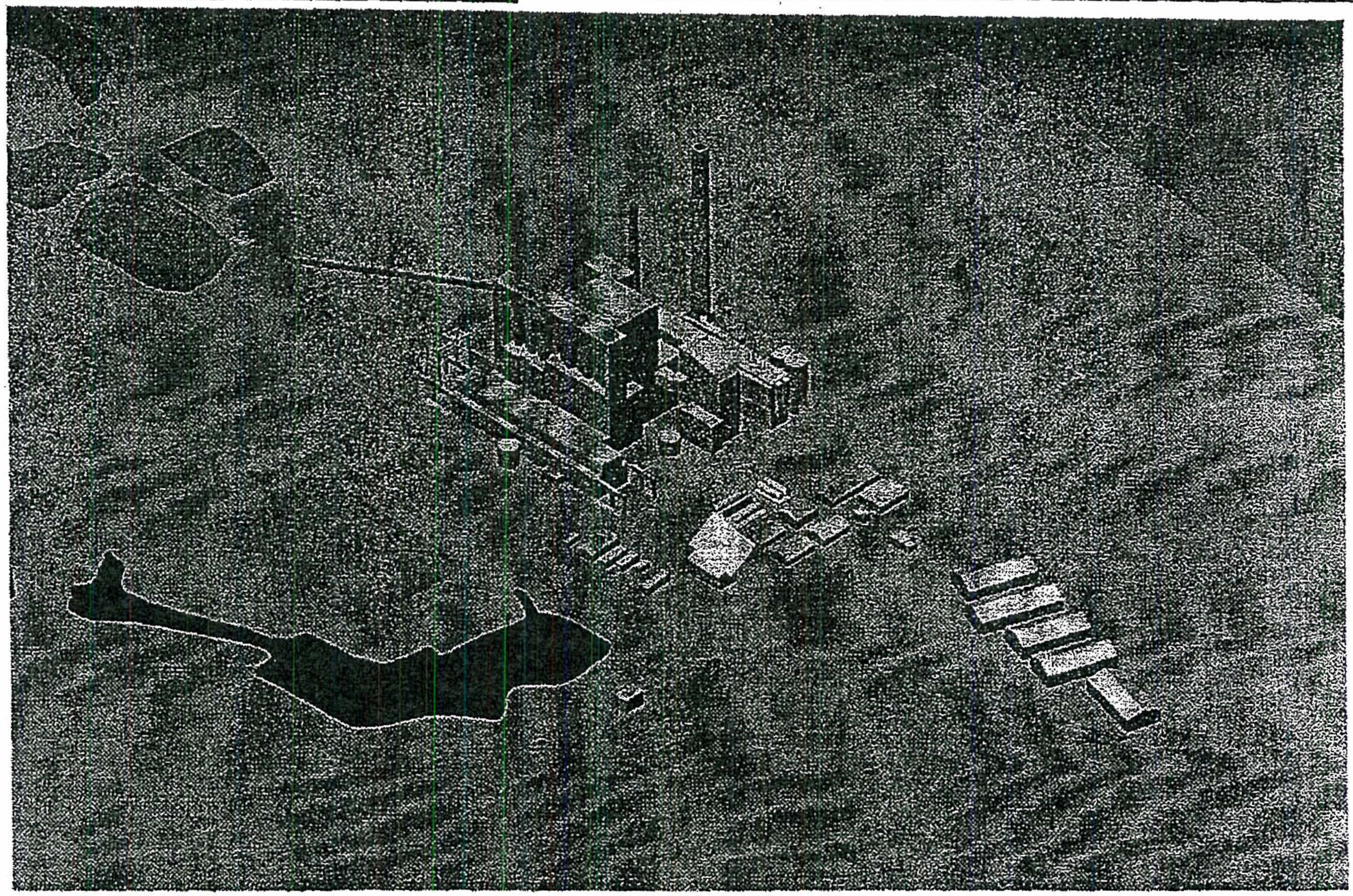
Wet Flue Gas Desulfurization Technology



Docket No. DE 11-250
Attachment MIK-5

Merrimack Station: 2008

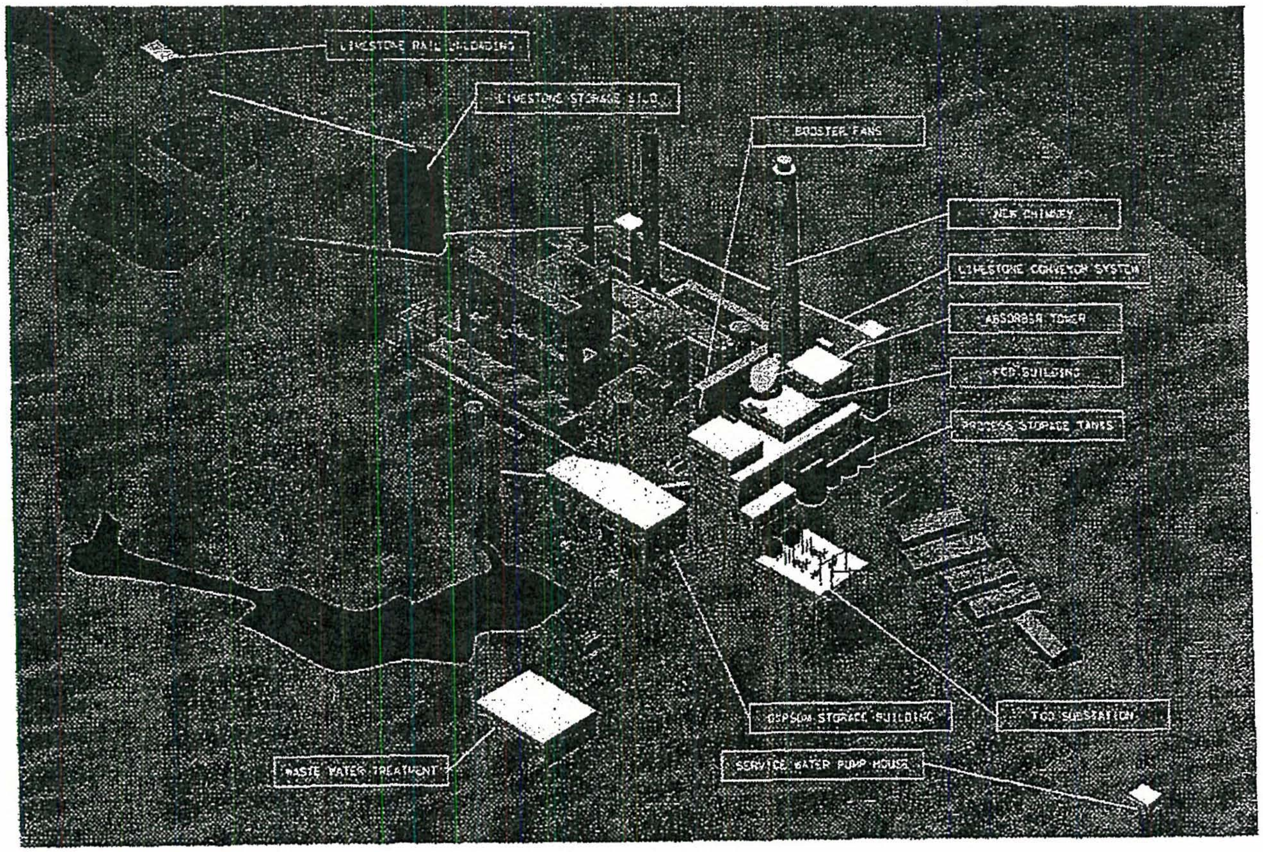
Clean Air Project
Merrimack Station



Docket No. DE 11-250
Attachment MIK-5

Merrimack Station: 2013

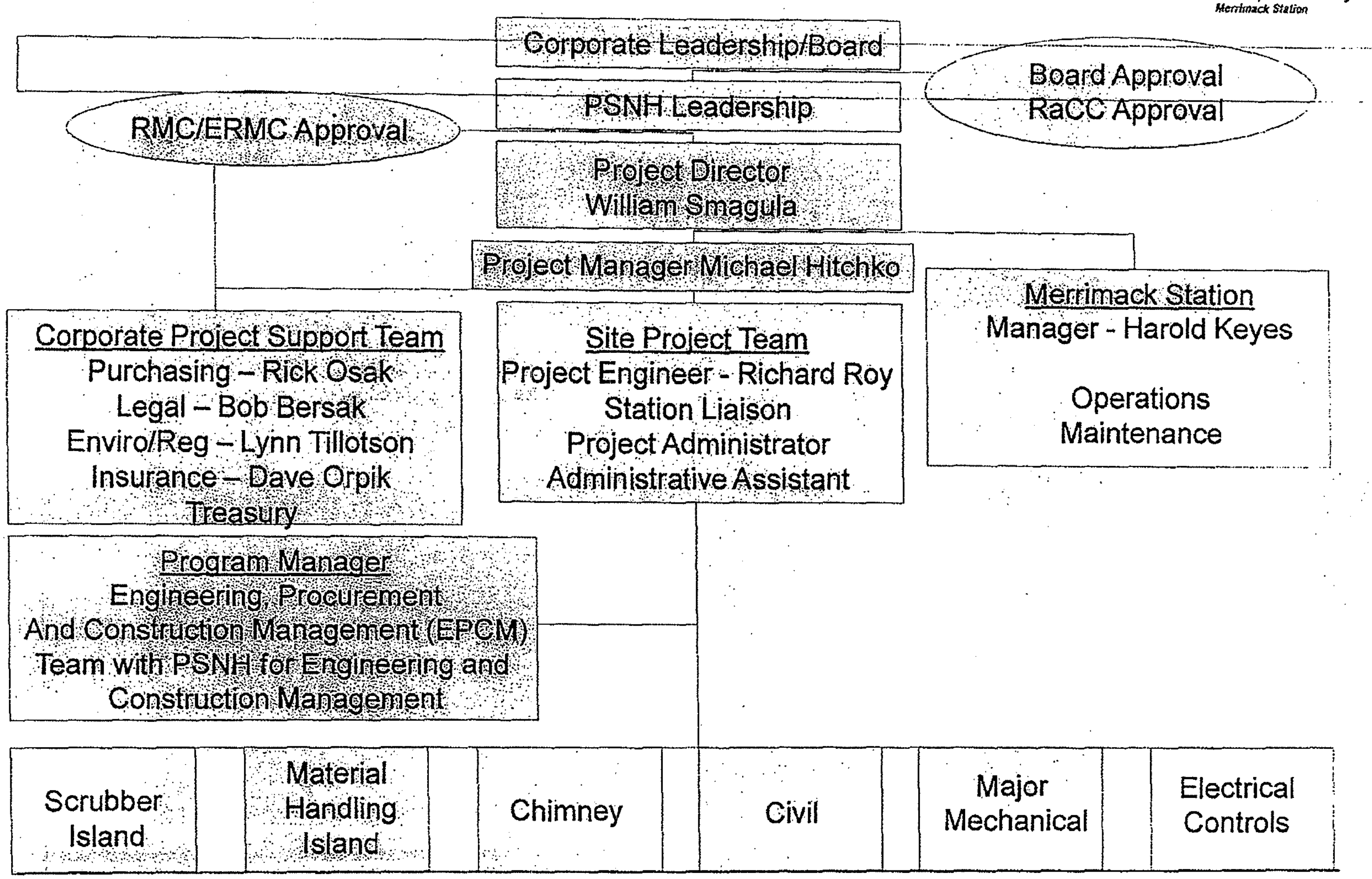
Clean Air Project
Merrimack Station



Docket No. DE 11-250
Attachment MIK-5

Clean Air Project
Merrimack Station

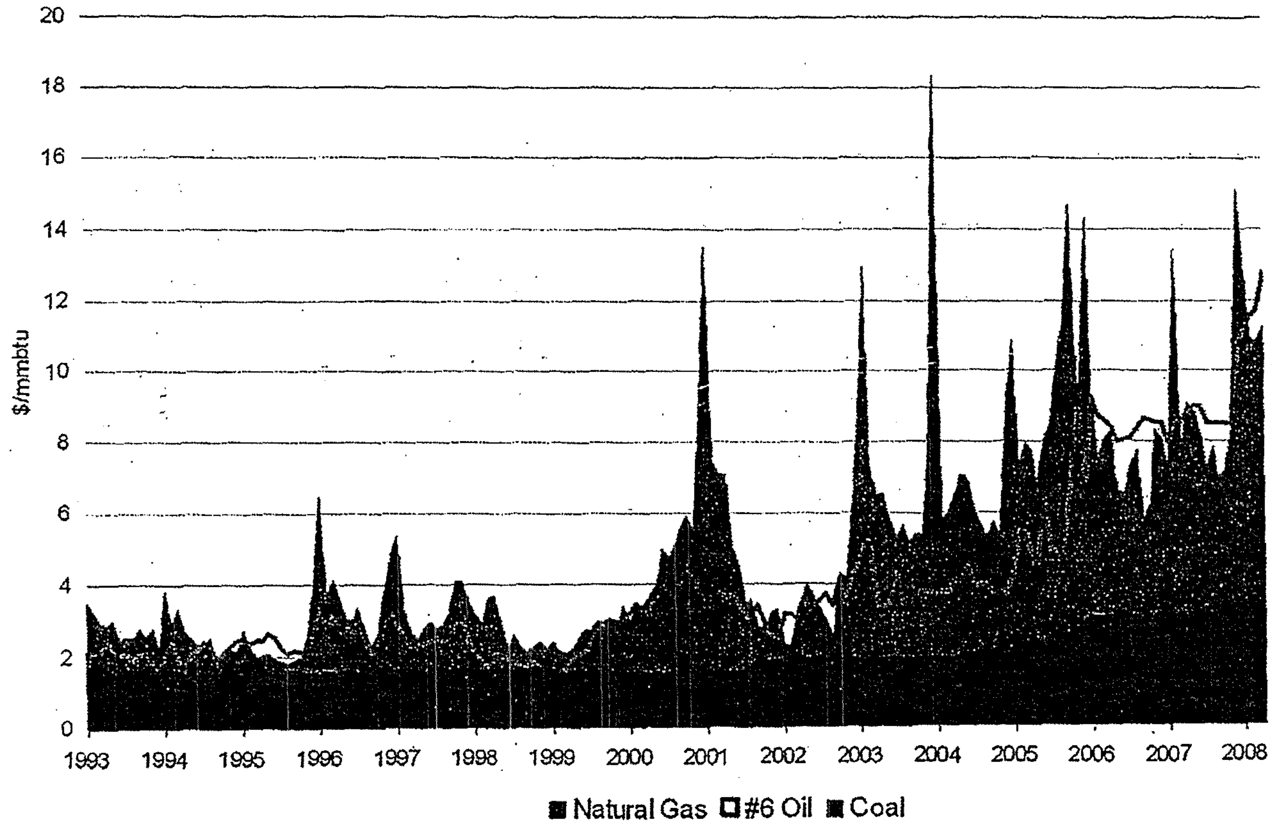
Project Organization



Docket No. DE 11-250
Attachment MIK-5

Historic Price Volatility Suggests Coal Will Find a Way to be Cheaper than Alternatives

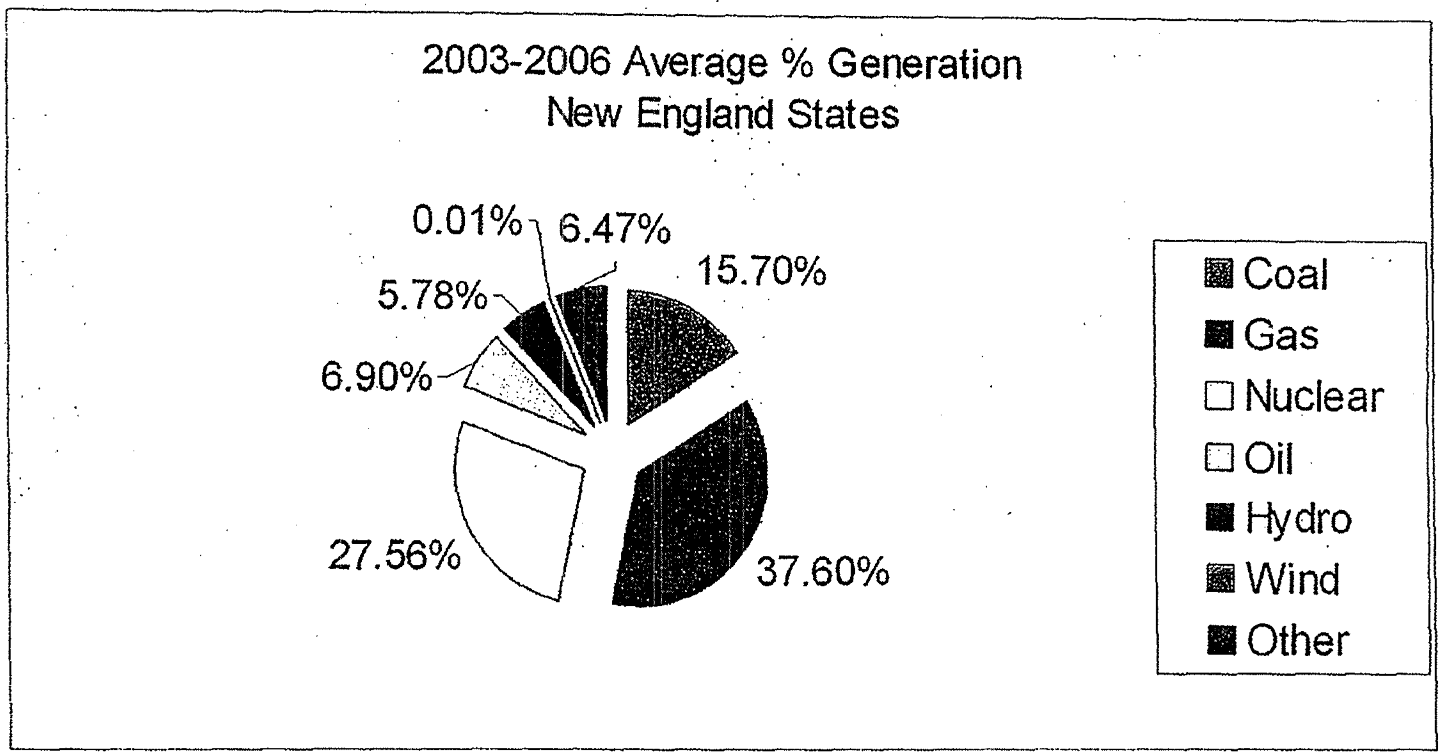
PSNH Actual/Quoted Delivered Fuel Costs



Docket No. DE 11-250
Attachment MIK-5

ISO-NE Energy Supply by Fuel Type

Clean Air Project
Merrimack Station



Docket No. DE 11-250
Attachment MIK-5

Northeast Utilities System

Clean Air Project
Merrimack Station

Public Service Company of New Hampshire

Clean Air Project

Capital Project Review and Approval

Northeast Utilities

Board of Trustees

Gary Long/Cameron Bready

July 15, 2008

Executive Summary

Clean Air Project
Merrimack Station

- New Hampshire legislation mandates compliance to mercury emissions standards set forth in the NH Mercury Reduction Act
  - Wet scrubber technology will reduce power plant mercury emissions required by New Hampshire law and is the technology specified by the law
  - There is no other technology which will guarantee capture of 80% of the mercury input of our coal fleet
- Cost estimates have been defined by a competitive bidding process
  - Prices have escalated from original estimates made in 2006 due to much higher raw material pricing and higher costs of engineering service
- Bid proposals indicate that an in-service date of mid-2012 is achievable
  - Earlier in-service date reduces cost (AFUDC), risk, and allows PSNH to take advantage of incentives built into the New Hampshire legislation for "early reductions" of mercury
- Despite the capital cost increases, Merrimack Station remains economic for customers under expected conditions and provides a significant investment opportunity for PSNH
  - The NPV of Revenue Requirements of adding the Scrubber versus replacing Merrimack Station energy and capacity supply with market purchases is a benefit to customers of $132 Million
  - The scrubber avoids about $15 Million in sulfur credit purchases annually, included in the customer benefit above
  - Incremental Net Income estimated at $18.5 M in 2013 – first full year of operation

Background – Merrimack Station Benefits PSNH's Customers

Clean Air Project
Merrimack Station

- Merrimack Station produces 3 million MWh of low cost power annually, about 35% of PSNH's total energy service requirement. The low cost energy produced at Merrimack Station off-sets the higher cost of market purchases in the overall energy service rate
- Operating Merrimack Station in a cost-effective manner has been one of the major reasons why PSNH's energy service rate is the lowest in the region, as much as 25% lower than the average of energy service supply that we track in NE
- Merrimack Station has control technology to satisfy NOx and particulate emissions requirements. With a scrubber, SO_2 and Mercury emissions will be controlled and Merrimack will be among the cleanest coal burning plants nationally
- Coal is the most abundant domestic fossil fuel resource in the United States supplying more than 50% of the nation's power generation fleet, but only 15% of New England's generation. Maintaining the use of this secure fuel resource is important for the diversity of the region's future energy supply
- Historically, coal has maintained a price advantage over oil or natural gas as fuel for the power generation sector. Operated as Regulated Generation, this cost savings flows directly to customers

Continued operation of Merrimack Station with a scrubber will maintain fuel diversity and security of domestic fuel supply in the ISO-NE region, while providing PSNH's customers with low cost energy.

Financial Assessment – Summary Metrics

Total Installed Capital Costs	$457M
Capital Cost $ / kW	$1,000[1]
NPV of Base Case Customer Benefit	$132M
2013 Net Income Contribution	$18.5M
2013 EPS Contribution (Diluted)	$.04/share
Busbar Cost (2013)	$94.55/MWh

Key assumptions :

- Project in-service on June 30, 2012
- 9.81% ROE on 47.23% equity component of capital structure
- Base case natural gas price of $11/mmbtu, coal of $4.82/mmbtu and carbon of $7/ton

Note:

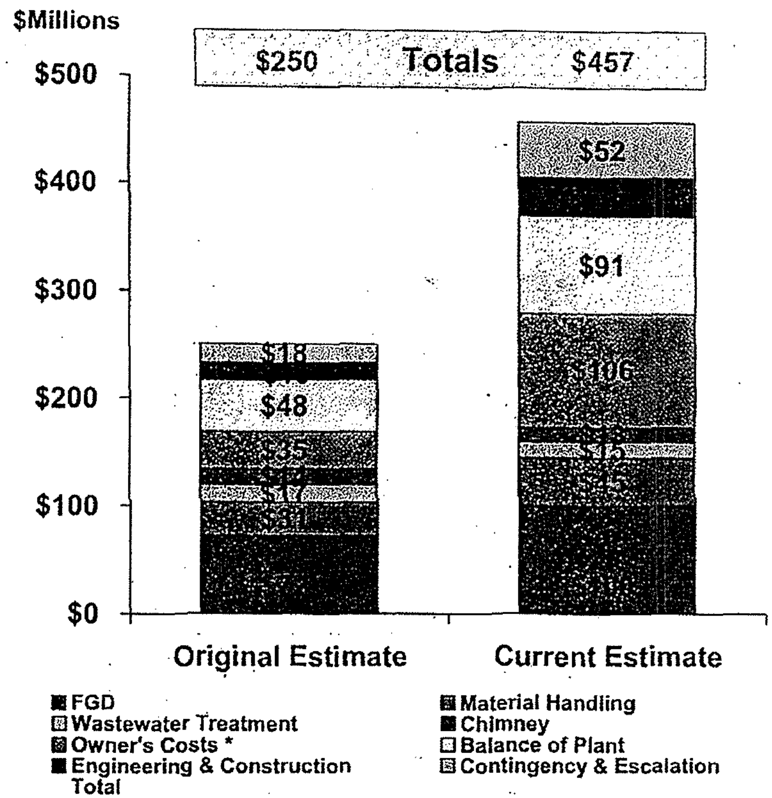
1. For reference, capital costs for a new CCGT would be approximately $1,600 - $1,700/kw. A new peaker would be approximately $950 – 1,000/kw.

Estimate of Project Costs

Clean Air Project
Merrimack Station

Major Island Contracts (Firm-Price Bids)	
FGD System	$100M
Material Handling	$45M
Waste-water Treatment	$15M
Chimney	$13M
PSNH Project Costs	$44M
Other Program Manager Costs	
Balance of Plant and Interconnection	$91M
Engineering and Construction	$35M
Contingency and Escalation	$52M
AFUDC	$57M
Total Direct Costs	**$452M**
NU Indirect Costs	**$5M**
Project Total	**$457M**

Project Costs by Component



* Includes PSNH Project Costs, Indirect Costs, and AFUDC

Financial Assessment - Overview

Clean Air Project
Merrimack Station

- Customer benefit/cost of scrubber installation is dependent upon customer alternatives for securing the energy and capacity provided by Merrimack
  - Analysis assumes that customers will procure energy and capacity from the market if Merrimack is not operational
  - Market price for energy will likely continue to be set by natural gas units for the foreseeable future
    - → Expected future price for natural gas and the spread between natural gas prices and coal prices are critical to assessment of customer impacts
- Financial customer benefit/cost determined as follows:
  - PV of net revenue requirements of Merrimack facility (including new scrubber) – PV of market energy and market capacity costs
  - Customer benefit is achieved when the revenue requirements of Merrimack are lower than the costs of procuring the energy and capacity that would otherwise be provided by Merrimack from the market
- Future impact of carbon may play an important role in determining ultimate customer benefit/cost
  - Carbon costs are expected to impact electricity rates, but coal plants will likely be disproportionally affected given their emission rates versus natural gas plants

Financial Sensitivities

Clean Air Project
Merrimack Station

- Base-case assumptions result in net customer benefit of $132 million
- Net customer benefit is most sensitive to expected future natural gas and coal prices and the relative spread between the two commodities

Assumption Category	Assumptions			2008 PV of Net Customer Cost[1] 2012-2027 ($Mil)		Net Customer Impact Break-Even Rates
	Downside	Base	Upside	($300) ($180) ($132) ($50) $40		
Capital Cost	+10%	$457 mil	-10%	$(159)	$(105)	$684 mil
2012 gas Prices, MMBTU[2]	-10%	$11.00	+10%	$(295)	$31	$10.10
2012 coal prices, MMBTU[2]	+10%	$4.82	-10%	$(228)	$(36)	$5.49
Implied Gas/coal Spread	$4.60	$6.18	$7.76	N/A[4]		$5.29[4]
2012 Carbon Costs[2,3]	+50%	$7	-50%	$(167)	$(97)	$30.13

Text in bars represents change in values;
text beside bars represents sensitivity result.

Notes:

1. NPV Net Customer Cost = (2008 Present Value of Merrimack Plant Revenue Requirements from 2012 to 2027) minus (2008 Present Value of Market Energy plus 2008 Present Value of Capacity Payments from 2012 to 2027).
2. Fuel and carbon costs are escalated at 2.5% per annum off of the 2012 estimate.
3. Reflects net impact on a $/ton basis for either RGGI or Federal policies excluding any allocations of allowances.
4. Spread not sensitized as impact depends on underlying natural gas and coal prices. Break even is based on a $4.82/mmbtu Coal Price (~$130 per delivered ton).

Financial Scenarios

Clean Air Project
Merrimack Station

➢ The following scenarios, denoted by their assumed probability of occurrence, demonstrate the compounding impacts of a variety of assumption changes on the key financial metrics for the project:

	Unlikely Low	Possible Low	Base	Possible High	Unlikely High
NPV - Net Customer Cost	$481 MIL	$194 MIL	($132 MIL)	($413 mil)	($719 mil)
Monthly Residential Customer Cost Impact	$3.70	$1.49	($1.01)	($3.17)	($5.52)
2013 Plant Busbar Cost ($/MwH)	$102.41	$100.37	$94.55	$87.86	$79.44
Net Income - 2013 (First full Year In-Service)	$21.5 mil	$20.1 MIL	$18.5 MIL	$18.1 mil	$17.7 mil
Assumed probability	5%	25%	-	25%	5%
Parameters					
Capital Costs, Millions	$532	$497	$457	$447	$437
2012 Gas Prices, MMBTU	$8.80	$9.90	$11.00	$12.10	$13.20
2012 Coal Prices, MMBTU	$5.78	$5.30	$4.82	$4.34	$3.86
2012 Carbon Costs, Ton	$30	$20	$7	$5	$0

Case Legend

Unlikely Low	Case reflects project in-service delayed one year and cost overun ($45M), cooling tower addition ($30M), minimal Gas/coal Spread
Possible Low	Case reflects project in-service on-time with cost overun ($10M), cooling tower addition ($30M), decreased Gas/coal Spread
Base	Current assumptions
Possible High	Case reflects project in-service 6 months early ($10M), project costs as expected, benign carbon legislation, increased gas/coal spread
Unlikely High	Case reflects project in-service 6 months early ($10M) with lower than expected costs ($10M), no carbon legislation, maximum gas/coal spread

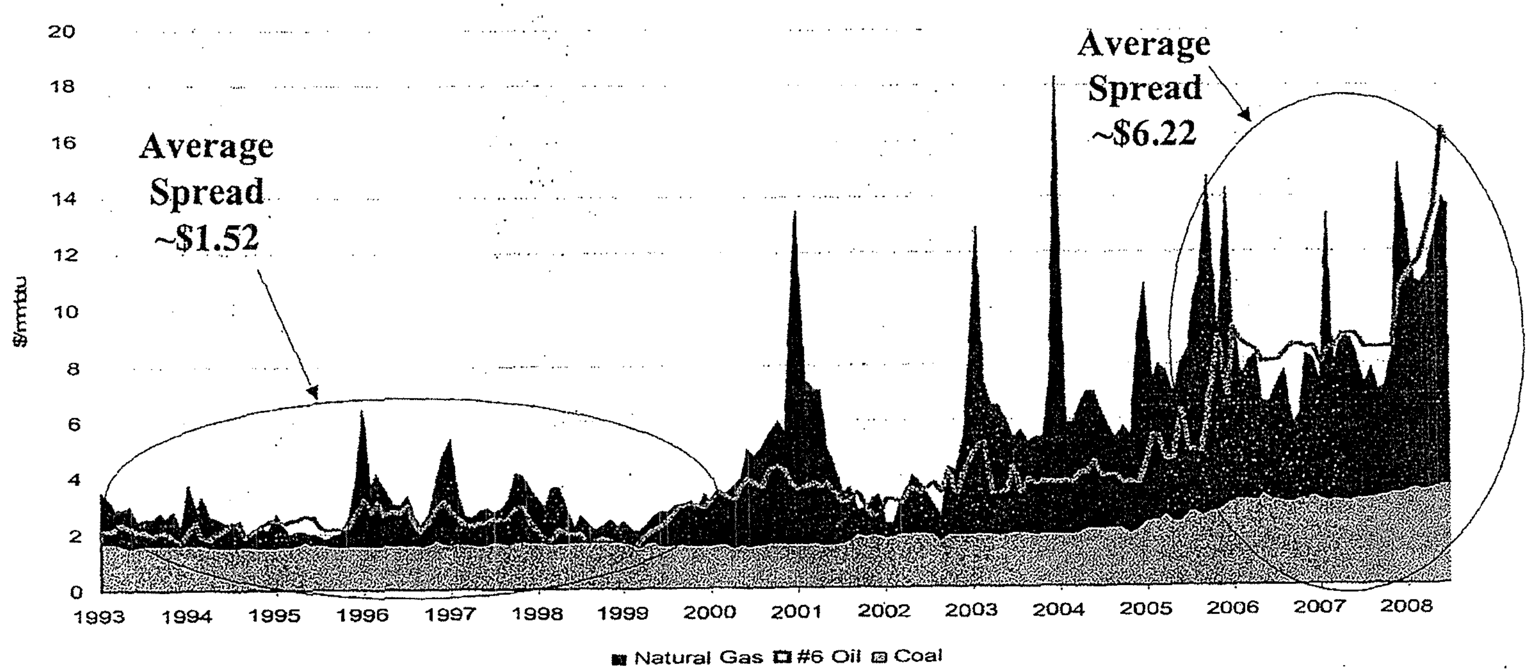
➢ Other scenarios considered:	Customer Cost/(Benefit)
• $200 Oil Scenario:	($437 million)
• $50 Carbon Cost:	$70 million

Historic Fuel Spreads

Clean Air Project
Merrimack Station

- Gas/Coal spread has averaged $3.18/mmbtu over the last 15 years, as compared to the required customer break-even level of $5.29/mmbtu (based on current price levels)
  - However, post the hurricane season of 2005, the spread has averaged $6.22/mmbtu
- Since January 2007, the spread has averaged nearly $6.63/mmbtu and current spreads are more than ~$9/mmbtu

PSNH Actual/Quoted Delivered Fuel Costs



Key Financial Takeaways

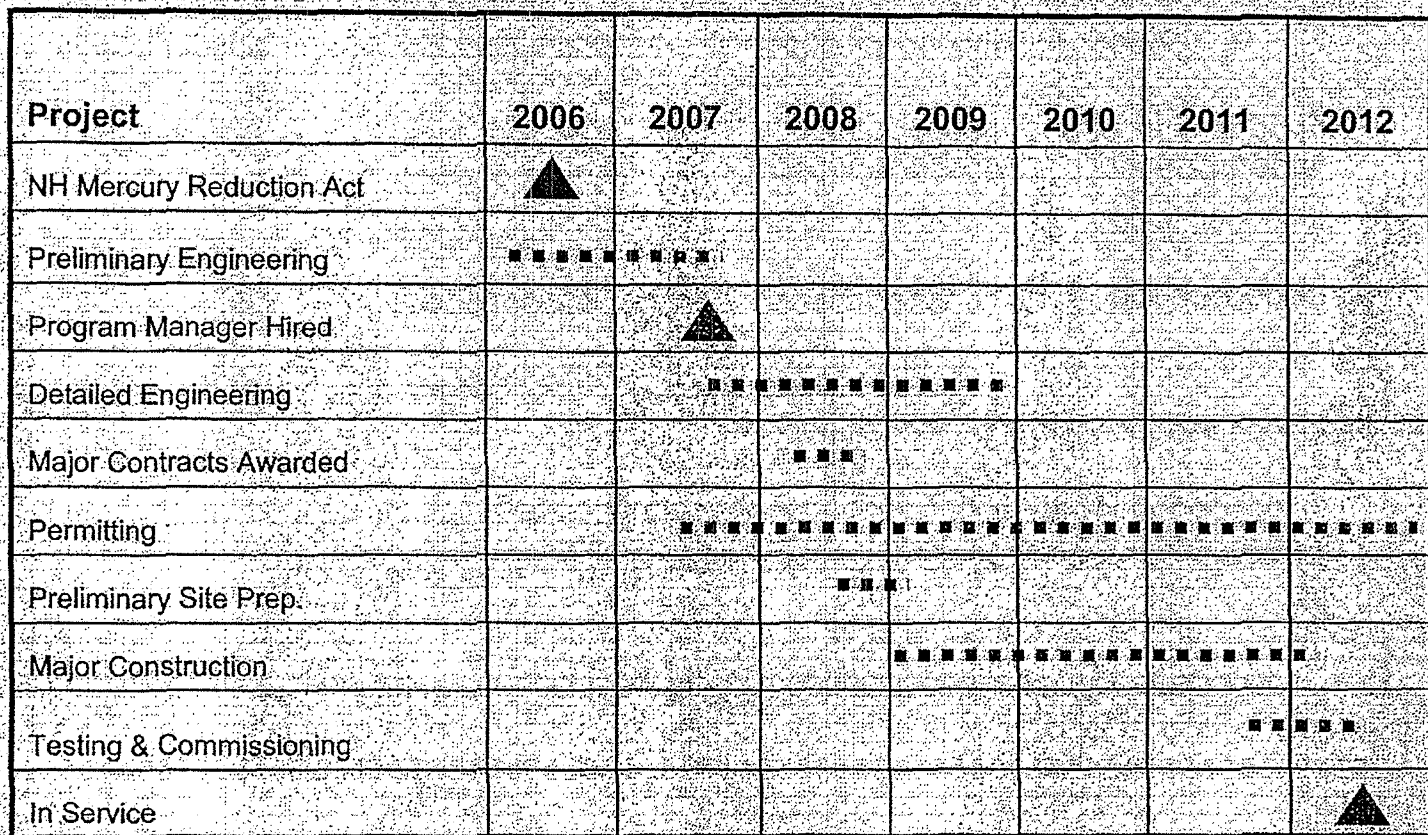
Clean Air Project
Merrimack Station

- Customer value of scrubber installation extremely sensitive to future expected natural gas/coal price spread
  - At assumed 2012 natural gas and coal price levels and other base case parameters, a spread of approximately $5.29/mmbtu (escalating) is required to create customer benefits
  - Recent spreads suggest that this level is realistic; however, historic spread levels have averaged lower
- Impact of carbon legislation is not expected to render scrubber investment uneconomic to customers at current projected costs under RGGI
  - Absent allocations, assuming all other base case assumptions, a net carbon cost of $30/ton (escalating) or greater would diminish customer value of scrubber installation
- Assuming base case fuel and carbon assumptions, capital cost estimates have meaningful headroom before rendering investment uneconomic
  - All other base case assumptions being held constant, capital costs can increase to ~$684 million before eliminating customer economic benefits
  - However, reductions in natural/gas coal spread and increases in carbon costs would put pressure on base case capital cost estimates
- Generation ratemaking making structure allows for PSNH to earn 9.81% ROE on equity invested in the project under all scenarios presented
  - Assumes that project capital costs are deemed prudent

Investment is essentially a long spread position on natural gas/coal with carbon and construction risk

Revised Project Schedule

Clean Air Project
Merrimack Station



Conclusion

- Installation of the scrubber is required by NH law to meet mercury emissions requirements
- Merrimack Clean Air Project capital costs have increased significantly since the original project costs estimates were prepared in 2006, and stand at $457M
- Under the base case, continued operation of Merrimack Station with the Clean Air Project remains economically beneficial for customers
- State law allows for recovery of prudently incurred costs to construct and operate the scrubber
- The project team is in place and prepared to execute contracts now and begin construction in earnest late this year, with a project in-service date of mid-2012
- The proposal to construct and operate a scrubber at Merrimack Station, in conformance with the NH Mercury Reduction Law, is in the best interest of PSNH's customers and shareholders

Northeast Utilities System

Clean Air Project
Merrimack Station

Appendix Materials

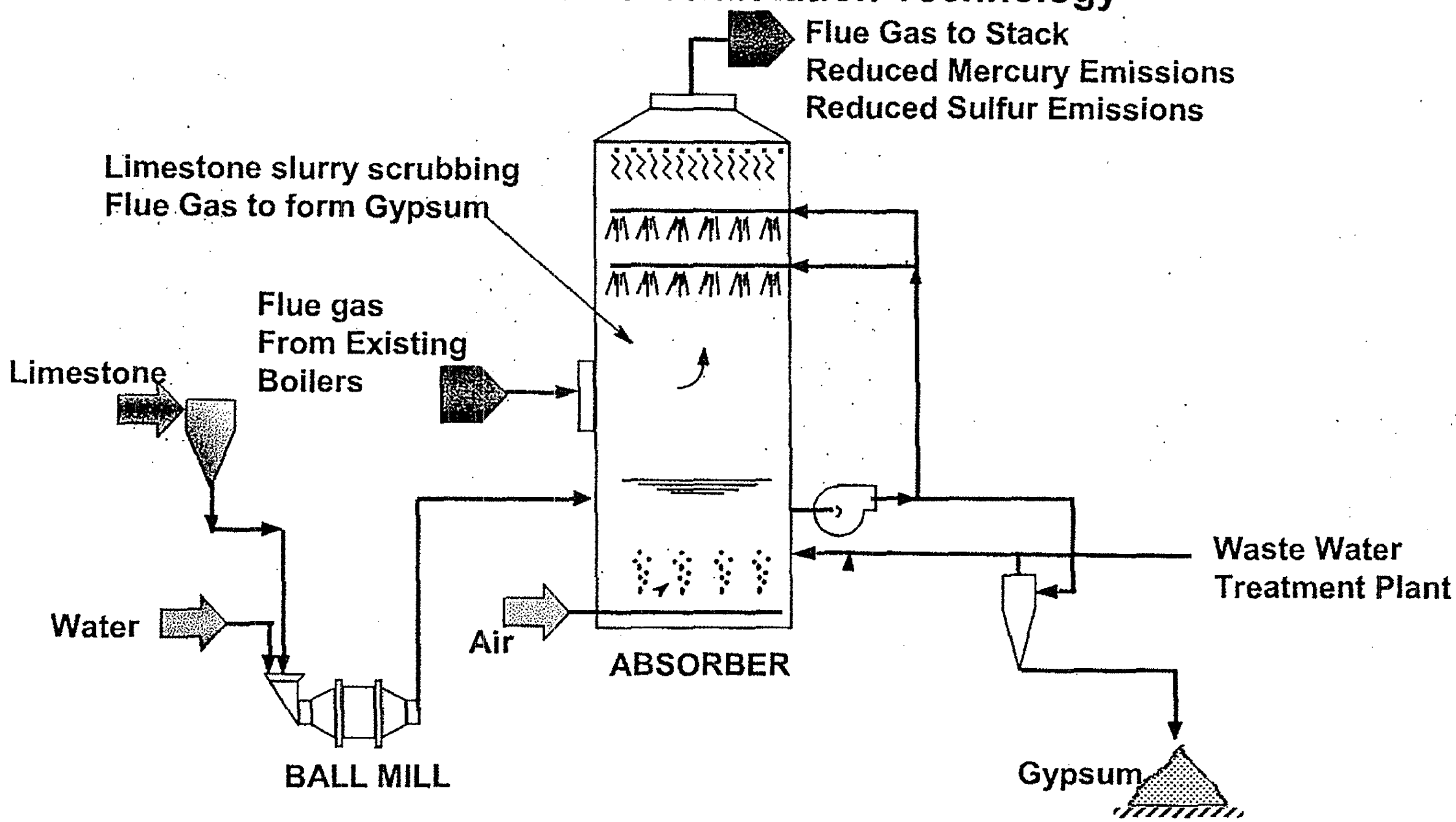
PSNH Clean Air Project

July 15, 2008

Scrubber Schematic

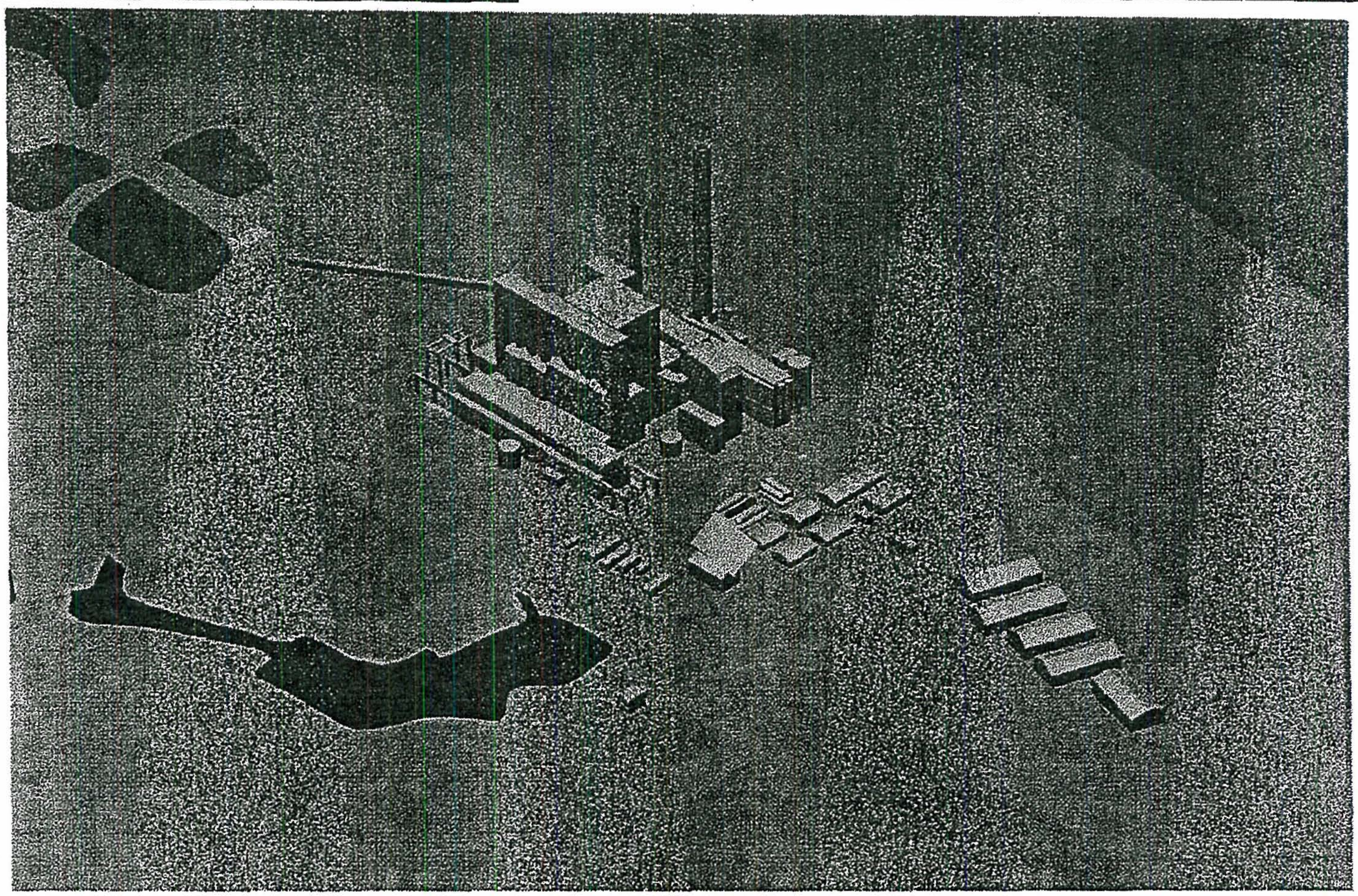
Clean Air Project
Merrimack Station

Wet Flue Gas Desulfurization Technology



Merrimack Station: 2008

Clean Air Project
Merrimack Station

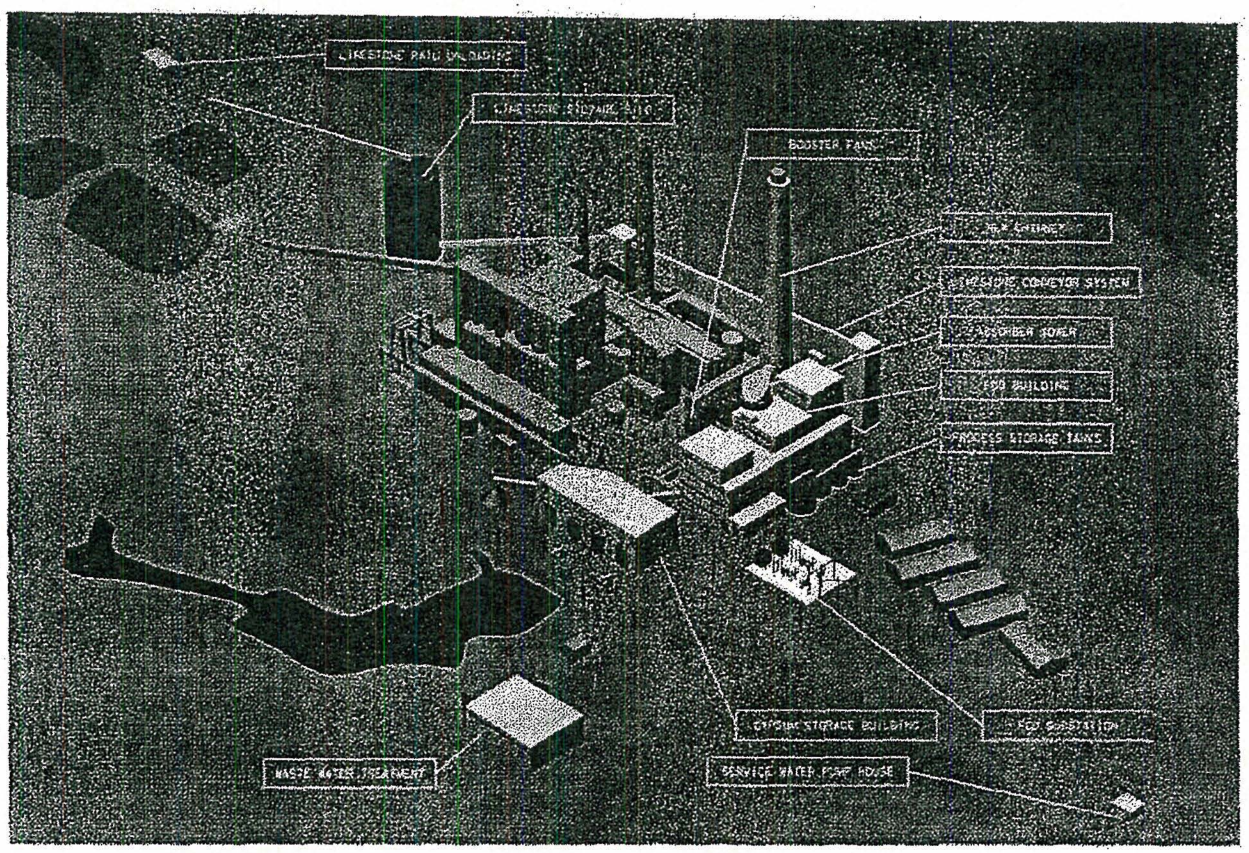


Northeast
Utilities System

Privileged and Confidential. Prepared at the direction of Counsel. Prepared in Anticipation of Litigation.

Merrimack Station: 2013

Clean Air Project
Merrimack Station



Risk Assessment, Major Risk Concerns

Clean Air Project
Merrimack Station

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Clean Air Project
Merrimack Station

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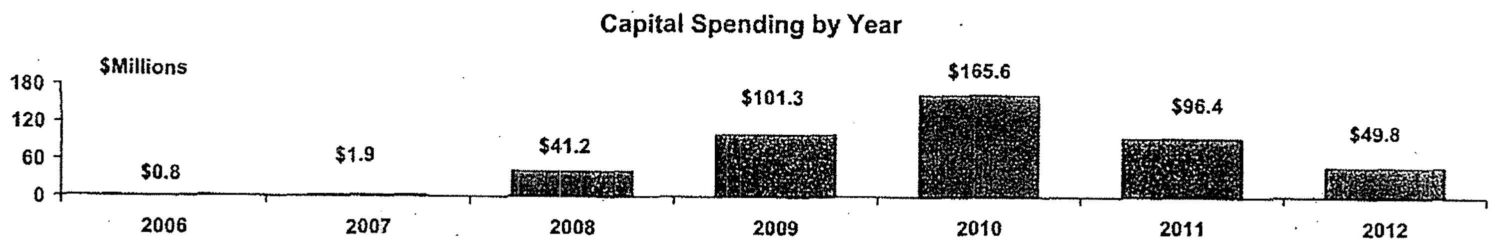
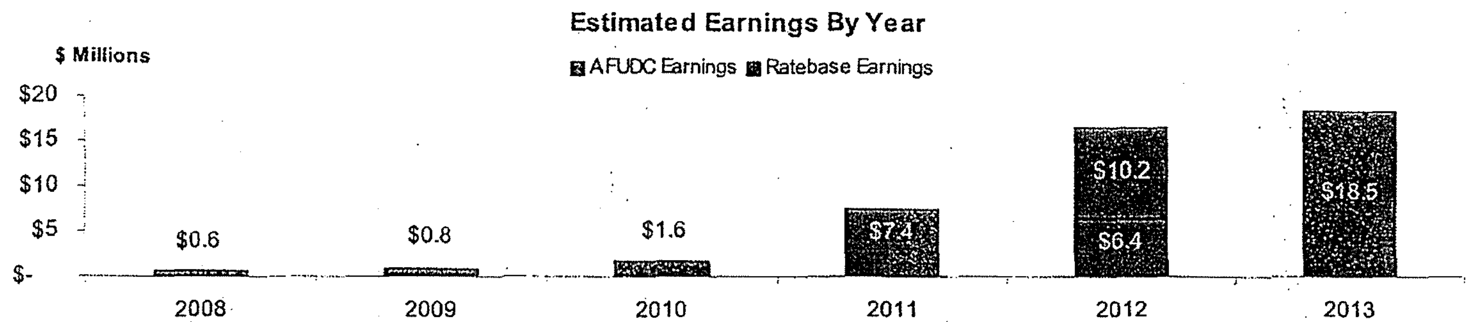
Inability to design appropriate plant integration plans resulting in MK1 bypass, boiler implosion and noise issues.	2008-9	$12.5 million	50%	$6.25 million	PSNH contracted with experienced contract program manager in Scrubber installations. Additionally, NU personnel will be reviewing design specifications for reasonableness.
Scope definition changes drastically during construction resulting in additional expenditures and/or potential schedule delays.	2008-12	$18.75 million	20%	$3.75 million	PSNH team will work closely with WGI & EPC contractors to minimize the impact.
Proposed design is inadequate and does not meet operability/reliability/ constructability requirements resulting in complete redesign.	2008-9	$12.5 million	30%	$3.75 million	PSNH contracted with experienced contract program manager in Scrubber installations. Additionally, NU personnel will be reviewing design specifications for reasonableness.

Cashflow and Earnings Projection

Clean Air Project
Merrimack Station





EPS	$.00	$.00	$.01	$.02	$.03	$.04

Assumptions:

- Base-case project costs are estimated at $457M
- Project expected to be in-service on June 30, 2012
- Assumes 9.81% ROE on 47.23% of Capital Structure
- Average Shares outstanding per 2009-2013 Forecast

Project Benefits are Accentuated by Advancing the In-Service Date to mid-2012

- Financial
  - Reduces AFUDC cost by $10 Million
  - Limits exposure to material or labor cost escalation for project elements not covered by firm price contracts
  - Generates real earnings one year sooner
- Environmental
  - Eliminates an additional 31,350 tons of SO_2
  - Eliminates an additional 229 pounds of Mercury
  - Reduces particulate emissions to less than 1% one year sooner
- Customer
  - Produces "early reduction mercury credits" that can be used for
    - Compliance in future years if operational issues with the scrubber arise
    - Conversion to fungible SO_2 allowances (estimated at 12,500 allowances)

**FOR APPROVAL BY THE
NORTHEAST UTILITIES
RISK AND CAPITAL COMMITTEE**

June 25, 2008

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE CLEAN AIR PROJECT

ISSUE:

The Northeast Utilities Risk and Capital Committee (RaCC) provides oversight and input for capital programs and projects exceeding $10 million. The PSNH Clean Air Project was brought to RaCC on May 30, 2007 for conceptual project review and initial funding approval, and for revised initial funding approval on September 24, 2007.

Consistent with the NU RaCC Charter, the PSNH Clean Air Project is being brought to the RaCC for review and recommendation for approval to the Chairman, President and CEO (CEO) of NU and Chairman of Public Service Company of New Hampshire.

RECOMMENDATION:

RECOMMEND CEO AND CHAIRMAN APPROVES THE PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE CLEAN AIR PROJECT CAPITAL FUNDING:

The RaCC recommends that the CEO and Chairman of PSNH approve the expenditure of $457 million of capital funding, inclusive of funds spent to date as provided for in the attached material.

ATTACHMENTS:

Presentation entitled "The Public Service Company of New Hampshire Clean Air Project".

RaCC resolution recommending CEO and Chairman approval of capital funding for the PSNH Clean Air Project.

Northeast Utilities
Risk and Capital Committee Meeting
June 25, 2008

RECOMMEND APPROVAL OF CAPITAL FUNDING FOR THE PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE CLEAN AIR PROJECT BY THE CEO OF NU AND THE CHAIRMAN OF PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE.

WHEREAS, Public Service Company of New Hampshire ("PSNH") management provided the Committee with a capital project approval proposal for the PSNH Clean Air Project and have requested $457 million of capital funding, inclusive of funds spent to date; and

WHEREAS, this Committee has reviewed said proposal;

NOW THEREFORE, BE IT

RESOLVED, that this Committee finds the following capital funding by Public Service Company of New Hampshire ("PSNH") of the PSNH Clean Air Project as described in the material submitted to this meeting and ordered filed with its records thereof acceptable.

Project	Total Cost	Year of Completion
PSNH Clean Air Project	$457 million, inclusive of funds spent to date	2012

RESOLVED, that this Committee recommends that the Chairman of the Board, President and Chief Executive Officer of Northeast Utilities and the Chairman of PSNH approve the capital funding by PSNH of the PSNH Clean Air Project, provided however that this Committee further recommends that a status update on the project be submitted to the Committee no less frequently than quarterly and the capital funding by PSNH set forth above shall not be exceeded without prior approval by the Committee.

APPROVAL OF CAPITAL FUNDING FOR THE PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE CLEAN AIR PROJECT BY THE CEO OF NU AND THE CHAIRMAN OF PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE.

Approved as recommended by the Risk and Capital Committee on June 25, 2008 as set forth above:

NORTHEAST UTILITIES

Date: 9/24/08

By: Charles W. Shivery
Charles W. Shivery
Chairman of the Board, President
And Chief Executive Officer

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

Date: 9/24/08

By: Charles W. Shivery
Charles W. Shivery
Chairman

CONFIDENTIAL

CONFIDENTIAL

Public Service
of New Hampshire

The Northeast Utilities System

Clean Air Project
Merrimack Station

Public Service Company of New Hampshire
Clean Air Project

Update to NHPUC Staff and Office of Consumer Advocate

July 30, 2008

Purpose of Today's Meeting

Clean Air Project
Merrimack Station

Docket No. DE 11-250
Attachment MIK-6

- Recap NH Clean Power Act and Mercury Law requirements
- Define Merrimack Station benefits to PSNH customers
- Advise as to project status within NU/PSNH
- Update cost estimates
- Confirm financial assessment of customer benefit post-scrubber installation
- Provide current thinking on project schedule

Executive Summary

Clean Air Project
Merrimack Station

- New Hampshire legislation mandates compliance with mercury emissions standards set forth in the NH Mercury Reduction Law
  - PSNH must capture 80% of mercury emissions from its coal plants by June 2013
  - Wet scrubber technology will reduce power plant mercury emissions required by New Hampshire law and is the technology specified by the law
  - There is no other technology that will guarantee capture of 80% of the mercury input of our coal fleet
  - On behalf of its customers, PSNH is incented to reduce mercury emissions prior to June 30, 2013
- Cost estimates have been defined by a competitive bidding process
  - Prices have escalated from original estimates made in 2006 due to much higher raw material pricing and higher costs of engineering services and labor
- Bid proposals indicate that an in-service date of mid-2012 is achievable
  - Earlier in-service date reduces cost (AFUDC) and risks, and allows PSNH's customers to take advantage of incentives built into the New Hampshire legislation for "early reductions" of mercury
- Despite the capital cost increases, Merrimack Station remains economic for customers under expected conditions
  - The NPV of Revenue Requirements of adding the scrubber versus replacing Merrimack Station energy and capacity supply with market purchases is a benefit to customers of $132 million
- In addition to the mercury removal benefits, the scrubber avoids about 30,000 tons of sulfur emissions and sulfur allowance purchases annually, included in the customer benefit above

Public Service of New Hampshire

Clean Air Project
Merrimack Station

Docket No. DE 11-250
Attachment MIK-6

Background

Merrimack Station Benefits PSNH's Customers

Clean Air Project
Merrimack Station

- Merrimack Station produces 3 million MWh of low-cost power annually, about 35% of PSNH's total energy service requirement. The low-cost energy produced at Merrimack Station offsets the higher cost of market purchases in the overall energy service rate
- Historic high Capacity Factor and cost-effective operation of Merrimack Station has been one of the major reasons why PSNH's energy service rate is the lowest in the region, as much as 25% lower than the region's average energy service rate
- Merrimack Station has control technology to satisfy NOx and particulate emissions requirements. With a scrubber, SO_2 and mercury emissions will be controlled and Merrimack will be among the cleanest coal-burning plants in the nation
- Coal is the most abundant domestic fossil fuel resource in the United States, supplying more than 50% of the nation's power generation, but only 15% of New England's generation. Maintaining the use of this secure fuel resource is important for the diversity of the region's future energy supply
- Historically, coal has maintained a price advantage over oil or natural gas as a fuel source for the power generation sector. Operated as regulated generation, this cost savings flows directly to customers

Continued operation of Merrimack Station with a scrubber will maintain fuel diversity and security of domestic fuel supply in the ISO-NE region, while providing PSNH's customers with low-cost energy.

Docket No. DE 11-250
Attachment MIK-6

1503

Regional Barriers to Adding New Base-Load Generation in New England Cause Merrimack Station to be Strategically Positioned for Re-Investment

Clean Air Project
Merrimack Station

- New base-load power plants (coal, nuclear, IGCC) are not on the near- or mid-term horizon for the region, making re-investment in environmental technology at existing assets the necessary strategy to maintain appropriate base-load supply
- In addition to the support these barriers provide for continued operation of existing base-load plants:
  - Brattle Group analysis of future NE energy markets indicates that all coal generation, including Merrimack, will continue to operate economically
  - Operation of Merrimack Station on coal increases NE's fuel diversity, enhancing the stability of power supply in the region
- ISO-NE market rules, and the current economic climate, make it nearly impossible for prospective generators to secure financing and overcome the substantial "barriers to entry" to build new generation in the region

Public Service of New Hampshire

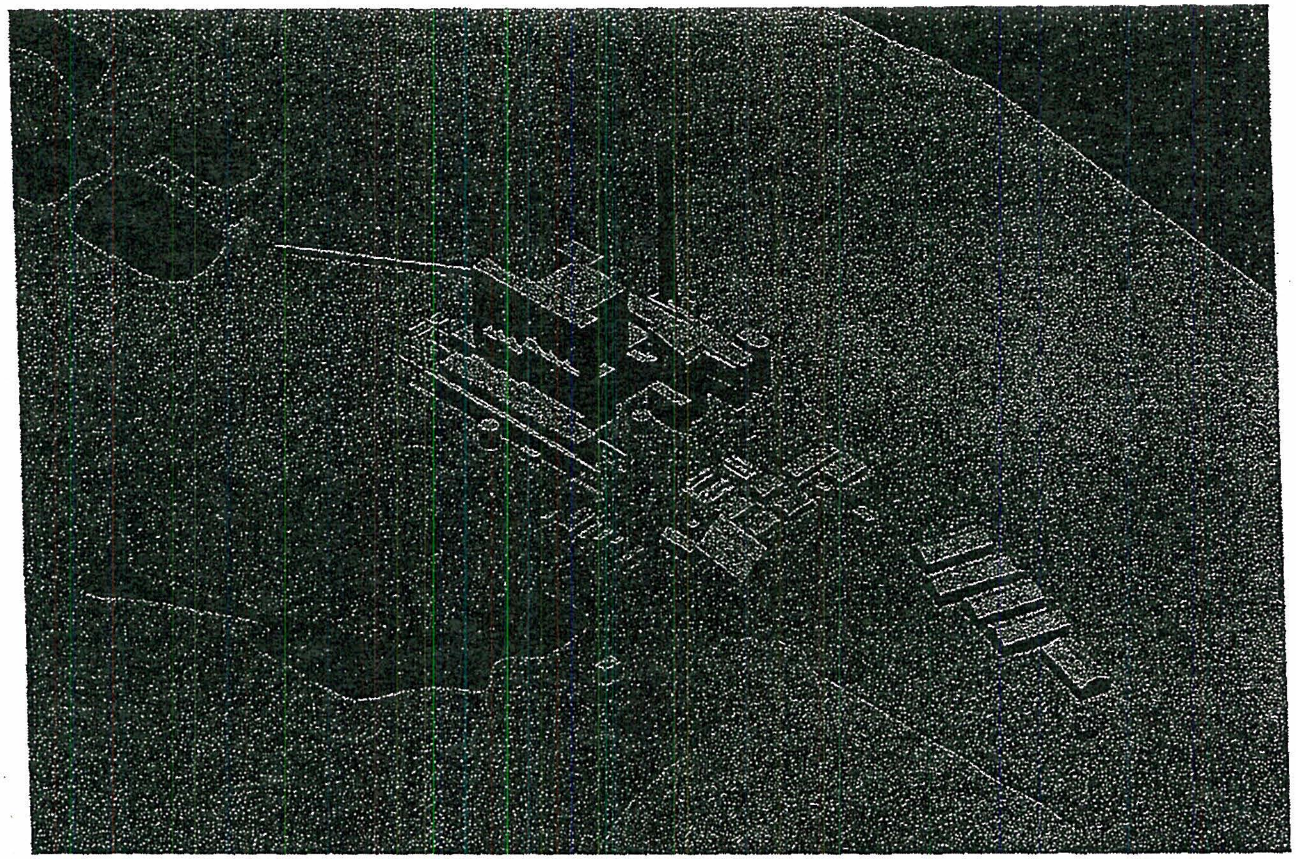
Clean Air Project
Merrimack Station

Docket No. DE 11-250
Attachment MIK-6

Project Status Update

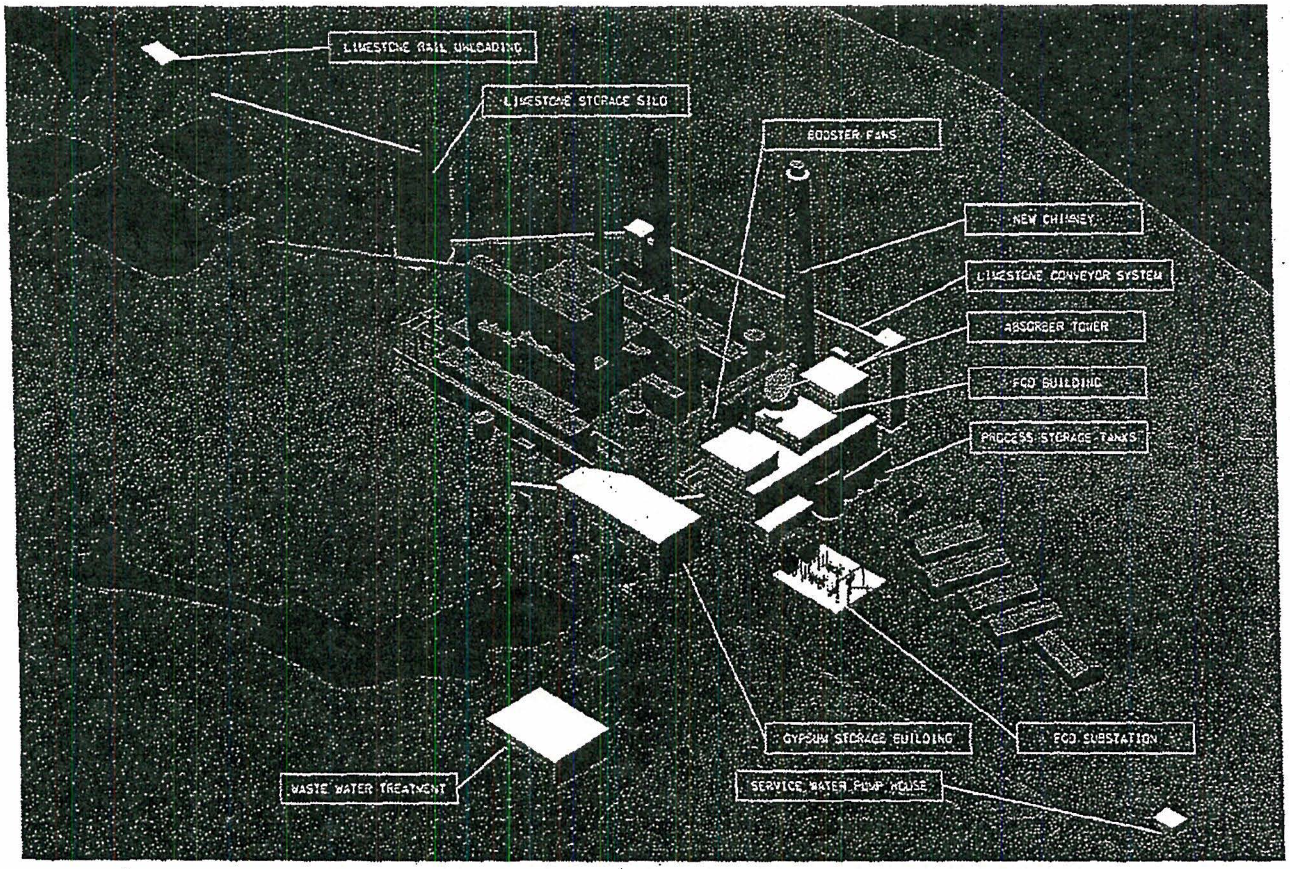
Merrimack Station: 2008

Clean Air Project
Merrimack Station



Merrimack Station: 2013

Clean Air Project
Merrimack Station



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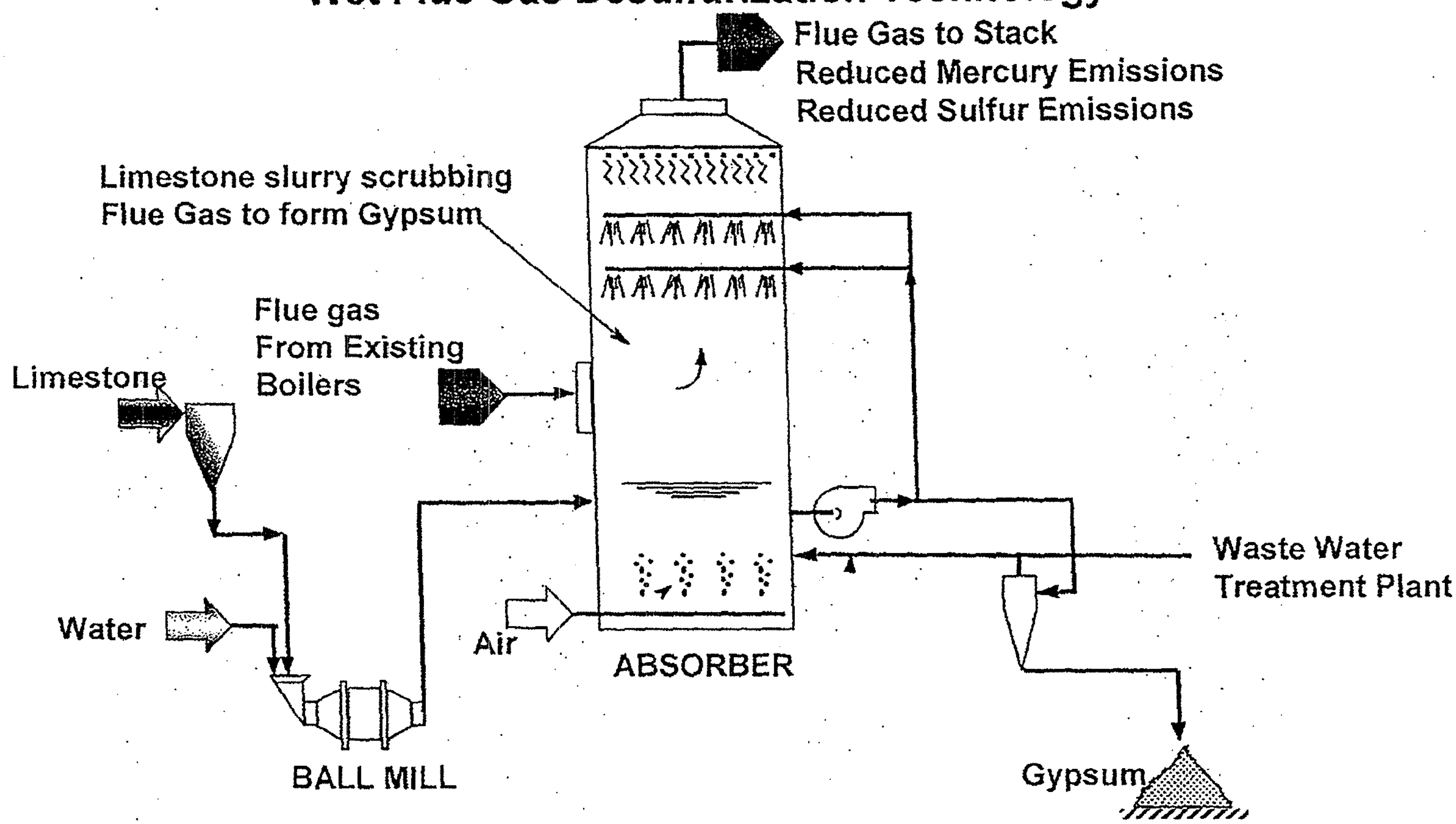
Scrubber Schematic

Clean Air Project
Merrimack Station

Wet Flue Gas Desulfurization Technology



Clean Air Project – Progress to Date

Clean Air Project
Merrimack Station

- **Engineering**
  - Projects defined in 5 major components
  - Specifications developed for 4 key components
- **Commercial and Purchasing**
  - Program Manager hired September 2007
  - Scrubber Island and Chimney proposals are in final negotiations
  - Wastewater Treatment Facility and Material Handling System bids are in negotiations
- **Review, Permits, and Approvals**
  - Temporary Air permit application to NHDES, June 2007
  - NHDES – May 12 presentation
  - Temporary Air Permit expected October 2008
  - Town of Bow – local permitting
  - Regional Planning Commission
- **Site Work**
  - Existing oil tank removed
  - Site surveys and studies completed
  - Warehouse construction underway
  - On-site engineering facilities completed
- **Costs and Schedule**
  - Project costs now updated with review of all major equipment bids nearing completion
  - Original plan: Tie-ins: MK#1 Fall 2012, MK#2 Spring 2013
  - Program Manager and suppliers can support in-service one year earlier

Docket No. DE 11-250
Attachment MIK-6

Estimate of Project Costs

Clean Air Project
Merrimack Station

- Project estimated to cost \$457M
  - Estimate based on firm price bids, currently in final phase of negotiations
  - Cost components:

→ Major Components (FGD, Material Handling, Wastewater Treatment and Chimney)	\$173M
→ PSNH and Program Manager Costs (Engineering)	\$170M
→ Project Contingencies	\$ 52M
→ Corporate Costs (AFUDC, Indirects)	\$ 62M
TOTAL Project Costs	\$457M

Key Drivers of Project Cost Increase

- Scrubber design criteria for Mercury vs. SO_2
- Material cost increases
- Labor cost increases
- Engineering, including site congestion and interconnection of two dissimilar sized units into one scrubber

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Docket No. DE 11-250
Attachment MIK-6

Revised Project Schedule

Clean Air Project
Merrimack Station

Project	2006	2007	2008	2009	2010	2011	2012
✓ NH Mercury Reduction Act	▲						
✓ Preliminary Engineering	■■■■	■■■■					
✓ Program Manager Hired		▲					
Detailed Engineering		■■	■■■■■	■■■■■			
Major Contracts Awarded			■■■				
Permitting		■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■
Preliminary Site Prep.		■	■■■■■	■			
Major Construction				■■■■■	■■■■■	■■■■■■	■
Testing & Commissioning						■■	■■■
In Service							▲

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Public Service of New Hampshire

Clean Air Project
Merrimack Station

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Project Benefits

July 30, 2008

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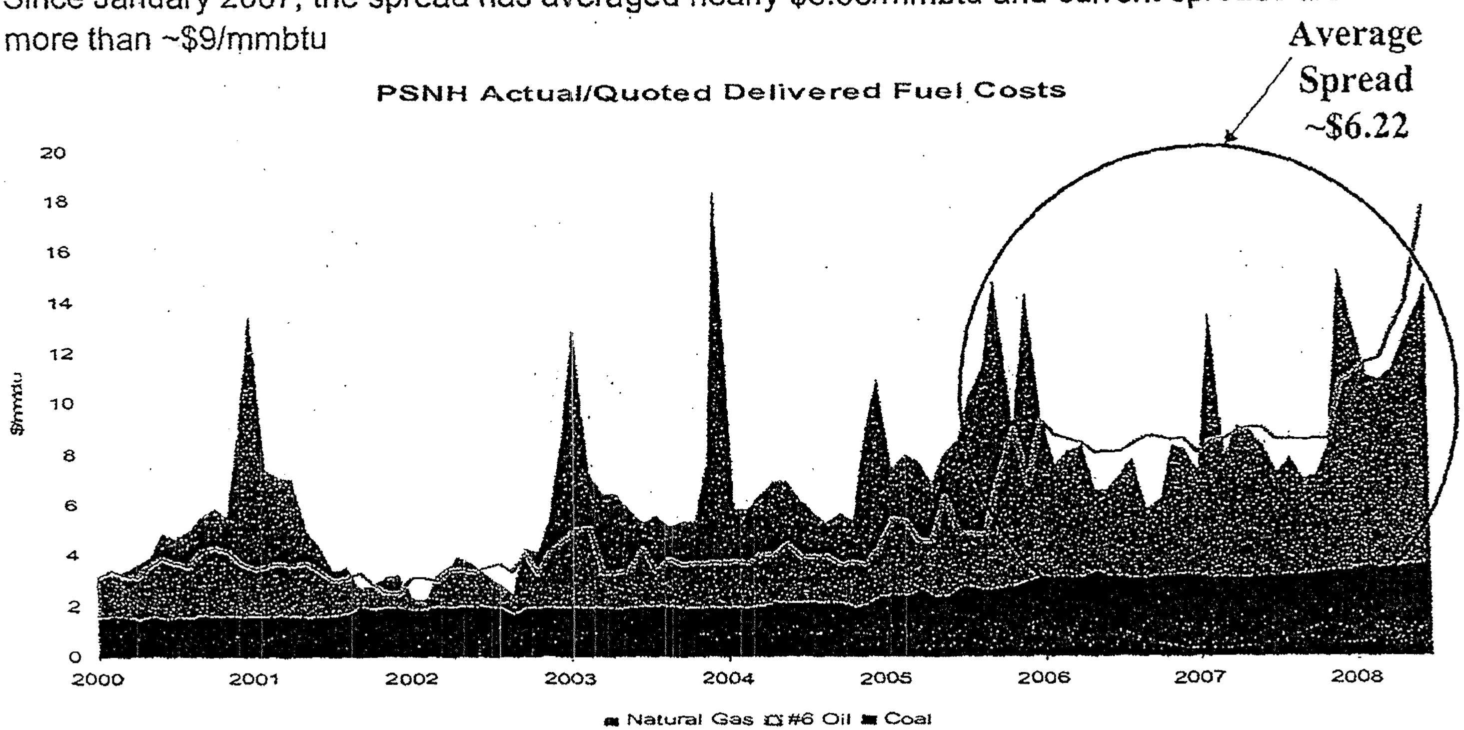
Historic Fuel Spreads

Clean Air Project
Merrimack Station

- Gas/Coal spread has historically favored coal over natural gas and the spread has averaged $6.22/mmbtu since the hurricane season of 2005
- Since January 2007, the spread has averaged nearly $6.63/mmbtu and current spreads are more than ~$9/mmbtu



PSNH believes that coal, the nation's most plentiful domestic fuel resource, which is best suited for stationary (power generation) use, will continue to find ways to be lower cost than alternatives that are influenced predominantly by foreign supply

Project Benefits are Accentuated by Advancing the In-Service Date to Mid-2012

Clean Air Project
Merrimack Station

- Economic
  - Reduces AFUDC cost by $10 million
  - Limits exposure to material or labor cost escalation for project elements not covered by firm price contracts
- Environmental
  - Eliminates an additional 31,350 tons of SO_2
  - Eliminates an additional 229 pounds of mercury
  - Reduces particulate emissions to less than 1% one year sooner
- Customer
  - Produces "early reduction mercury credits" that can be used for:
    - Compliance in future years if operational issues with the scrubber arise
    - Conversion to fungible SO_2 allowances (estimated at 12,500 allowances)

Estimated Effect of PSNH's Clean Air Project on Average Residential Bil

Based on PSNH projections contained in Company filing dated 9/2/2008 in DE 08-103 pp 13-14.

The OCA has estimated, for illustrative purposes only, based on PSNH's data and proposal to depreciate the project over 15 years. year of the project the average residential customer, using 650 kWh per month, would see an increase in their bill of approximately $3.25 per month. In years 2 through 15, the increase would be approximately $2.15 per month.
<u>We note that PSNH's cost estimates have not been reveiwed by the PUC, the OCA, or any other party.</u>
We have also not included any other increases in costs over the 15 year period.

PSNH Residential Customer's "All-In" Cost of Energy - current	$0.1594	per kWh	Current 9/2008 (1)
PSNH Residential Customer's "All-In" Cost of Energy w/project	$0.1644	per kWh	Year One (2)
PSNH Residential Customer's "All-In" Cost of Energy w/project	$0.1627	per kWh	Year Two - Fifteen (2)
Assume	650	kWh per month average usage	

	Monthly kWh usage	Current Bill	Monthly Bill Year 1 of Project On-Line (2)	Monthly Bill Impact of Project Year 1 (2)	Monthly Bill Years 2 - 15 of Project On-Line (2)	Monthly Bill Impact of Project Years 2 - 15 (2)
Jan	650	$103.61	$106.86	$3.25	$105.76	$2.15
Feb	650	$103.61	$106.86	$3.25	$105.76	$2.15
Mar	650	$103.61	$106.86	$3.25	$105.76	$2.15
Apr	650	$103.61	$106.86	$3.25	$105.76	$2.15
May	650	$103.61	$106.86	$3.25	$105.76	$2.15
Jun	650	$103.61	$106.86	$3.25	$105.76	$2.15
Jul	650	$103.61	$106.86	$3.25	$105.76	$2.15
Aug	650	$103.61	$106.86	$3.25	$105.76	$2.15
Sep	650	$103.61	$106.86	$3.25	$105.76	$2.15
Oct	650	$103.61	$106.86	$3.25	$105.76	$2.15
Nov	650	$103.61	$106.86	$3.25	$105.76	$2.15
Dec	650	$103.61	$106.86	$3.25	$105.76	$2.15
Annual Total	7800	$1,243.32	$1,282.32	$39.00	$1,269.06	$25.74

(1) from information at http://www.psnh.com/SharePDFs/Summary_of_Rates.pdf
(2) assumes all PSNH rate components (energy service cost, transmission rates, etc) remain constant, which is unlikely

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Summary Cost Estimate
Merrimack Station Clean Air Project
(Cost in Actual Year $*)

	Total - Prior to 2007	Total 2007	Actual Jan-Apr 2008	Estimated May-Dec 2008	Total 2008	Total 2009	Total 2010	Total 2011	Total 2012	Total 2013	Total (Proj)
NU Labor	71,567	318,675	206,306	772,508	978,814	1,207,955	1,402,400	1,670,000	1,060,000	0	6,709,411
Material	0	7,995	19,954	1,130,000	1,149,954	11,400,000	18,720,000	2,040,000	750,000	0	34,067,949
Contractor Labor											
Owner Costs	12,564	230,330	840,567	1,971,514	2,812,081	4,445,000	3,493,200	1,981,500	510,000	0	13,484,675
URS - Indirect Costs **	0	957,071	3,206,048	7,000,000	10,206,048	20,000,000	20,000,000	16,000,000	7,500,000	0	74,663,119
URS - FGD System	0	0	0	10,005,486	10,005,486	14,007,680	42,023,041	24,013,116	10,005,486	0	100,054,809
URS - Chimney System	0	0	0	1,308,330	1,308,330	6,541,650	3,924,990	0	1,308,330	0	13,083,300
URS - Material Handling System	0	0	0	4,482,875	4,482,875	7,172,600	20,621,225	8,069,175	4,482,875	0	44,828,750
URS - Wastewater Treatment System	0	0	0	1,500,000	1,500,000	1,200,000	8,100,000	2,700,000	1,500,000	0	15,000,000
URS - Balance of Plant	0	0	49,830	5,700,000	5,749,830	23,800,000	25,300,000	9,800,000	3,300,000	0	67,949,830
Subtotal Contractor Labor	12,564	1,187,401	4,096,445	31,968,205	36,064,650	77,166,930	123,462,456	62,563,791	28,606,691	0	329,064,483
Outside Services	728,889	228,755	274,340	495,400	769,740	245,000	250,000	155,000	120,000	0	2,497,384
Employee Expenses	2,874	9,733	11,510	25,000	36,510	10,000	10,000	10,000	5,000	0	84,117
Vehicles	0	34	0	100	100	100	100	100	100	0	534
Fees & Payments	0	0	0	10,000	10,000	2,995,000	5,340,000	3,265,000	1,155,000	0	12,765,000
Rents & Leases	0	0	10,222	7,560	17,782	12,984	0	0	0	0	30,766
Contingency	0	0	0	0	0	2,000,000	2,000,000	3,000,000	3,000,000	0	10,000,000
TOTAL DIRECT COSTS	815,893	1,752,593	4,618,778	34,408,773	39,027,551	95,037,969	151,184,956	72,703,891	34,696,791	0	395,219,644
Indirect Costs	8,343	37,992	13,919		797,493	1,078,865	1,317,743	1,425,315	883,915		5,549,665
AFUDC	47,677	72,468	81,800		1,501,387	5,198,903	13,076,033	22,332,952	14,222,339	0	56,451,760
TOTAL COST	871,913	1,863,053	4,714,497	34,408,773	41,326,431	101,315,736	165,578,732	96,462,159	49,803,046	0	457,221,069

* Includes Escalation

Estimated

Based on Substantial Completion 6-30-12

** URS - Indirect Costs (in millions) include Construction Services = $6.5, URS = $39.3, Growth = $4.4, Escalation = $23.0, Contingency = $14.7

	afudc Check				5.54%	5.59%	6.97%	6.54%	6.87%	6.87%	
Direct + indirect	824,236	1,790,585	4,632,697	34,408,773	39,825,044	96,116,834	152,502,699	74,129,206	35,580,706	0	400,769,309
Cumulative		2,662,498	6,495,749	43,674,167	42,560,010	140,178,230	297,879,832	385,085,071	442,998,730	0	
AFUDC	47,677	72,468	4,632,697	34,408,773	1,501,387	5,198,903	13,076,033	22,332,952	14,222,339	0	56,451,760

Docket No. DE 11-250
Attachment MIK-6

9/2/08

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Docket No. DE 11-250
Attachment MIK-6

Summary Cost Estimate
Merrimack Station Clean Air Project
(Cost in Actual Year $*)

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URS - Chimney System	0	0	0	1,308,330	1,308,330	6,541,650	3,924,990	0	1,308,330	0	13,083,300
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URS - Wastewater Treatment System	0	0	0	1,500,000	1,500,000	1,200,000	8,100,000	2,700,000	1,500,000	0	15,000,000
URS - Balance of Plant	0	0	49,830	5,700,000	5,749,830	23,800,000	25,300,000	9,800,000	3,300,000	0	67,949,830
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Outside Services	728,889	228,755	274,340	495,400	769,740	245,000	250,000	155,000	120,000	0	2,497,384
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Rents & Leases	0	0	10,222	7,560	17,782	12,984	0	0	0	0	30,766
Contingency	0	0	0	0	0	2,000,000	2,000,000	3,000,000	3,000,000	0	10,000,000
TOTAL DIRECT COSTS	815,893	1,752,593	4,618,778	34,408,773	39,027,551	95,037,969	151,184,956	72,703,891	34,696,791	0	395,219,644
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* Includes Escalation

Estimated

Based on Substantial Completion 6-30-12

** URS - Indirect Costs (in millions) include Construction Services = $6.5, URS = $39.3, Growth = $4.4, Escalation = $23.0, Contingency = $14.7

afudc Check					6.64%	5.69%	5.97%	6.54%	5.87%	6.87%	
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AFUDC	47,677	72,468	4,632,697	34,408,773	1,501,387	5,198,903	13,076,033	22,332,952	14,222,339	0	56,451,760

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Attachment MIK-6

Summary Cost Estimate
Merrimack Station Clean Air Project
(Cost in Actual Year $*)

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Contingency	0	0	0	0	0	2,000,000	2,000,000	3,000,000	3,000,000	0	10,000,000
TOTAL DIRECT COSTS	815,893	1,752,593	4,618,778	34,408,773	39,027,551	95,037,969	151,184,956	72,703,891	34,696,791	0	395,219,644
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* Includes Escalation
Estimated
Based on Substantial Completion 6-30-12
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PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
Natural Gas Market Prices, 2008-2010
(Henry Hub NYMEX Forward Prices, $ MMBTU)

	2008	2009	2010	2011	2012	2013
2008						
January	$8.09	$8.67	$8.66	$8.57	$8.47	$8.36
February	8.00	8.37	8.27	8.13	8.07	8.03
March	9.26	9.38	9.03	8.96	8.98	9.05
April	9.49	9.44	8.79	8.55	8.54	8.64
May	10.12	10.20	9.51	9.30	9.20	9.12
June	10.86	11.27	10.35	10.04	10.08	10.23
July	11.58	12.59	11.33	10.83	10.76	10.89
August	9.85	10.00	9.81	9.45	9.22	9.05
September	9.23	8.47	8.74	8.65	8.54	8.43
October	9.23	8.33	8.71	8.66	8.52	8.41
November	9.01	7.37	8.07	8.19	8.14	8.10
December	9.01	6.93	7.78	7.94	7.89	7.88
2009						
January	--	$6.35	$7.33	$7.48	$7.39	$7.30
February	--	5.10	6.53	7.20	7.39	7.46
March	--	4.75	6.08	6.69	6.88	7.00
April	--	4.37	5.85	6.62	6.94	7.10
May	--	4.19	5.85	6.72	7.04	7.16
June	--	4.49	6.42	7.21	7.44	7.50
July	--	4.25	6.07	6.91	7.18	7.33
August	--	4.26	6.18	6.92	7.08	7.17
September	--	3.86	5.45	6.47	6.70	6.81
October	--	4.04	5.98	6.74	6.93	7.02
November	--	3.98	5.55	6.48	6.80	7.01
December	--	3.95	5.26	6.37	6.67	6.83
2010						
January	--	--	$6.04	$6.50	$6.65	$6.77
February	--	--	5.69	6.31	6.48	6.62
March	--	--	5.12	5.79	6.07	6.26
April	--	--	4.65	5.44	5.85	6.12
May	--	--	4.60	5.44	5.92	6.21
June	--	--	4.63	5.30	5.71	5.95
July	--	--	4.84	5.41	5.69	5.89
August	--	--	4.76	5.19	5.50	5.66
September	--	--	4.46	4.69	5.28	5.60
October	--	--	4.42	4.43	5.10	5.33
November	--	--	4.36	4.27	4.99	5.30
December	--	--	4.39	4.41	5.05	5.38

Source: NYMEX and CME web sites. The figures shown are calendar year average futures prices for each year except for the designated year which is a blend of futures prices and actual prices. For example, the June 2008 price shown for the year 2008 would be the average of January-June 2008 actual prices and July-December 2008 futures prices.